



RR KÄBEL

TECHNICAL BROCHURE



About RR KABEL

RR Kabel is part of RR Global, a USD 850+ Million conglomerate in the electrical sector with a presence in over 85 countries globally. Spread across multiple business verticals including Wires & Cables, we continue to endeavor to create best quality products using the latest advances in wire design and engineering. We offer the widest range of premium wires and cables for various residential, commercial, industrial and infrastructure purposes.

RR Kabel is ISO 9001, ISO 14001 and OHSAS 18001 certified company. We are available globally with our products being certified to BASEC(UK), UL(USA), CSA(Canada), VDE(Germany), TUV Rheinland (Germany) and others.

With 29 international certifications, our products are also compliant to REACH (Registration Evaluation Authorization of Chemical Substances) and RoHS (Restriction of Hazardous Substances) directives have also been achieved with extensive research and development by skilled professionals to make sure our products adhere to global guidelines and standards.

We believe that the future of our industry lies in innovation and effective R&D that in turn helps one to push boundaries and eliminate borders. We at RR Kabel follow this and hence are constantly emerging with new products that are globally significant, at competitive prices and are aimed at providing an environment of utmost safety.

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SECTION - I
**CONSTRUCTION AND
BUILDING RANGE**



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**PVC/PVC 3 CORE
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**XLPE/PVC 3 CORE
SUBMERSIBLE FLAT CABLE 1.1KV**

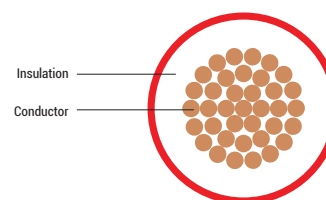
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**XLPE/PVC 3 CORE SUBMERSIBLE
FLAT CABLE WITH WALL**

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STEEL BRAIDED YSY 1.1 KV

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India's 1st REACH and RoHS Compliant Cable | Flame Retardant Cable.

Application

Suitable for wiring in all types of residential and commercial infrastructure, where fire and electrical safety is utmost important.

Technical Data

Approvals : IS 694 marked, FIA/TAC

Voltage Grade : Up to and including 1100V

Conductor : Thin strands of electrolytic copper are multi-drawn for uniformity of resistance, dimension and flexibility. The strands are twisted with high precision to impart circularity for the conductor.

Insulation: Specially formulated flame retardant PVC insulation is used. The FR property retards the propagation of flame without compromising safety.

Insulation Conformity : IS 5831, Type A/D FR 70o C

Colours : Red, yellow, blue, black, green, grey & white

Marking : The cables are printed with marking of 'SUPEREX FR' from 1 Sq. mm to 4 Sq. mm & "RR KABEL FR" for all other sizes.

Packing : 90 mtr. coil is packed in protective cartons upto size 6 Sq. mm. Project packing of 180 mtr. also available.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - grey, 07 - white.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Number *Nominal Dia. of Strands	Approx. Overall Diameter (mm)	Max. DC Conductor Resistance at 200C (Ω/km)	Current Rating (Amps)	
						Casing	Concealed
01010102xx20	0.75**	0.6	24/0.2	2.3	26.0	9	8
01010103xx20	1	0.7	14/0.3	2.7	18.1	14	13
01010104xx20	1.5	0.7	22/0.3	3.0	12.1	18	16
01010105xx20	2.5	0.8	36/0.3	3.7	7.41	24	20
01010106xx20	4**	0.8	56/0.3	4.1	4.95	30	26
01010107xx20	6**	0.8	84/0.3	4.6	3.30	38	33
01010108xx20	10**	1.0	140/0.3	7.0	1.91	52	45
01010109xx20	16**	1.0	126/0.4	8.1	1.21	70	60

*Conductor as per IS 8130

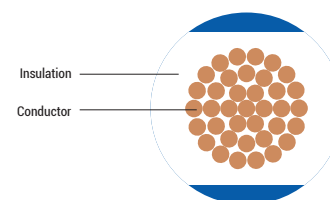
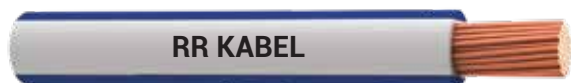
**Insulation Type D as per IS 5831

Properties

Test	Test Method	Values
Limited Oxygen Index	IS 10810 P-58	> 29%
Limited Temp. Index	IS 10810 P-64	>250 °C

FLAMEX FR-LSH

REACH | RoHS | CE | CPR Compliant



India's 1st REACH Compliant Cable | Flame Retardant Low Smoke Low Halogen.

Application

Suitable for use in conduit and for fixed, protected installation particularly suitable for wiring in fire and explosion prone areas, chemical factories, densely wired areas, public buildings, schools, hospitals, commercial complexes, theatres, etc.

Technical Data

Approvals : IIS 694 marked, FIA/TAC

Voltage Grade : Up to and including 1100V

Conductor : Thin strands of electrolytic copper are multi-drawn for uniformity of resistance, dimension and flexibility

Insulation : Specially formulated flame retardant low smoke low halogen compound to restrict the spread of flames in fire situation. The smoke emitted by the burning cable is considerably low compared to traditional cables. This ensures improved visibility for evacuation of trapped victims and facilitates fire fighting operation.

Insulation Conformity : IS 5831 Type A/D FR-LSH 70°C

Colours : Entire cable has white base and a double strip of Green, Black, Red, Yellow, Blue, Grey, running along the cable length

Marking : The cables are printed with the marking of 'FLAMEX FR-LSH'

Packing : 90 mtr. coils packed in protective cartons. Project coils of 180 mtr. also available.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Grey.

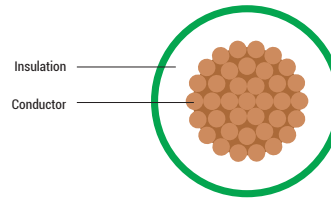
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Number *Nominal Dia. of Strands	Approx. Overall Diameter (mm)	Max. DC Conductor Resistance at 200C (Ω /km)	Current Rating (Amps)	
						Casing	Concealed
01020101xx50	1	0.7	14/0.3	2.7	18.1	14	13
01020102xx50	1.5	0.7	22/0.3	3.0	12.1	18	16
01020103xx50	2.5	0.8	36/0.3	3.7	7.41	24	20
01020104xx50	4**	0.8	56/0.3	4.1	4.95	30	26

*Conductor as per IS 8130.

**Insulation Type D as per IS 5831.

Properties

Test	Test Method	Values
Limited Oxygen Index	IS 10810 P - 58	> 29%
Limited Temperature Index	IS 10810 P - 64	> 2500C
Smoke Density (Light Absorption)	IS 13360 P - 6/Sec 9	< 60%
Acid Gas Generation	IS 10810 P - 59	< 20%



India's 1st Heat Resistant and Flame Retardant REACH Compliant Cable with Unilay Conductor.
No Loose Contacts, No Broken Ends | No Sparking and Overheating

Application

Suitable for use in conduit and for fixed, protected installation, ideal for high density wiring.

Technical Data

Approvals : IS 694 marked, FIA / TAC

Voltage Grade : Up to and including 1100V

Conductor : Thin strands of electrolytic copper are multi-drawn for uniformity of resistance, dimension and flexibility. The drawn strands are uni-laid with high precision and compacted. Thus forming a perfectly circular conductor which enables reduction in overall diameter for space saving in high density wiring.

Conductor Speciality : The strands do not get cut when stripping the insulation. The conductor offers perfect contact at pins, terminals and sockets. Thus, eliminating spot heating and sparking.

Insulation : Specially formulated heat resistant & flame retardant PVC insulation is used. The HR FR property retards the propagation of flame without compromising safety.

Insulation Conformity : IS 5831, Type C - HR 85°C + FR

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Grey, 07 - White

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Number *Nominal Dia. of Strands	Approx. Overall Diameter (mm)	Max. DC Conductor Resistance at 200C (Ω/km)	Current Rating (Amps)	
						Casing	Concealed
01030101xx40	1.0	0.7	37/0.19	2.6	19.5	14	13
01030102xx40	1.5	0.7	37/0.23	3.0	13.3	18	16
01030103xx40	2.5	0.8	61/0.23	3.6	7.98	24	20
01030104xx40	4.0	0.8	61/0.29	4.1	4.95	32	26
01030105xx40	6.0	0.8	91/0.29	4.6	3.30	38	33

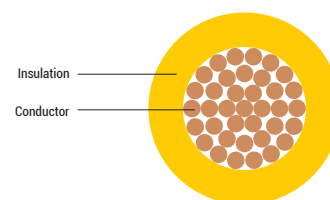
*Conductor as per IS 8130

Properties

Test	Test Method	Values
Limited Oxygen Index	IS 10810 P-58	> 29%
Limited Temp. Index	IS 10810 P-64	>250 °C

FIREX LSOH

REACH | RoHS | CE | CPR Compliant



HFFR (Halogen Free Flame Retardant) insulation 90°C | Non-Toxic & Non-Corrosive | Does not propagate flame & fire.

Application

These cables are ideal for domestic applications, conduit wiring and fixed, protected installations. Apart from residential and commercial properties, these cables are best suited for Auditoriums, Hospitals, Hotels, Schools, Stadiums and all constructions for Public usage. These cables are ideal for use in environments where high-performance, reliability and safety is a norm.

Technical Data

Approvals : IS 17048 marked, FIA/TAC

Cable Code : XZ

Voltage Grade : Up to and including 1100V

Conductor : Strands of electrolytic annealed plain copper are multi-drawn for uniformity of resistance, dimension and flexibility.

Insulation : HFI-XL 90 Crosslinked (thermoset) halogen free flame retardant.

Colours : Green, Black, Red, Yellow, Blue, Grey, White

Marking : The cables are marked 'FIREX LSOH'

Packing : 90 mtrs. Coils packed in protective cartons.

Properties

- Temperature range : -15°C to +90°C
- Max. short circuit temperature rating: 250°C
- The insulation does not burn readily.
- It does not melt and drip
- Smoke is negligible, transparent, non-toxic
- The victims trapped in fire do not suffocate and this facilitate fire fighting operations.
- The cable has extended service life against the conventionally used cables.
- The cable is also ozone resistant
- Self-extinguishing and flame retardant according to IS 10810 P - 61
- Anti-Rodent, Anti-Termite.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required

01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Grey, 07 - White

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Number / Nominal Dia. of Strands	Approx. Overall Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Current Rating (Amps)	
						Casing	Concealed
01010101xx60	1.0*	0.7	14/0.3	2.7	18.1	19	17
01010102xx60	1.5*	0.7	22/0.3	3.0	12.1	24	21
01010103xx60	2.5*	0.8	36/0.3	3.7	7.41	37	29
01010104xx60	4.0**	0.8	56/0.3	4.1	4.95	41	33
01010105xx60	6.0**	0.8	84/0.3	4.6	3.30	53	43

*As per conductor class 2 of IS 8130

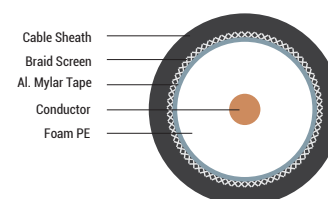
** As per conductor class 5 of IS 8130

Test Parameters for Assessment of Halogen

Test	Test Method	Values
pH	IS 17048	≥ 4.3
Conductivity	IS 17048	$\leq 10 \mu\text{s}/\text{mm}$
Chlorine and bromine expressed as content of HCL	IS 10810 P - 59	$\leq 0.5 \%$
Presence of fluorine	IS 17048	$\leq 0.1 \%$

RATNA CO-X

REACH | RoHS



Application

High quality co-axial for cable TV network for notch free attenuation values over wide range of frequencies. The special jacketing offers increased life even in rugged conditions.

Technical Data

Conductor : The central conductor is made of solid electrolytic grade annealed plain copper conductor, which has distinct advantages over traditional copper conductor

Insulation : The insulation provided over the conductor is of foam PE

Screen : Aluminium mylar tape is provided over the insulated conductor to shield the conductor and ensures disturbance free transmission of signals

Braiding : The braiding is generally provided with 60% coverage of ATC (Annealed Tinned Copper) / Al alloy

Jacket : Specially formulated PVC, for rugged outdoor usage.

Marking : The cables are marked 'RATNA CO-X'

Cable Design Parameters

Construction Details		Cable Type		
		RG 59 F	RG 6 F*	RG 11 F
Part Number		010501010791	010501020791	010501030791
Inner conductor		Copper	Copper	Copper
Nominal Diameter (mm)		0.8	1.02	1.63
Dielectric		Foam PE	Foam PE	Foam PE
Nominal Diameter (mm)		3.5	4.5	7.0
Outer Conductor	First	Bonded Al Tape	Bonded Al Tape	Bonded Al Tape
	Second	Tinned Cu/Al Braid	Tinned Cu/Al Braid	Tinned Cu/Al Braid
Nominal Coverage (%)		60	60	60
PVC Jacket		Black	Black	Black
Nominal Cable Diameter (mm)		6.2	7.0	10

*RG 6 F is also available with CCS conductor and the applicable Part number shall be 010501040791.

Construction Details		Cable Type - Armoured		
		RG 59 F	RG 6 F*	RG 11 F
Part Number		010501050791	010501060791	010501070791
Nominal Cable Diameter (mm)		10.5	11.4	14.6

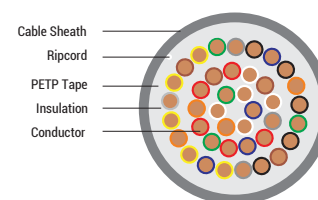
*RG 6 F armoured is also available with CCS conductor and the applicable Part number shall be 010501080791.

Electrical Parameters

Parameters	Cable Type		
	RG 59 F	RG 6 F	RG 11 F
Inner Conductor-Max Resistance at 20°C ($\Omega/100m$)	3.43	2.1	0.8
Nominal Capacitance (pF/m)	53	53	53
Characteristic Impedance (Ω)	75	75	75
Velocity of Propagation (%)	85	85	85
Dielectric Strength (KV)	> 1	> 1	> 1
Minimum Bending Radius (mm)	60	65	75
Maximum Attenuation at 20°C (dB/100m) at	Max.	Max.	Max.
5 MHz	2.8	1.9	1.2
50 MHz	6.7	5.3	3.1
100 MHz	8.8	7.0	4.2
200 MHz	12.4	9.9	6.0
250 MHz	13.4	10.5	6.7
300 MHz	14.6	11.5	7.3
350 MHz	15.7	12.4	7.9
400 MHz	16.7	13.3	8.5
450 MHz	17.7	14.3	9.0
500 MHz	18.7	14.9	9.5
550 MHz	19.5	15.7	9.9
600 MHz	20.3	16.4	10.4
750 MHz	22.8	18.3	11.9
800 MHz	24.5	19.5	12.4
900 MHz	24.7	20.1	13.0
1000 MHz	26.6	21.4	14.2

RATNACOM

REACH | RoHS



Low Attenuation and Minimised Cross Talk | Flame Retardant Jacket

Application

Recommended for switchboard and telephone wiring in residential and commercial infrastructure, for transmission of analog and digital signals, wiring in faxes, modems, alarm enunciators, data recording/acquisition systems and various communication devices.

Technical Data

Specifications : ITD-S/WS 113C

Conductor : The central conductor is made of solid electrolytic grade of copper

Insulation : Premium quality grade polyethylene used on a special extruder. This offers for low attenuation.

Twisted Pairs : The cores are carefully twisted with optimal lays and bunched together to deliver minimised cross talk.

Jacket : Specially formulated flame retardant (FR) PVC

Marking : The cables are marked 'RATNACOM FR'

Packing : Available in 90 mtr. length in polybag. Higher lengths available on special request.

Cable Design Parameters

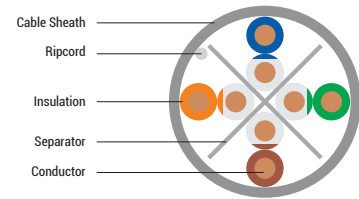
Part Numbers	Size (mm)	No. of Pairs	Approx. Overall Diameter (mm)
10600221040	0.4	2	3.9
10600321040	0.4	3	4.3
10600421040	0.4	4	4.7
10600521040	0.4	5	5.2
10601021040	0.4	10	6.5
10602021040	0.4	20	9.2
10600221050	0.5	2	4.2
10600321050	0.5	3	4.7
10600421050	0.5	4	5.1
10600521050	0.5	5	5.7
10601021050	0.5	10	7.0
10602021050	0.5	20	10

Electrical Parameters

Electrical Parameters	Size	
	0.5 mm	0.4 mm
DC conductor resistance	92.20 Ω /Km at 20°C max.	143.0 Ω /Km at 20°C max.
Mutual capacitance	50 nF/km max.	
Insulation resistance in air	10000 M- Ω /Km	
Capacitance unbalance - pair to pair	250 pF/100m max.	
Capacitance unbalance - pair to ground	330 pF/100m max.	
Resistance unbalance	5% max.	

RATNALAN CAT 5e/6

REACH | RoHS



Application

LAN cables are high performance cables used increasingly for modern computer network systems. These cables form the back bone of modern data transmission in industries, residential and commercial infrastructure.

Technical Data

Performance : RATNALAN enhanced CAT 6 UTP capable of handling 100 + Mbps data rates. RATNALAN CAT 5e UTP is independently verified to exceed the requirements of EN 50173, ISO/IEC 11801 and TIA/EIA 568-B-1/B-2.

Cable Construction

Conductor : Solid bare copper
 Insulation : High density polyethylene
 Pair : 2 Insulated conductors twisted together
 Outer Jacket : FR PVC

Colour Code
 1 Pair : White - orange stripe and orange
 2 Pair : White - green stripe and green
 3 Pair : White - blue stripe and blue
 4 Pair : White - brown stripe and brown

Packing : Available in easy pull box of 101 mtr. and 305 mtr. for CAT 5e and CAT 6 is available only in 305 mtr. pack

Type	CAT 5e	CAT 6
Part Number	010701014094	010701014194

Mechanical and Environmental Properties	
Max. Tensile Load :	10 Kgs. per simplex cable (Installation)
Min. Bend Radius :	8 x Outer Diameter (Installation) 4 x Outer Diameter (Operation)
Temp. - Installation :	0°C to +50°C
Temp. - Operation :	-10°C to +60°C

Applicable International Standards for Cable Construction
ISO/IEC 11801:2002
ISO/IEC 61156-5
EN 50173 -1:2002
EN 50288-3-1
ANSI/TIA/EIA 568B-2:2002

Electrical Parameters at 20°C

Electrical Characteristics at 20°C	Specification	Typical Performance	
		CAT 5e	CAT 6
Conductor loop resistance	Max. 190/100m	160/100m	140/100m
Conductor resistance unbalance	Max. 2%	0.5%	0.5%
Dielectric strength	1.0 kV DC or 0.7 kV AC for 1 min.	100% in process test	100% in process test
Insulation resistance	>500 MΩ/Km at 100-500V test voltage	>500 MΩ/Km	>500 MΩ/Km
Capacitance unbalance to earth	Max. 160 pF/100m	40 pF/100m	40 pF/100m
Velocity of propagation	<534 nsec/100m at 100MHz	496 nsec/100m at 100 MHz (NVP for hand held testers = 0.69)	490 nsec/100m at 100 MHz (NVP for hand held testers = 0.69)
Skew	Max. 40 nsec/100m at 100MHz	Max. 25 nsec/100m at 100 MHz	Max. 30 nsec/100m at 100 MHz
Mean characteristic impedance	1000 ± 50 at 100 MHz	1000 ± 30 at 100 MHz	1000 ± 30 at 100 MHz
Coupling attenuation up to 1 Ghz	Min. 40 dB	50 dB	56 dB

Typical Headroom Characteristics - CAT 5e

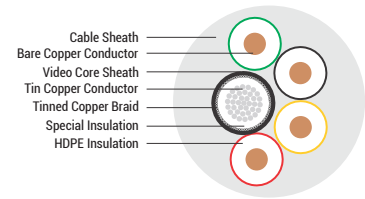
Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	300
Insertion Loss (dB/100m)	Spec value	2.0	4.1	6.5	8.2	9.3	11.7	17.0	22.0	N/A	N/A	N/A
	Typical value	1.8	3.6	5.8	7.4	8.3	10.5	15.3	19.8	25.4	29.4	33.4
NEXT (dB)	Spec value	65.3	56.3	50.3	47.3	45.8	42.9	38.4	35.4	N/A	N/A	N/A
	Typical value	73.3	64.3	58.3	55.2	53.8	50.9	46.4	43.3	40.4	38.8	37.3
PSNEXT (dB)	Spec value	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	N/A	N/A	N/A
	Typical value	71.3	62.3	56.3	53.2	51.8	48.9	44.4	41.3	38.4	36.8	35.3
ELFEXT (dB/100m)	Spec value	63.8	51.8	43.8	39.7	37.8	33.9	27.9	23.8	N/A	N/A	N/A
	Typical value	78.8	66.8	58.8	54.7	52.8	48.9	42.9	38.4	35	32.8	31.5
PSELFEXT (db/100m)	Spec value	60.8	48.8	40.8	36.7	34.8	30.9	24.9	20.8	N/A	N/A	N/A
	Typical value	76.8	64.8	56.8	52.7	50.8	46.9	40.9	36.8	33	30.8	29.5
Return Loss (dB/100m)	Spec value	N/A	23.1	25.0	25.0	25.0	23.6	21.5	20.1	N/A	N/A	N/A
	Typical value	25.0	28.0	30.0	30.0	30.0	38.6	26.5	25.1	23.8	23.0	22.8
ACR (dB/100m)	Typical value	71.5	60.7	52.5	47.8	45.5	40.4	31.1	23.5	15.0	9.4	3.1
PSACR (dB/100m)	Typical value	69.5	58.7	50.5	45.8	43.5	38.4	29.1	21.5	13.0	7.4	2.0

Typical Headroom Characteristics - CAT 6

Frequency (MHz)		1	4	10	16	20	31.25	62.5	100	155	200	350
Insertion Loss (dB/100m)	Spec value	2.0	3.8	6.0	7.6	8.5	10.7	15.4	19.8	29.0	32.8	N/A
	Typical value	1.9	3.5	5.5	7.0	7.8	9.9	14.1	18.0	26.1	29.4	32.5
NEXT (dB)	Spec value	66.0	65.3	59.3	56.2	54.8	51.9	47.4	44.3	39.8	38.3	N/A
	Typical value	86.5	77.5	71.5	68.4	67.0	64.1	59.6	56.5	52.0	50.5	49.3
PSNEXT (dB)	Spec value	64.0	63.3	57.3	54.2	52.8	49.9	45.4	42.3	37.8	36.3	N/A
	Typical value	84.5	75.5	69.5	66.4	65.0	62.1	57.6	54.5	50.0	48.5	47.3
ELFEXT (dB/100m)	Spec value	66.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	24.0	22.0	N/A
	Typical value	85.0	73.0	65.0	60.9	59.0	55.1	49.1	45.0	39.0	37.0	35.5
PSELFEXT (db/100m)	Spec value	64.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	21.0	19.0	N/A
	Typical value	82.0	70.0	62.0	57.9	56.0	52.1	46.4	42.0	36.0	34.0	32.5
Return Loss (dB/100m)	Spec value	N/A	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.0	17.3	N/A
	Typical value	27.0	30.0	30.0	30.0	30.0	28.6	26.5	25.1	23.0	22.3	21.8
ACR (dB/100m)	Typical value	84.6	73.9	66.0	61.4	59.1	54.2	45.5	38.5	25.9	21.1	16.9
PSACR (dB/100m)	Typical value	82.6	71.9	64.0	59.0	57.1	52.5	43.5	36.5	23.9	19.1	14.9

CCTV CAMERA CABLE

REACH | RoHS



Application

These cables are specifically designed to transmit complete video frequency with minimum distortion or attenuation for security and surveillance. This cable is offered in two variants viz., 4+1 and 3+1 CCTV Camera cable.

Properties

CCTV cables are designed to optimize the quality of video signals. The dense tin coated copper screen ensures complete elimination of EMI/RFI from video signals and also provides reduced DC resistance ground path. The multi stranded construction of video core offers better flexibility and reduced bending radius.

Cable Construction

Screened Core for Video signal

Conductor : The central conductor is made of flexible fine wires tin coated electrolytic grade copper

Insulation : The insulation provided over the conductor is with high dielectric strength and low capacitance

Screen : Annealed tin coated copper braid screen, approx. 85% coverage

Sheath : Black colored PVC

Power Cores

Conductor : Solid electrolytic grade annealed plain copper, 0.5 mm

Insulation : The insulation provided over the conductor is of high density polyethylene (HDPE)

Sheath : PVC

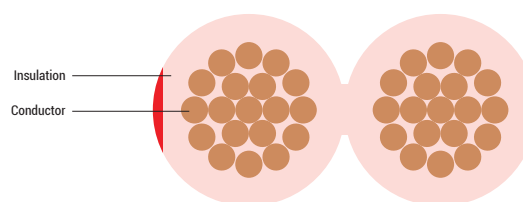
Cable Colour : White.

Cable Design Parameters

Part Number	Cable Type	Cable Size (Sq. mm)	Nominal Cable Diameter (mm)	Power Core Colour
010801010795	CCTV Cable 4+1	4C + 1C x 0.25	6.0	RD, YL, BK, GN
010801020795	CCTV Cable 3+1	3C + 1C x 0.25	6.0	RD, YL, BL

SPEAKER CABLE

REACH | RoHS | CE



Application

Speaker cables are highly recommended for use in connecting speakers, public address system for clear and distortion free voice with low dB loss.

Cable Construction

The cables are manufactured with bright annealed plain flexible electrolytic grade copper conductor, bunched compactly, insulated with specially formulated PVC compound. Each core is uniquely designed for easy identification. In order to offer uniform capacitance throughout length the distance between the two conductors is maintained uniformly.

Colour Availability : Transparent / black with red tracer for polarity identification.

Packing : The delivery length is available in 90 mtr. coils

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for colour required:

00 - Transparent, 02 - black.

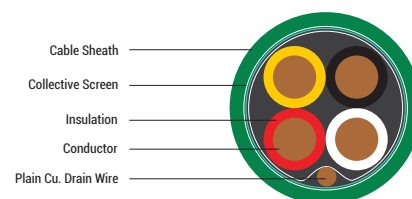
Part Number	Conductor Construction			Maximum Overall Dimensions (W X H) (mm)
	Equivalent AWG	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	
01090101xx10	22	0.5	39.0	4.2 x 2.1
01090102xx10	19	0.8	26.0	4.7 x 2.4
01090103xx10	18	1.0	19.5	5.7 x 2.9
01090104xx10	16	1.5	13.3	6.0 x 3.0
01090105xx10	14	2.5	8.0	7.0 x 3.6
01090106xx10	12	4.0	5.0	8.4 x 4.1
01090107xx10	10	6.0	3.3	9.6 x 4.7

Recommended length

Wire Size	2Ω load	4Ω load	6Ω load	8Ω load
22 AWG	3ft (0.9m)	6ft (1.8m)	9ft (2.7m)	12ft (3.6m)
19 AWG	5ft (1.5m)	10ft (3m)	15ft (4.5m)	20ft (6m)
18 AWG	8ft (2.4m)	16ft (4.9m)	24ft (7.3m)	32ft (9.7m)
16 AWG	12ft (3.6m)	24ft (7.3m)	36ft (11m)	48ft (15m)
14 AWG	20ft (6.1m)	40ft (12m)	60ft (18m)	80ft (24m)
12 AWG	30ft (9.1m)	60ft (18m)	90ft (27m)	120ft (36m)
10 AWG	50ft (15m)	100ft (30m)	150ft (46m)	200ft (61m)

BUS J-Y(St)Yh 2 x 2 x 0.8

REACH | RoHS | CE



Application

Installation and operation of Building Management System requires wide range of technologies. Control, monitoring and optimization of the various functions and services include heating and cooling, ventilation, lighting, indicator boards, blinds and often the management of electric appliances. The basic control technologies have been in existence for some time. Systems are available in various degrees of complexity, ranging from the timer-controlled water heater or thermo static radiator valves (TRVs), to the so-called "intelligent houses" which manage according to prearranged efficiency criteria, everything from safety and security systems to air conditioning, and from lighting and ventilation systems to telematic services and domestic appliances.

The EIB-BUS cable is used for the transmission of bus signals for intelligent automation systems in buildings.

Technical Data

Based on KNX standard.

Voltage Rating: Max. 250V (not for power installation)

Temperature Range : Flexing -5°C to +50°C

Fixed installation -30°C to +70°C

Minimum Bending Radius : 7.5 x cable ø

Test Voltage : 4000V

Cable Construction

Annealed Bare copper solid wire.

Core insulation of PVC.

Pair colours : Circuit 1 - Red and Black.

Circuit 2 - White and Yellow.

Cores twisted to star-quad.

Drain wire : Annealed Bare Copper Solid Wire

Core wrapping with metal foil.

Special PVC outer sheath.

Sheath colour : Green.

Properties

Mutual capacitance : Max. 100 nF/km.

Capacitance unbalance : Max. 200 pF/100m.

Characteristic impedance : 100 Ω ± 15.

Max. DC Conductor Resistance (Loop) at 20°C: 73.2 Ω/km

Flame retardant to IEC 60332-1-2.

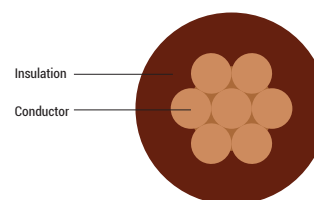
These cables can be laid over, in, or below the plaster, in pipes and pipe ducts, in dry, moist and wet areas as well as outside, provided they are protected against direct exposure to the sun. Wiring together with power supply cables is possible without limitation.

Cable Design Parameters

Part Number	No. of Pairs x Nominal Conductor Diameter (mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
011000221080	2 x 2 x 0.8 mm	6.5 +/- 0.5 mm	20.0	68

HALOGEN-FREE H07Z-R-6491B

REACH | RoHS | CE | CPR Compliant



Application

The cables are suitable for conduit wiring, especially in installations where fire, smoke and toxic fumes create potential threat.

Standard

BS EN 50525-3-41.

Technical Data

Voltage Rating : U_0 / U - 450 / 750V

Harmonised Designation : 1.5 mm² to 630 mm² stranded class 2 - H07Z-R

Temperature Range : -15°C to 90°C

Minimum Bending Radius

Upto 10 mm² : 3 X Overall Diameter.

16 & 25 mm² : 4 X Overall Diameter.

Above 25 mm² : 5 X Overall Diameter.

Cable Construction

Conductor : Plain annealed copper conductor 1.5 mm² to 630 mm² stranded Cl. 2 complying with EN 60228

Insulation : LSZH (Low Smoke Zero Halogen) Type EI5 according to BS EN 50363-5

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green / yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

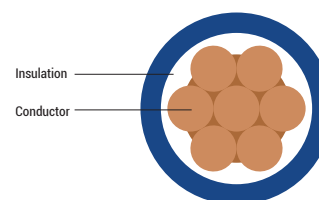
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01130101xx60	1.5	0.70	2.70	3.40	19
01130102xx60	2.5	0.80	3.30	4.10	33
01130103xx60	4	0.80	3.80	4.70	50
01130104xx60	6	0.80	4.30	5.40	74
01130105xx60	10	1.00	5.60	7.00	126
01130106xx60	16	1.00	6.40	8.00	184
01130107xx60	25	1.20	8.10	10.10	295
01130108xx60	35	1.20	9.00	11.30	375
01130109xx60	50	1.40	10.60	13.20	510
01130110xx60	70	1.40	12.10	15.10	710

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01130111xx60	95	1.60	14.10	17.60	950
01130112xx60	120	1.60	15.60	19.40	1240
01130113xx60	150	1.80	17.30	21.60	1530
01130114xx60	185	2.00	19.30	24.10	1800
01130115xx60	240	2.20	22.00	27.50	2500
01130116xx60	300	2.40	24.50	30.60	2990
01130117xx60	400	2.60	27.50	34.30	3860
01130118xx60	500	2.80	30.50	38.20	4900
01130119xx60	630	2.80	34.00	42.50	6370

For current ratings refer table no. 9-1 & voltage drop refer table no. 9-2.

PVC INSULATED BUILDING WIRE (H07V-R)6491X

REACH | RoHS | CE | CPR Compliant



Application

The cables are suitable for power and lighting circuits and building wiring suitable for use in semi flush exposed conduits, embedded conduits and in closed installation ducts.

Standard

BS EN 50525-2-31. SABS 1507-2, SS 358 Part-3.

Technical Data

Voltage Rating : U_0 / U - 450 / 750V

Harmonised Designation : 1.5 mm² to 630 mm² stranded class 2 - H07V-R

Temperature Range : -15°C to 70°C

Minimum Bending Radius

Upto 10 mm² : 3 X Overall Diameter.

16 & 25 mm² : 4 X Overall Diameter.

Above 25 mm² : 5 X Overall Diameter.

Cable Construction

Conductor : Plain annealed copper conductor 1.5 mm² to 630 mm² stranded class 2 complying with BS EN 60228, HD 383, IEC 60228

Insulation : PVC (Polyvinyl Chloride) compound type T1 1 complying with EN 50363-3, HD 21.1, IEC 60227-1, SABS 1411-2

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green / yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

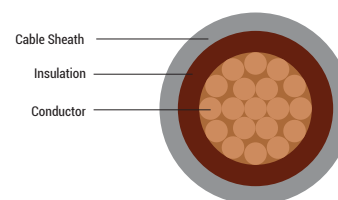
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01140101xx10	1.5	0.70	2.70	3.30	19
01140102xx10	2.5	0.80	3.30	4.00	33
01140103xx10	4	0.80	3.80	4.60	50
01140104xx10	6	0.80	4.30	5.20	74
01140105xx10	10	1.00	5.60	6.70	126
01140106xx10	16	1.00	6.40	7.80	184
01140107xx10	25	1.20	8.10	9.70	295
01140108xx10	35	1.20	9.00	10.90	375
01140109xx10	50	1.40	10.60	12.80	510
01140110xx10	70	1.40	12.10	14.60	710

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01140111xx10	95	1.60	14.10	17.10	950
01140112xx10	120	1.60	15.60	18.80	1240
01140113xx10	150	1.80	17.30	20.90	1530
01140114xx10	185	2.00	19.30	23.30	1800
01140115xx10	240	2.20	22.00	26.60	2500
01140116xx10	300	2.40	24.50	29.60	2990
01140117xx10	400	2.60	27.50	33.20	3860
01140118xx10	500	2.80	30.50	36.90	4900
01140119xx10	630	2.80	34.00	41.10	6370

For current ratings refer table no. 10-1 & voltage drop refer table no. 10-2.

6181Y - BS 6004

REACH | RoHS | CE | CPR Compliant



Application

The cables are suitable for power and lighting circuits and building wiring suitable for use in semi flush exposed conduits, embedded conduits and in closed installation ducts. Ideal for internal wiring of appliance.

Standard

BS 6004:2012, EN 50363-3 with BS 7655-4.2 (Only for sheath).

Technical Data

Voltage Rating : 1.5 mm² to 35 mm² - 300 / 500V

Harmonised Designation :- -15°C to 70 °C

Minimum Bending Radius

Upto 10 mm² : 10 X Overall Diameter.

16 & 35 mm² : 12 X Overall Diameter.

16 & 35 mm² : 12 X Overall Diameter.

Test Voltage : 2 kV for 15 min

Construction

Conductor :

Plain annealed copper conductor : 1.5 & 2.5 mm² Class -1, 4.0 to 35 mm² stranded Class 2 complying with BS EN 60228, HD 383, IEC 60228.

Insulation : PVC (Polyvinyl Chloride) compound type TI 1 complying with EN 50363-3

Sheath : PVC (Polyvinyl Chloride) compound type Type 6 complying with BS 7655-4.2

Insulation Colours : Blue and brown

Sheath Colour : Grey RAL 7001

Cable Design Parameters

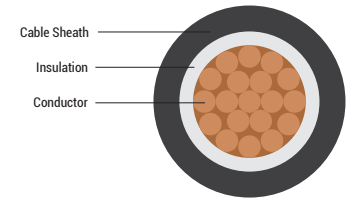
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 04 - blue, 09 - brown.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01150101xx10	1.5	0.70	0.8	4.20	5.00	37
01150102xx10	2.5	0.80	0.8	4.80	5.70	51
01150103xx10	4	0.80	0.9	5.50	6.70	75
01150104xx10	6	0.80	0.9	6.00	7.30	98
01150105xx10	10	1.00	0.9	7.30	8.80	152
01150106xx10	16	1.00	1.0	8.40	10.10	220
01150107xx10	25	1.20	1.1	10.00	12.10	336
01150108xx10	35	1.20	1.1	11.10	13.50	353

For current ratings refer table no. 10-1, for voltage drop refer table no. 10-2.

6181XY - BS 7889

REACH | RoHS | CE



Application

The cables are suitable for power and lighting circuits and building wiring suitable for use in semi flush exposed conduits, embedded conduits and in closed installation ducts. Ideal for internal wiring of appliance.

Standard

BS 7889.

Technical Data

Voltage Rating : 1.5 mm² to 630 mm² - 600 / 1000V

Harmonised Designation : -15 °C to 90°C

Minimum Bending Radius

4.0 to 50 mm² : 10 X Overall diameter.

70 & 630 mm² : 12 X Overall diameter.

Test Voltage : 2 kV 15 min.

Cable Construction

Conductor : Plain annealed copper conductor : 4 mm² to 630 mm² stranded class 2 complying with BS EN 60228, HD 383, IEC 60228

Insulation : GP8 conforming to BS 7655-1.3 (XLPE)

Sheath : Type 9 specified in BS 7655-4.2

Insulation Colours : Natural

Sheath Colour : Black

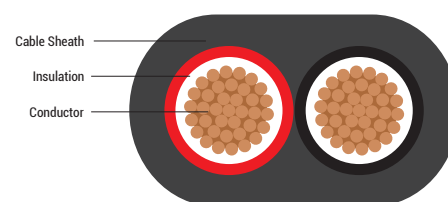
Cable Design Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx Overall Diameter (mm)	Approx. Net Weight (kg/km)
11600100004	4	0.70	1.40	8.0	107
11600100006	6	0.70	1.40	8.5	132
11600100010	10	0.70	1.40	9.5	181
11600100016	16	0.70	1.40	10.5	247
11600100025	25	0.90	1.40	12.0	358
11600100035	35	0.90	1.40	13.0	466
11600100050	50	1.00	1.40	14.0	545
11600100070	70	1.10	1.40	16.0	765
11600100095	95	1.10	1.50	18.0	1022
11600100120	120	1.20	1.50	20.0	1267
11600100150	150	1.40	1.60	22.0	1556
11600100185	185	1.60	1.60	24.0	1928
11600100240	240	1.70	1.70	27.0	2501
11600100300	300	1.80	1.80	29.0	3108
11600100400	400	2.00	1.90	32.0	3923
11600100500	500	2.20	2.00	36.0	4999
11600100630	630	2.40	2.20	40.0	6414

For current ratings refer table no. 9-1, for voltage drop refer table no. 9-2.

PVC/PVC TWIN CORE FLAT CABLE (IS 694)

REACH | RoHS | CE



Application

PVC 70°C cables suitable for wiring in residential and commercial infrastructure.

HR PVC 85°C cables are suitable for wiring in residential and commercial infrastructure for a higher ambient temperature.

FR-LSH 70°C cables are suitable for wiring in public places like schools, hospitals, theatres, etc. These are also suitable for fire prone areas and chemical factories.

Technical Data

Approvals : IS 694 marked, FIA / TAC

Conductor : Electrolytic grade annealed copper

Core Colour : Red, black

Sheath Colour : Black, grey and white

Packing : Standard packing of 100m in coils. Longer length available on request.

Variants Available

Part Numbers	Specifications
PVC 70°C	IS 694, IS 8130 Class 5, IS 5831 Type A insulation & ST-1 sheath.
HR 85°C	IS 694, IS 8130 Class 5, IS 5831 Type C insulation & ST-2 sheath.
FR 70°C	IS 694, IS 8130 Class 5, IS 5831 Type A insulation & ST-1 (FR) sheath.
HR 85°C + FR	IS 694, IS 8130 Class 5, IS 5831 Type C insulation & ST-2 (FR) sheath.
FR-LSH 70°C	IS 694, IS 8130 Class 5, IS 5831 Type A insulation & ST-1 (FR-LSH) sheath.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the product type required:

1 – PVC 70°C, 2 - PVC FR 70°C, 3 - PVC HR 85°C, 4 - PVC HR 85°C +FR, 5 - PVC FR-LSH 70°C and (in place of 'z') for the sheath colour required as per the list: 1 - black, 2 - grey, 3 - white

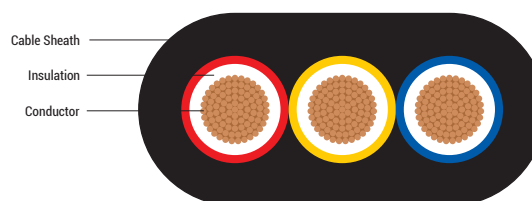
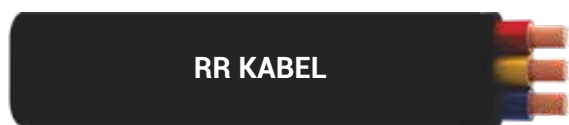
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Maximum Overall Dimension (W x H) (mm x mm)
0117110132yz	0.5	0.6	0.9	7.2 X 4.9
0117110232yz	0.75	0.6	0.9	7.8 X 5.2
0117110332yz	1	0.6	0.9	8.0 X 5.4
0117110432yz	1.5	0.6	0.9	8.6 X 5.6
0117110532yz	2.5	0.7	1.0	10.5 x 6.6
0117110632yz	4	0.8	1.0	12.0 X 7.4
0117110732yz	6	0.8	1.1	13.0 X 8.0
0117110832yz	10	1.0	1.4	16.0 X 9.6
0117110932yz	16	1.0	1.4	18.5 X 11.0

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Maximum Overall Dimension (W x H) (mm x mm)
0117111032yz	25	1.2	2.0	22.5 X 13.0
0117111132yz	35	1.2	2.0	25.5 X 14.5
0117111232yz	50	1.4	2.2	29.0 X 16.5

For current ratings & voltage drop refer table no. 6-4.

PVC/PVC 3 CORE SUBMERSIBLE FLAT CABLE

REACH | RoHS | CE



Application

The PVC insulated and sheathed 3 core flat cables are mainly used in pump connections. They are also used in many industrial applications.

The sheath is specially made out to resist tough and difficult outdoor conditions & excellent resistant to water.

Technical Data

Approvals : IS 694 marked, FIA/TAC

Conductor : Electrolytic grade annealed copper

Core Colour : Red, yellow (centre core), blue

Sheath Colour : Black

Voltage Grade : Upto and including 1100V

Packing : Standard packing of 100 mtr. in coils. Longer length available on request.

Variants Available

Part Numbers	Specifications
PVC 70°C	IS 694, IS 8130 Class 2 (1.5 & 2.5 Sq. mm), for others class 5, IS 5831 Type A insulation & ST-1 sheath.
HR 85°C	IS 694, IS 8130 Class 2 (1.5 & 2.5 Sq. mm), for others class 5, IS 5831 Type C insulation & ST-2 sheath.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the cable type

1 – PVC 70°C, 3 - PVC HR 85°C.

Part Number	Conductor construction		Conductor resistance at 20 °C (Ω/km) Max.	Nom. Insulation thickness (mm)	Nominal Sheath Thickness (mm)	Approx. overall dimensions (W X H) (mm) +/- 0.5 mm	Current carrying capacity (Ampere)
	Cross sectional area (Sq. mm)	No./Max. dia of strands (mm)					
0118110102y1	0.5	16/0.2	39.0	0.6	0.9	9.60 X 4.90	4
0118110202y1	0.75	24/0.2	26.0	0.6	0.9	10.5 X 5.20	7
0118110302y1	1	32/0.2	19.5	0.6	0.9	11.0 X 5.40	12
0118110402y1	1.5*	22/0.3	12.1	0.6	0.9	12.0 X 5.6	18
0118110502y1	2.5*	36/0.3	7.41	0.7	1.0	13.0 X 6.2	24
0118110602y1	4	56/0.3	4.95	0.8	1.0	15.3 X 7.1	28
0118110702y1	6	84/0.3	3.30	0.8	1.1	19.2 X 8.4	36
0118110802y1	10	140/0.3	1.91	1.0	1.4	24.2 X 10.4	48
0118110902y1	16	126/0.4	1.21	1.0	1.4	29.0 X 12.4	64
0118111002y1	25	196/0.4	0.78	1.2	2.0	36.5 X 15.7	80
0118111102y1	35	276/0.4	0.554	1.2	2.0	40.5 X 17.2	100
0118111202y1	50	396/0.4	0.386	1.4	2.2	46.5 X 19.3	130
0118111302y1	70	360/0.5	0.272	1.4	2.2	52.0 X 21.0	192
0118111402y1	95	480/0.5	0.206	1.6	2.4	61.0 X 24.5	230

For current ratings refer table no. 9-1, for voltage drop refer table no. 9-2.

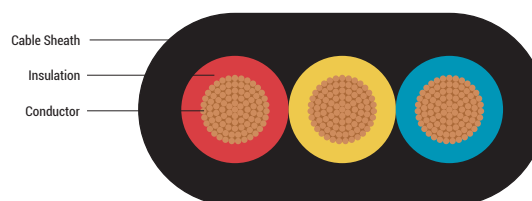
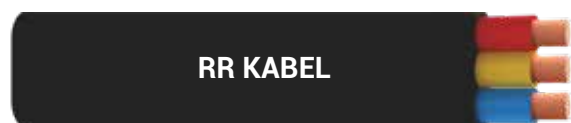
Current rating conversion factor for deviating ambient temperature

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
25	1.25
30	1.16
35	1.09
40	1.00
45	0.90
50	0.81
55	0.74
60	0.68

XLPE/PVC 3 CORE SUBMERSIBLE FLAT CABLE

REACH | RoHS | CE



Application

These cables are mainly used in pump connection. Though they are mainly used to supply power to pumps, they are also used in industrial applications. These cables are specially manufactured keeping in mind the severe, tough and difficult conditions in which they are used.

Technical Data

Conductor : Electrolytic grade annealed plain copper to EN 60228, uniformly bunched to form a circular shape

Core Colours : Red, yellow (centre core), blue

Sheath Colour : Black

Voltage Grade: Upto and including 1100V

Packing: Standard packing of 100mtr in coils. Longer length available on request.

Variants Available

Part Numbers	Specifications
XLPE/PVC	Class 2 (1 to 2.5 Sq. mm) for others class 5 to EN 60228, XLPE insulation & PVC ST-2 sheath to IEC 60502-1

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the cable type

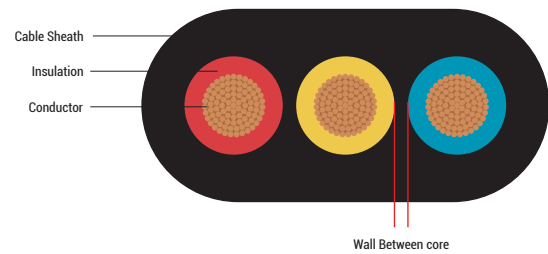
1 – PVC 70°C, 3 - PVC HR 85°C.

Part Number	Conductor Construction		Max. Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. overall dimensions (W X H) (mm) +/- 0.5 mm	Current carrying capacity (Ampere)
	Nominal Cross Sectional Area (Sq. mm)	No. of Strands/Max. Strands Dia. (mm)					
011910300001	1	14/0.3	18.1	0.7	1.0	10.6 X 5.2	12
011910301105	1.5	22/0.3	12.1	0.7	1.0	11.6 X 5.5	20
011910301205	2.5	36/0.3	7.41	0.7	1.1	13.1 X 6.2	30
011910300004	4	56/0.3	4.95	0.8	1.1	15.0 X 6.8	37
011910300006	6	84/0.3	3.3	0.8	1.2	17.2 X 7.7	46
011910300010	10	140/0.3	1.91	0.8	1.3	20.2 X 8.8	66
011910300016	16	126/0.4	1.21	0.8	1.4	23.6 X 10.0	85
011910300025	25	196/0.4	0.78	1.0	1.5	28.9 X 12.0	113
011910300035	35	276/0.4	0.554	1.0	1.6	32.7 X 13.4	139
011910300050	50	396/0.4	0.386	1.2	1.7	38.7 X 15.5	156

Current rating conversion factor for deviating ambient temperature

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient temperature (°C)	25	30	35	40	45	50	55	60	65	70	75	80
Factor	1.16	1.11	1.06	1.00	0.95	0.88	0.82	0.78	0.74	0.71	0.67	0.64



These submersible flat cable are specially designed to provide distinguished tube like structure for the insulated cores. The wall between the cores perfectly separates them from coming in contact with each other and provides better mechanical and electrical strength compared to the traditional submersible flat cables. The knurling on the outer surface makes the cable more durable and provides improved abrasion resistance during handling and installation of these cables.

Application

These cables are mainly used in submersible pump connections. These cables are specially designed keeping in mind the tough and severe conditions in which they are used.

Construction

- Conductors:** Electrolytic Annealed Plain Copper, IS 8130
- Insulation:** Cross-linked Polyethylene (XLPE)
- Core Identification:** Red, Yellow (Center Core), Blue
- Sheath:** PVC, Type ST 2, IS 5831
- Sheath Color:** Black (Knurling on the width on both sides)

Technical Data

- Nominal Voltage:** 1100 V
- Max. Operating Temperature:** 90°C
- Test Voltage:** 3 kV for 5 Min.
- Minimum Bending Radius:** Fixed, 4 X Cable Ø.

Cable Design Parameters

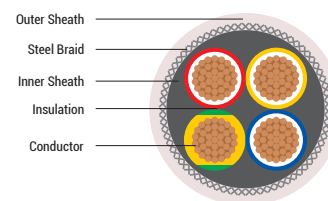
Cross sectional area (Sq. mm)	No of Strands / Max. strand dia. (mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. overall dimensions (W X H) (mm)	Max DC Conductor Resistance @ 20°C (Ω/Km)	Current carrying capacity (Ampere)
1.5	22/0.3	0.7	0.9	12.4 x 5.0	12.10	20
2.5	36/0.3	0.7	1.0	14.3 x 6.1	7.41	30
4.0	56/0.3	0.8	1.0	16.3 x 6.9	4.95	37
6.0	84/0.3	0.8	1.1	18.0 x 7.2	3.30	46

Current Rating Conversion factor for deviating ambient temperature

Ambient temperature (°C)	25	30	35	40	45	50
Factor	1.16	1.11	1.06	1	0.95	0.88

STEEL BRAIDED YSY 1.1 KV

REACH | RoHS | CE



Application

These cables are used as power cables in building and commercial infrastructure, tool machinery, plant installation. The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance. The transparent sheath gives the cable in addition an optical revaluation.

Standard

The cables are provided with enhanced insulation thickness meeting 1.1kV rating.

Technical Data

Temperature Range : Flexing -5°C to +70°C. Fixed installation -15°C to +70°C

Nominal Voltage : 1100V

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Insulation Resistance : Min. 20 GΩ x cm

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Cable Construction

Electrolytic grade bare copper, fine wire conductors to IS 8130, Class 5.

Core insulation of PVC A, IS 5831.

Cores stranded with optimal lay-length.

Special PVC inner jacket.

Galvanised steel wire braid screen.

Special transparent PVC outer jacket (Also available in Grey)

Core Colour Identification:

No. of Cores	Colour Codes
2	RD/BK
3	RD/BK/GNYE
3a	RD/YL/BL
4	RD/YL/BL/GNYE
4a	RD/YL/BL/Bk
5	RD/YL/BL/BK/GY

Properties

PVC self-extinguishing and flame retardant according to IEC 60332-1-2.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix as below :

For the core identification (in place of xx) :

01 - With green/yellow earth core.

02 - Without green/yellow earth core.

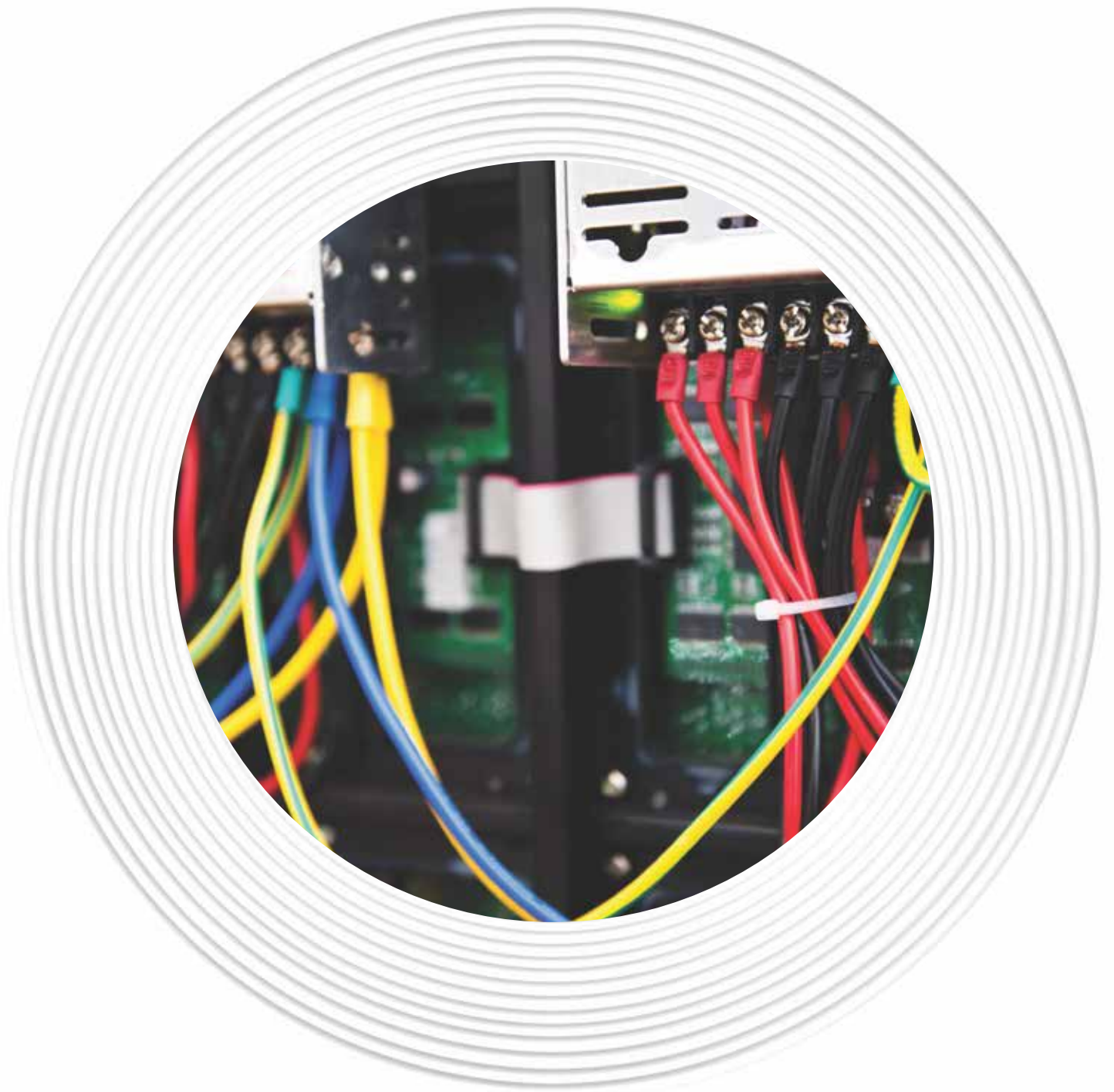
For Jacket Colour (in place of z) : 3 - grey (RAL 7001), 6 - transparent.

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Copper Weight (kg/km)
01200101xx1z	2 x 1	9.5	18.3	162.9
01200102xx1z	3 x 1	9.9	27.4	183.7
01200103xx1z	4 x 1	10.5	36.5	212.8
01200104xx1z	5 x 1	11.5	45.6	251.6
01200105xx1z	2 x 1.5	10.0	26.7	187.9
01200106xx1z	3 x 1.5	10.5	40.1	213.7
01200107xx1z	4 x 1.5	11.4	53.5	256.3
01200108xx1z	5 x 1.5	12.2	66.9	296.8
01200109xx1z	2 x 2.5	11.5	44.6	252.6
01200110xx1z	3 x 2.5	12.0	66.9	292.1
01200111xx1z	4 x 2.5	12.9	89.2	347.2
01200112xx1z	5 x 2.5	13.9	111.4	407.8
01200113xx1z	2 x 4	12.9	71.9	334.0
01200114xx1z	3 x 4	13.6	107.8	392.3
01200115xx1z	4 x 4	14.6	143.8	470.9
01200116xx1z	5 x 4	16.0	179.7	567.3
01200117xx1z	2 x 6	14.2	107.8	420.7
01200118xx1z	3 x 6	15.1	161.8	510.7
01200119xx1z	4 x 6	16.3	215.7	619.4
01200120xx1z	2 x 10	17.2	179.7	627.9
01200121xx1z	3 x 10	18.3	269.6	769.9
01200122xx1z	4 x 10	19.9	359.5	940.9
01200123xx1z	2 x 16	19.7	287.6	862.2
01200124xx1z	3 x 16	20.8	431.4	1059.4
01200125xx1z	4 x 16	22.7	575.2	1311.0
01200126xx1z	2 x 25	23.0	447.4	1218.8
01200127xx1z	3 x 25	24.6	671	1531.3
01200128xx1z	4 x 25	27.1	894.7	1923.2
01200129xx1z	2 x 35	25.7	629.9	1585.0
01200130xx1z	3 x 35	27.3	944.9	1990.7
01200131xx1z	2 x 35	30.1	1259.9	2513.2
01200132xx1z	2 x 50	30.3	903.8	2211.6
01200133xx1z	3 x 50	32.2	1355.8	2789.8
01200134xx1z	4 x 50	35.2	1807.7	3502.1
01200135xx1z	2 x 70	34.1	1283.9	2923.8
01200136xx1z	3 x 70	36.2	1925.8	3721.4
01200137xx1z	4 x 70	39.7	2567.7	4695.7

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Copper Weight (kg/km)
01200138xx1z	2 x 95	38.5	1711.8	3795.5
01200139xx1z	3 x 95	41.0	2567.7	4853.0
01200140xx1z	4 x 95	45.1	3423.6	6138.5
01200141xx1z	2 x 120	41.8	2168.3	4603.2
01200142xx1z	3 x 120	44.5	3252.5	5920.2
01200143xx1z	4 x 120	49.0	4336.6	7513.4
01200144xx1z	2 x 150	45.9	2674.7	5591.7
01200145xx1z	3 x 150	48.9	4012.1	7211.7
01200146xx1z	4 x 150	53.9	5349.4	9166.2
01200147xx1z	2 x 185	50.6	3320.2	6848.6
01200148xx1z	3 x 185	53.9	4980.3	8849.2
01200149xx1z	4 x 185	59.5	6640.4	11267.5
01200150xx1z	2 x 240	56.4	4279.6	8639.7
01200151xx1z	3 x 240	60.2	6419.3	11207.5
01200152xx1z	3 x 240	66.4	8559.1	14288.1

We also offer this cable with all black numbered cores with or without green/yellow earth core, on request.

SECTION - II SINGLE CORE



PRODUCTS

RATNAFLEX FLEXIBLE

Page No.: 38-39

H05Z-K & H07Z-K

Page No.: 43-44

H05V-K & H07V-K

Page No.: 40-41

H05Z1-K & H07Z1-K

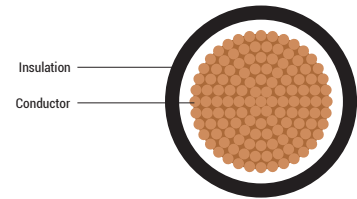
Page No.: 45-46

H05V2-K & H07V2-K

Page No.: 42

BS 6231 CK 90°C

Page No.: 47-48



Application

Cable designed for internal wiring in switch control, relay and instrumentation panels of power switchgear and for purposes such as stationary, static appliances, internal connectors in rectifier equipment, motor starters and controllers.

PVC 70°C cables suitable for general wiring in control cabinets, panels and power switchgear.

FR PVC 70°C cables suitable for ambient wiring in control cabinets, panels and power switchgear for enhanced safety.

HR PVC 85°C cables suitable for higher ambient wiring in control cabinets, panels and power switchgear.

HR FR PVC 85°C cables suitable for higher ambient wiring in control cabinets, panels and power switchgear and enhanced safety`.

FR-LSH PVC 70°C cables are suitable for wiring in public places like schools, hospitals, theatres, etc. These are also suitable for fire prone areas in industries and commercial infrastructure.

Technical Data

Approvals : IS 69 marked, FIA / TAC

Conductor : Electrolytic grade annealed copper

Voltage : Up to and including 1100V

Packing : Standard packing of 100 mtr. in coil. Longer length available on request

Variants Available

Product Type	Size Range	Specifications
RR KABEL	0.5 & 0.75 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type D
RATNAFLEX	1 to 4	IS 694, IS 8130 Class 5, IS 5831 Type D
RR KABEL FR	0.5 to 300 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type D (FR)
RR KABEL FR-LSH	0.5 to 150 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type D (FR-LSH)
RR KABEL HR	0.5 & 0.75 Sq. mm, 6 to 16 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type C (HR)
RATNAFLEX HR	1 to 4 & 25 to 300 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type C (HR)
RR KABEL HR FR	0.5 to 300 Sq. mm	IS 694, IS 8130 Class 5, IS 5831 Type C (HR FR)

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

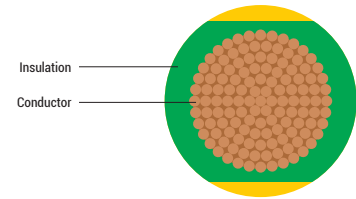
01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'y') for the insulation material required:

1 - PVC 70°C, 2 - PVC FR 70°C, 3 - PVC HR 85°C, 4 - PVC HR 85°C +FR, 5 - PVC FR-LSH 70°C.

Part Number	Nominal Cross Section Area (Sq. mm)	No of Strands/Max. Strand Diameter (mm)	Nominal Insulation Thickness (mm)	Maximum Diameter Over Insulation (mm)
02010101xxy0	0.5	16/0.2	0.6	2.6
02010102xxy0	0.75	24/0.2	0.6	2.8
02010103xxy0	1	32/0.2	0.6	3.0
02010104xxy0	1.5	30/0.25	0.6	3.4
02010105xxy0	2.5	50/0.25	0.7	4.1
02010106xxy0	4	56/0.3	0.8	4.8
02010107xxy0	6	84/0.3	0.8	5.3
02010108xxy0	10	140/0.3	1.0	7.0
02010109xxy0	16	126/0.4	1.0	8.1
02010110xxy0	25	196/0.4	1.2	10.2
02010111xxy0	35	276/0.4	1.2	11.7
02010112xxy0	50	396/0.4	1.4	13.9
02010113xxy0	70	360/0.5	1.4	16.0
02010114xxy0	95	480/0.5	1.6	18.2
02010115xxy0	120	608/0.5	1.6	20.2
02010116xxy0	150	750/0.5	1.8	22.5
02010117xxy0	185	931/0.5	2.0	24.9
02010118xxy0	240	1200/0.5	2.2	28.4
02010119xxy0	300	1500/0.5	2.4	31.0

For current ratings for IS 694 refer table no. 6-2 & 6-5.



Application

Cable designed for internal wiring in switch control, relay and instrumentation panels of power switchgear and for purposes such as stationary, static appliances, internal connectors in rectifier equipment, motor starters and controllers.

Standard

DIN EN 50525-2-31, VDE 0285-525-2-31, BS EN 50525-2-31.

Technical Data

Voltage Rating : H05V-K 0.5 to 1 mm² - 300 / 500V, H07V-K 1.5 to 240 mm² - 450 / 750V

Temperature Range : -30°C to +70°C

Minimum Bending Radius :

Cable diameter ≤ 8 mm : 4 x outer diameter

Approx. diameter > 8 to 12 mm : 5 x outer diameter

Approx. diameter > 12 mm : 6 x outer diameter

Test Voltage : 2500V

Construction

Conductor Class 5 flexible plain / metal coated stranded according to EN 60228.

Insulation PVC (Polyvinyl chloride) T11 to BS EN 50363- 3.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'c') for the conductor type required:

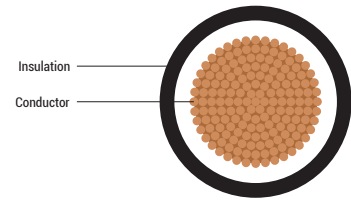
0 = Annealed Bare Copper (ABC), 1 = Annealed Tinned Copper (ATC)

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
				Lower Limit (mm)	Upper Limit (mm)	
H05V-K	02020101xx1c	0.5	0.6	2.1	2.5	9
	02020102xx1c	0.75	0.6	2.2	2.7	12
	02020103xx1c	1	0.6	2.4	2.8	15
H07V-K	02020104xx1c	1.5	0.7	2.8	3.4	21
	02020105xx1c	2.5	0.8	3.4	4.1	33
	02020106xx1c	4	0.8	3.9	4.8	47
	02020107xx1c	6	0.8	4.4	5.3	66
	02020108xx1c	10	1.0	5.7	6.8	112
	02020109xx1c	16	1.0	6.7	8.1	170
	02020110xx1c	25	1.2	8.4	10.2	261
	02020111xx1c	35	1.2	9.7	11.7	358
	02020112xx1c	50	1.4	11.5	13.9	510
	02020113xx1c	70	1.4	13.2	16.0	703
	02020114xx1c	95	1.6	15.1	18.2	927
	02020115xx1c	120	1.6	16.7	20.2	1170
	02020116xx1c	150	1.8	18.6	22.5	1459
	02020117xx1c	185	2.0	20.6	24.9	1776
	02020118xx1c	240	2.2	23.5	28.4	2333

Cables up to 1 x 120 mm² certified under DIN EN 50525-2-31(VDE 0285-525-2-31)
For current ratings refer table no. 7-1.

H05V2-K & H07V2-K

REACH | RoHS | CE | CPR Compliant



Application

Heat resistant cable designed for internal wiring in switch control, relay and instrumentation panels of power switchgear and for purposes such as internal connectors in rectifier equipment, motor starters and controllers.

Standard

BS/VDE EN 50525-2-31.

Technical Data

Voltage Rating : H05V2-K 0.5 to 1 mm² - 300 / 500V, H07V2-K 1.5 to 35 mm² - 450 / 750V

Temperature Range : -30°C to +90°C

Minimum Bending Radius :

Cable diameter ≤ 8 mm : 4 x outer diameter

Approx. diameter > 8 to 12 mm : 5 x outer diameter

Approx. diameter > 12 mm : 6 x outer diameter

Test Voltage : 2500V

Construction

Conductor Class 5 flexible plain / metal coated stranded according to EN 60228.

Insulation PVC (Polyvinyl Chloride) TI3 to BS EN 50363 - 3.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

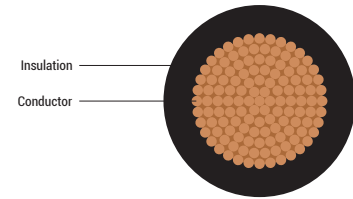
01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'c') for the conductor type required:

0 = Annealed Bare Copper (ABC), 1 = Annealed Tinned Copper (ATC).

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
				Lower Limit (mm)	Upper Limit (mm)	
H05V2-K	02030101xx3c	0.5	0.6	2.1	2.5	8.5
	02030102xx3c	0.75	0.6	2.2	2.7	11.5
	02030103xx3c	1	0.6	2.4	2.8	13.5
H07V2-K	02030104xx3c	1.5	0.7	2.8	3.4	20
	02030105xx3c	2.5	0.8	3.4	4.1	32
	02030106xx3c	4	0.8	3.9	4.8	46
	02030107xx3c	6	0.8	4.4	5.3	65
	02030108xx3c	10	1.0	5.7	6.8	110
	02030109xx3c	16	1.0	6.7	8.1	167
	02030110xx3c	25	1.2	8.4	10.2	257
	02030111xx3c	35	1.2	9.7	11.7	358

For current ratings refer table no. 8-1 & 8-2.



Application

Halogen-free single-core wires are used for installation in dry environments for wiring up lighting fixtures and units where valuable assets are to be protected from further damage resulting from fire. These cables may be installed on, in and beneath plaster, as well as in closed installation ducts. The direct operating voltages is permitted up to 900 V against ground when they are used in rail-coaches. For the inner wiring of switch boards and distributors these are to be used with an alternating nominal voltage up to 1000V or a direct voltage up to 750V against ground.

Standard

BS EN 50525-3-41.

Technical Data

Nominal Voltage : H05Z-K U_0 / U 300 / 500V, H07Z-K U_0 / U 450 / 750V

Harmonised Designation : 0.5 mm² to 1 mm² - H05Z-K, 1.5 mm² to 240 mm² - H07Z-K

Temperature Range : -15°C to +90°C

Minimum Bending Radius :

Cable diameter ≤ 8 mm : 4 x outer diameter

Approx. diameter > 8 to 12 mm : 5 x outer diameter

Approx. diameter > 12 mm : 6 x outer diameter

Test Voltage : 2500V

Cable Construction

Conductor Class 5 flexible plain/metal coated stranded according to EN 60228.

Insulation Polyolefin cross linked EI5 to EN 50363-5.

Tests

Smoke density to acc. to EN 61034-2.

Halogen free acc. to EN 50525-1, EN 60754-1.

Corrosivity acc. to EN 60754-2

Ozone resistant according to EN 60811-2-1.

Self-extinguishing and flame retardant according to EN 60332-1-2.

LSOH = Low Smoke Zero Halogen-Free.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'c') for the conductor type required:

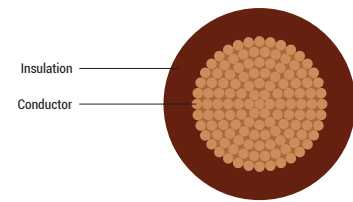
0 = Annealed Bare Copper (ABC), 1 = Annealed Tinned Copper (ATC).

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
				Lower Limit (mm)	Upper Limit (mm)	
H05Z-K	02040101xx6c	0.5	0.6	1.9	2.4	9
	02040102xx6c	0.8	0.6	2.1	2.6	12
	02040103xx6c	1	0.6	2.2	2.8	15
H07Z-K	02040104xx6c	1.5	0.7	2.8	3.5	21
	02040105xx6c	2.5	0.8	3.4	4.3	33
	02040106xx6c	4	0.8	3.9	4.9	47
	02040107xx6c	6	0.8	4.4	5.5	66
	02040108xx6c	10	1.0	5.7	7.1	112
	02040109xx6c	16	1.0	6.7	8.4	169
	02040110xx6c	25	1.2	8.4	10.6	260
	02040111xx6c	35	1.2	9.7	12.1	358
	02040112xx6c	50	1.4	11.5	14.4	509
	02040113xx6c	70	1.4	13.2	16.61	701
	02040114xx6c	95	1.6	15.1	18.8	925
	02040115xx6c	120	1.6	16.7	20.9	1168
	02040116xx6c	150	1.8	18.6	23.3	1456
	02040117xx6c	185	2.0	20.6	25.8	1773
	02040118xx6c	240	2.2	23.5	29.4	2329

For current ratings refer table no. 9-1 & voltage drop refer table no. 9-2.

H05Z1-K & H07Z1-K

REACH | RoHS | CE



Application

Halogen-free single-core wires are used for installation in dry environments for wiring up lighting fixtures and units where valuable assets are to be protected from further damage resulting from fire. These cables may be installed on, in and beneath plaster, as well as in closed installation ducts. For use in public places such as: hospitals, schools, museums, airports, bus terminals, shops in general, etc., as well as in computer rooms, offices, production plants, switchboard wiring, laboratories, etc.

Standard

BS EN 50525-3-31.

Technical Data

Nominal Voltage : H05Z1- K U₀ / U 300 / 500V; H07Z1- K U₀ / U 450 / 750V

Harmonised Designation : 0.5 mm² to 1 mm² - H05Z1- K, 1.5 mm² to 240 mm² - H07Z1- K

Temperature Range : -30°C to +70°C

Minimum Bending Radius

Cable diameter ≤ 8 mm: 4 x outer diameter

Approx. diameter > 8 to 12 mm: 5 x outer diameter

Approx. diameter > 12 mm: 6 x outer diameter

Test Voltage : 2500V

Cable Construction

Conductor Class 5 flexible plain / metal coated stranded according to EN 60228.

Insulation of thermoplastic halogen-free compound type T17 to EN 50363-7.

Properties

Smoke density to acc. to EN 61034-2.

Halogen free acc. to EN 50525-1, EN 60754-1.

Corrosivity acc. to EN 60754-2.

Ozone resistant according to EN 60811-2-1 or HD 505.2.1.

Self-extinguishing and flame retardant according to EN 60332-1-2.

LSOH = Low Smoke Zero Halogen.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

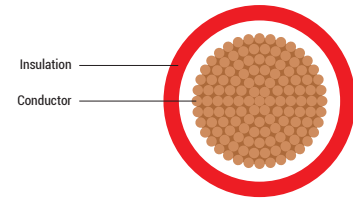
01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'c') for the conductor type required:

0 = Annealed Bare Copper (ABC), 1 = Annealed Tinned Copper (ATC).

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
				Lower Limit (mm)	Upper Limit (mm)	
H05Z1-K	02050101xx7c	0.5	0.6	2.1	2.5	9.5
	02050102xx7c	0.75	0.6	2.2	2.7	12.5
	02050103xx7c	1	0.6	2.4	2.8	15.5
H07Z1-K	02050104xx7c	1.5	0.7	2.8	3.4	21.5
	02050105xx7c	2.5	0.8	3.4	4.1	33.5
	02050106xx7c	4	0.8	3.9	4.8	48
	02050107xx7c	6	0.8	4.4	5.3	67
	02050108xx7c	10	1.0	5.7	6.8	113
	02050109xx7c	16	1.0	6.7	8.1	171
	02050110xx7c	25	1.2	8.4	10.2	262
	02050111xx7c	35	1.2	9.7	11.7	360
	02050112xx7c	50	1.4	11.5	13.9	513
	02050113xx7c	70	1.4	13.2	16.0	705
	02050114xx7c	95	1.6	15.1	18.2	931
	02050115xx7c	120	1.6	16.7	20.2	1175
	02050116xx7c	150	1.8	18.6	22.5	1264
	02050117xx7c	185	2.0	20.6	24.9	1783
	02050118xx7c	240	2.2	23.5	28.4	2341

For current ratings refer table no. 7-1.



Application

High temperature, flame retardant cable designed for use in switch control, relay and instrumentation panels of power switchgear and for purposes such as internal connectors in rectifier equipment, motor starters and controllers.

Standard

BS6231 Type CK.

Technical Data

Voltage Rating : 600 / 1000V

Temperature Rating : 90°C (105°C for 15,000 hours)

Minimum Bending Radius :

Cable diameter ≤ 8 mm : 4 x outer diameter.

Approx. diameter > 8 to 12 mm: 5 x outer diameter.

Approx. diameter > 12 mm: 6 x outer diameter.

Test Voltage : 4000V

Construction

Conductor : Conductor Class 5 flexible plain/metal coated stranded according to EN 60228 cl. 5.

Insulation : PVC (Polyvinyl Chloride) TI3 to BS EN 50363-3.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 - violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

By adding the suffix (in place of 'c') for the conductor type required:

0 = Annealed Bare Copper (ABC), 1 = Annealed Tinned Copper (ATC).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
			Lower Limit (mm)	Upper Limit (mm)	
02060101xx3c	0.5	0.8	2.4	3.0	11
02060102xx3c	0.75	0.8	2.6	3.1	14
02060103xx3c	1	0.8	2.7	3.3	16
02060104xx3c	1.5	0.8	3.0	3.6	21
02060105xx3c	2.5	0.8	3.4	4.1	32
02060106xx3c	4	0.8	3.9	4.8	46
02060107xx3c	6	0.8	4.4	5.3	64

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Mean Overall Diameter		Approx. Cable Weight (kg/km)
			Lower Limit (mm)	Upper Limit (mm)	
02060108xx3c	10	1.0	5.7	7.2	109
02060109xx3c	16	1.0	6.7	9.0	166
02060110xx3c	25	1.2	8.4	11.5	256
02060111xx3c	35	1.2	9.7	12.5	352
02060112xx3c	50	1.4	11.5	15.4	501
02060113xx3c	70	1.4	13.2	17.5	692
02060114xx3c	95	1.6	15.1	19.2	914
02060115xx3c	120	1.6	16.7	21.2	1155
02060116xx3c	150	1.8	18.6	23.9	1441
02060117xx3c	185	2.0	20.6	25.9	1754
02060118xx3c	240	2.2	23.5	28.9	2305

Note : These cable are also catered with compliance to AWM, UL 1015 and CSA C22.2 No. 210-11 as Trirated cable.
For current ratings refer table no. 8-1 & 8-2.

SECTION - III

CONTROL CABLES



PRODUCTS

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CONTROL CABLE (IS 694)

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JB-750

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H03/H05V2V2H2-F & H03/H05V2V2-F PVC 90° C

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JB-YCY

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JB-BK 0.6/1.0 KV

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JZ-YCY

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JZ-YSY

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JZ-CY

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JZ-BK 0.6/1.0kV

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JZ-YCY BK 0.6/1.0kV

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OZ-EB

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JZ-H

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JZ-H

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JZ-HCH

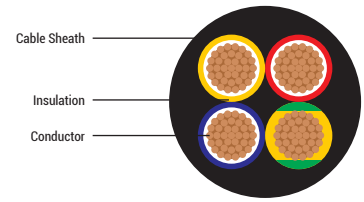
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H05Z1Z1-F (318B)

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RATNAFLEX MULTICORE (IS 694)

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Application

These cables are designed for residential and commercial infrastructure. They serve as the connecting medium in power and control panels, cabinets & switchgears. They can also be used for purposes such as stationary and static appliances, motors and for other single phase connections.

Ratnaflex -M: PVC insulated & sheathed multicore cables suitable for all general purpose wirings for max. operating temperature of 70°C.

Ratnaflex -M HR: HR PVC insulated & sheathed multicore cables suitable for higher operating temperature of 70°C.

Ratnaflex -M FR: Flame Retardant (FR) multicore cable enhances safety and are suitable for max. operating temperature 70°C.

Ratnaflex -M HRFR: Heat Resistant (HR) & Flame Retardant (FR) multicore cables are suitable for higher operating temperature up to 85°C with enhanced safety.

Ratnaflex -M FR-LSH: Flame Retardant Low Smoke Low Halogen (FR-LSH) cables are suitable for wiring in public places like schools, hospitals, theatres, etc.

Technical Data

Approvals : IS 694 marked, FIA/TAC

Conductor : Electrolytic grade annealed copper Class 5 as per IS 8130

Standard Cable Colour : Black, grey & white

Voltage Rating : Up to and including 1100V

Packing : Standard packing of 100 mtr. in coil. Longer length available on request

Variants Available

Product Type/Legends	Specifications
RATNAFLEX-M	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 & for sheathing
RATNAFLEX-M HR	IS 694, IS 8130 Class 5, IS 5831 Type C for insulation & ST-2 for sheathing
RATNAFLEX-M FR	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 (FR) & for sheathing
RATNAFLEX-M HR FR	IS 694, IS 8130 Class 5, IS 5831 Type C for insulation & ST-2 (FR) for sheathing
RATNAFLEX-M FR-LSH	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 (FR-LSH) for sheathing

Please complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required.
 06 - green-yellow earth core. We offer green/yellow earth core as our standard product.
 00 - without green-yellow earth core (available on request).

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the product type required.
 1 - PVC 70°C, 2 - PVC FR 70°C, 3 - PVC HR 85°C, 4 - PVC HR 85°C + FR, 5 - PVC FR-LSH 70°C.

Kindly complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required.
 1 - black, 4 - grey, 5 - white.

Kindly add 'OU' after the part number, for the cables required for outdoor application.

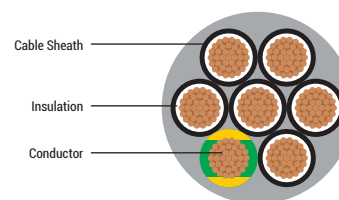
Part Number	No. of Cores	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Max. D.C. Conductor Resistance at 20°C (Ω /km)	Nominal Thickness of Sheath	Maximum Overall Dimensions (mm)
03010101xxyz	1	0.5	0.6	39.0	0.9	4.3
03010102xxyz	2	0.5	0.6	39.0	0.9	6.9
03010103xxyz	3	0.5	0.6	39.0	0.9	7.3
03010104xxyz	4	0.5	0.6	39.0	0.9	8.0
03010105xxyz	5	0.5	0.6	39.0	0.9	8.7
03010106xxyz	1	0.75	0.6	26.0	0.9	4.5
03010107xxyz	2	0.75	0.6	26.0	0.9	7.3
03010108xxyz	3	0.75	0.6	26.0	0.9	7.7
03010109xxyz	4	0.75	0.6	26.0	0.9	8.4
03010110xxyz	5	0.75	0.6	26.0	0.9	9.2
03010111xxyz	1	1	0.6	19.5	0.9	4.7
03010112xxyz	2	1	0.6	19.5	0.9	7.6
03010113xxyz	3	1	0.6	19.5	0.9	8.1
03010114xxyz	4	1	0.6	19.5	0.9	8.8
03010115xxyz	5	1	0.6	19.5	1.0	9.6
03010116xxyz	1	1.5	0.6	13.3	0.9	5.4
03010117xxyz	2	1.5	0.6	13.3	0.9	8.9
03010118xxyz	3	1.5	0.6	13.3	0.9	9.4
03010119xxyz	4	1.5	0.6	13.3	1.0	10.4
03010120xxyz	5	1.5	0.6	13.3	1.0	11.4
03010121xxyz	1	2.5	0.70	7.98	1.0	6.2
03010122xxyz	2	2.5	0.70	7.98	1.0	10.3
03010123xxyz	3	2.5	0.70	7.98	1.0	10.9
03010124xxyz	4	2.5	0.70	7.98	1.0	12.0
03010125xxyz	5	2.5	0.70	7.98	1.0	13.2
03010126xxyz	1	4	0.80	4.95	1.0	6.8
03010127xxyz	2	4	0.80	4.95	1.0	11.6
03010128xxyz	3	4	0.80	4.95	1.0	12.4
03010129xxyz	4	4	0.80	4.95	1.0	13.6
03010130xxyz	5	4	0.80	4.95	1.1	15.3
03010131xxyz	1	6	0.80	3.30	1.1	7.5
03010132xxyz	2	6	0.80	3.30	1.1	13.0
03010133xxyz	3	6	0.80	3.30	1.2	13.8
03010134xxyz	4	6	0.80	3.30	1.2	15.5
03010135xxyz	1	10	1.00	1.9	1.3	9.4
03010136xxyz	2	10	1.00	1.9	1.3	16.5
03010137xxyz	3	10	1.00	1.9	1.4	17.7
03010138xxyz	4	10	1.00	1.9	1.4	19.5
03010139xxyz	1	16	1.00	1.2	1.4	10.9

Part Number	No. of Cores	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Max. D.C. Conductor Resistance at 20°C (Ω/km)	Nominal Thickness of Sheath	Maximum Overall Dimensions (mm)
03010140xxyz	2	16	1.00	1.21	1.4	19.4
03010141xxyz	3	16	1.00	1.21	1.4	20.6
03010142xxyz	4	16	1.00	1.21	1.4	23.0
03010143xxyz	1	25	1.20	0.780	1.4	13.6
03010144xxyz	2	25	1.20	0.780	1.4	23.8
03010145xxyz	3	25	1.20	0.780	1.5	25.6
03010146xxyz	4	25	1.20	0.780	1.6	28.5
03010147xxyz	1	35	1.20	0.554	1.6	15.5
03010148xxyz	2	35	1.20	0.554	1.6	27.2
03010149xxyz	3	35	1.20	0.554	1.6	29.3
03010150xxyz	4	35	1.20	0.554	1.7	32.7
03010151xxyz	1	50	1.40	0.386	2.0	18.1
03010152xxyz	2	50	1.40	0.386	2.0	32.0
03010153xxyz	3	50	1.40	0.386	2.0	34.6
03010154xxyz	4	50	1.40	0.386	2.0	38.6
03010155xxyz	1	70	1.40	0.272	2.2	20.8
03010156xxyz	2	70	1.40	0.272	2.2	36.8
03010157xxyz	3	70	1.40	0.272	2.2	39.6
03010158xxyz	4	70	1.40	0.272	2.2	44.3
03010159xxyz	1	95	1.60	0.206	2.4	23.6
03010160xxyz	2	95	1.60	0.206	2.4	41.8
03010161xxyz	3	95	1.60	0.206	2.4	47.0
03010162xxyz	4	95	1.60	0.206	2.4	50.2
03010163xxyz	1	120	1.60	0.161	2.5	26.0
03010164xxyz	2	120	1.60	0.161	2.5	46.2
03010165xxyz	3	120	1.60	0.161	2.5	51.0
03010166xxyz	4	120	1.60	0.161	2.5	55.7
03010167xxyz	3	150	1.80	0.129	2.6	54.8
03010168xxyz	4	150	1.80	0.129	2.6	62.1
03010169xxyz	3	185	2.00	0.106	2.8	61.2
03010170xxyz	4	185	2.00	0.106	2.8	68.5
03010171xxyz	3	240	2.20	0.0801	3.0	69.7
03010172xxyz	4	240	2.20	0.0801	3.0	77.9
03010173xxyz	3	300	2.40	0.0641	3.2	75.7
03010174xxyz	4	300	2.40	0.0641	3.2	84.4

For current ratings & voltage drop refer table no. 6-4 & 6-5 of Appendix.

CONTROL CABLE (IS 694)

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Application

These cables are designed for residential and commercial infrastructure. They serve as the connecting medium in power and control panels, cabinets & switchgears. They can also be used for the purposes such as stationary and static appliances, motors and for other single phase connections.

Ratnaflex -M: PVC insulated & sheathed multicore cables suitable for all general purpose wirings for max. operating temperature of 70°C.

Ratnaflex -M HR: HR PVC insulated & sheathed multicore cables suitable for higher operating temperature of 70°C.

Ratnaflex -M FR: Flame Retardant (FR) multicore cable enhances safety and are suitable for max. operating temperature 70°C.

Ratnaflex -M HRFR: Heat Resistant (HR) & Flame Retardant (FR) multicore cables are suitable for higher operating temperature up to 85°C with enhanced safety.

Ratnaflex -M FR-LSH: Flame Retardant Low Smoke Low Halogen (FR-LSH) cables are suitable for wiring in public places like schools, hospitals, theatres, etc.

Technical Data

Approvals : IS 694 marked, FIA/TAC

Conductor : Electrolytic grade annealed copper Class-5 as per IS 8130, having uniform resistance properties

Core Colours: All black colour cores with continuous white numbering, gn-yl core on outer most layer for earth if applicable

Standard Cable Colour : Black (RAL 9005) & Grey (RAL 7001)

Voltage : Up to and including 1100V

Packing : Standard packing of 100 mtr. in coils. Longer length available on request

Variants Available

Product Type	Specifications	
PVC 70°C	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 & for sheathing	
Heat Resistant 85°C	IS 694, IS 8130 Class 5, IS 5831 Type C for insulation & ST-2 for sheathing	
Flame Retardant	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 (FR) & for sheathing	
Heat Resistant 85°C & Flame Retardant	IS 694, IS 8130 Class 5, IS 5831 Type C for insulation & ST-2 (FR) for sheathing	
Flame Retardant Low Smoke Low Halogen	IS 694, IS 8130 Class 5, IS 5831 Type D for insulation & ST-3 (FR-LSH) for sheathing	
Please complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required.	Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the product type required.	Kindly complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required.
06 - green-yellow earth core. We offer green/yellow earth core as our standard product. 00 - without green-yellow earth core (available on request).	1 - PVC 70°C, 2 - PVC FR 70°C, 3 - PVC HR 85°C, 4 - PVC HR 85°C + FR, 5 - PVC FR-LSH 70°C.	1 - black, 4 - grey.

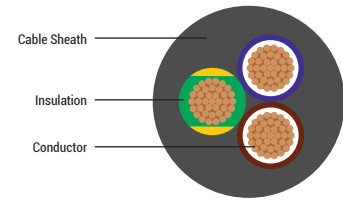
Kindly add 'OU' after the part number, for the cables required for outdoor application.

Cable Design Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Cores	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Maximum Overall Dimensions (mm)
03020101xyz	0.5	6	0.6	0.9	9.5
03020102xyz	0.5	7	0.6	0.9	9.5
03020103xyz	0.5	8	0.6	1.0	11.1
03020104xyz	0.5	9	0.6	1.0	11.8
03020105xyz	0.5	10	0.6	1.0	12.0
03020106xyz	0.5	11	0.6	1.0	12.0
03020107xyz	0.5	12	0.6	1.0	12.4
03020108xyz	0.5	13	0.6	1.0	13.1
03020109xyz	0.5	14	0.6	1.1	13.1
03020110xyz	0.5	15	0.6	1.1	13.5
03020111xyz	0.5	16	0.6	1.1	13.8
03020112xyz	0.5	17	0.6	1.1	14.6
03020113xyz	0.5	18	0.6	1.1	14.6
03020114xyz	0.5	19	0.6	1.1	14.6
03020115xyz	0.5	20	0.6	1.2	15.4
03020116xyz	0.5	21	0.6	1.2	15.4
03020117xyz	0.5	22	0.6	1.2	16.3
03020118xyz	0.5	23	0.6	1.2	16.3
03020119xyz	0.5	24	0.6	1.2	17.1
03020120xyz	0.5	25	0.6	1.2	17.1
03020121xyz	0.75	6	0.6	1.0	10.0
03020122xyz	0.75	7	0.6	1.0	10.0
03020123xyz	0.75	8	0.6	1.0	11.8
03020124xyz	0.75	9	0.6	1.1	12.4
03020125xyz	0.75	10	0.6	1.1	12.7
03020126xyz	0.75	11	0.6	1.1	12.7
03020127xyz	0.75	12	0.6	1.1	13.1
03020128xyz	0.75	13	0.6	1.1	13.8
03020129xyz	0.75	14	0.6	1.1	13.8
03020130xyz	0.75	15	0.6	1.2	14.3
03020131xyz	0.75	16	0.6	1.2	14.6
03020132xyz	0.75	17	0.6	1.2	15.4
03020133xyz	0.75	18	0.6	1.2	15.4
03020134xyz	0.75	19	0.6	1.2	15.4
03020135xyz	0.75	20	0.6	1.3	16.3
03020136xyz	0.75	21	0.6	1.3	16.3

Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Cores	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Maximum Overall Dimensions (mm)
03020137xyz	0.75	22	0.6	1.3	17.3
03020138xyz	0.75	23	0.6	1.3	17.3
03020139xyz	0.75	24	0.6	1.3	18.2
03020140xyz	0.75	25	0.6	1.3	19
03020141xyz	1.0	6	0.6	1.0	10.5
03020142xyz	1.0	7	0.6	1.0	10.5
03020143xyz	1.0	8	0.6	1.0	12.4
03020144xyz	1.0	9	0.6	1.1	13.1
03020145xyz	1.0	10	0.6	1.1	13.4
03020146xyz	1.0	11	0.6	1.1	13.4
03020147xyz	1.0	12	0.6	1.1	13.9
03020148xyz	1.0	13	0.6	1.1	14.6
03020149xyz	1.0	14	0.6	1.1	14.6
03020150xyz	1.0	15	0.6	1.2	15.1
03020151xyz	1.0	16	0.6	1.2	15.4
03020152xyz	1.0	17	0.6	1.2	16.3
03020153xyz	1.0	18	0.6	1.3	16.3
03020154xyz	1.0	19	0.6	1.3	16.3
03020155xyz	1.0	20	0.6	1.4	17.3
03020156xyz	1.0	21	0.6	1.4	17.3
03020157xyz	1.0	22	0.6	1.4	18.2
03020158xyz	1.0	23	0.6	1.4	18.2
03020159xyz	1.0	24	0.6	1.4	19.2
03020160xyz	1.0	25	0.6	1.4	19.2
03020161xyz	1.5	6	0.6	1.0	12.4
03020162xyz	1.5	7	0.6	1.0	12.4
03020163xyz	1.5	8	0.6	1.1	14.7
03020164xyz	1.5	9	0.6	1.1	15.6
03020165xyz	1.5	10	0.6	1.1	16
03020166xyz	1.5	11	0.6	1.1	16
03020167xyz	1.5	12	0.6	1.1	16.5
03020168xyz	1.5	13	0.6	1.2	17.4
03020169xyz	1.5	14	0.6	1.2	17.4
03020170xyz	1.5	15	0.6	1.2	18.1
03020171xyz	1.5	16	0.6	1.2	18.4
03020172xyz	1.5	17	0.6	1.3	19.5

Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Cores	Nominal Thickness of Insulation (mm)	Nominal Thickness of Sheath (mm)	Maximum Overall Dimensions (mm)
03020173xyz	1.5	18	0.6	1.3	19.5
03020174xyz	1.5	19	0.6	1.3	19.5
03020175xyz	1.5	20	0.6	1.4	20.7
03020176xyz	1.5	21	0.6	1.4	20.7
03020177xyz	1.5	22	0.6	1.4	21.9
03020178xyz	1.5	23	0.6	1.4	21.9
03020179xyz	1.5	24	0.6	1.4	23
03020180xyz	1.5	25	0.6	1.4	23
03020181xyz	2.5	6	0.7	1.1	14.5
03020182xyz	2.5	7	0.7	1.1	15.5
03020183xyz	2.5	8	0.7	1.2	17.3
03020184xyz	2.5	9	0.7	1.3	18.3
03020185xyz	2.5	10	0.7	1.3	18.7
03020186xyz	2.5	11	0.7	1.3	18.7
03020187xyz	2.5	12	0.7	1.3	19.4
03020188xyz	2.5	13	0.7	1.3	20.5
03020189xyz	2.5	14	0.7	1.3	20.5
03020190xyz	2.5	15	0.7	1.4	21.3
03020191xyz	2.5	16	0.7	1.4	21.7
03020192xyz	2.5	17	0.7	1.4	23
03020193xyz	2.5	18	0.7	1.4	23.3
03020194xyz	2.5	19	0.7	1.4	23.8
03020195xyz	2.5	20	0.7	1.4	24.4
03020196xyz	2.5	21	0.7	1.5	25
03020197xyz	2.5	22	0.7	1.5	25.8
03020198xyz	2.5	23	0.7	1.5	26.3
03020199xyz	2.5	24	0.7	1.5	27.2
03020200xyz	2.5	25	0.7	1.5	27.9



Application

For use in connections of household appliances, plant and machinery, wiring purposes and for manufacturing cords.

Standard

BS EN 50525-2-11, DIN EN 50525-2-11; VDE 0285-525-2-11, EN 50525-2-11.

Technical Data

Nominal Voltage : 300/500V (H05VV-F & H05VVH2-F); 300/300V (H03VV-F & H03VVH2-F)

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed Installation : -30°C to +70°C

Minimum Bending Radius: Flexing 7.5 x cable ø; Fixed installation 4 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, as per EN 60228 Cl.5.

PVC core insulation TI2, to EN 50363-3.

Harmonised core colour to HD 308 (Refer Appendix Table No. 1-1).

Cores stranded in layers with optimal lay-length.

PVC outer sheath TM2, to EN 50363-4.1.

H05VV-F is also available in oil resistant variant as H05VV5-F.

The outer sheath provided here is of special PVC, TM5 to BS EN 50363-4.1.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Please complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required:

1 - black (RAL 9005), 3 - grey (RAL 7001), 5 - white (RAL 9010). For Oil Resistant sheath kindly add 'OR' after the part nos.

Cable Design Parameters

	Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
H03VV-F	03030101021z	2 x 0.5	5.1
	03030102021z	2 x 0.75	5.5
	03030103021z	3 x 0.5	5.3
	03030104011z	3 G 0.5	5.3
	03030105021z	3 x 0.75	5.7
	03030106011z	3 G 0.75	5.7
	03030107021z	4 x 0.5	5.8

	Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
	03030108011z	4 G 0.5	5.8
	03030109021z	4 x 0.75	6.3
	03030110011z	4 G 0.75	6.3
H03VVH2-F	03031111021z	2 x 0.5	5.1 x 3.2
	03031112021z	2 x 0.75	5.5 x 3.4
H05VVH2-F	03031113021z	2 x 0.75	6.3 x 4.0
	03031114021z	2 x 1	6.6 x 4.1
	03031115021z	2 x 1.5	7.7 x 4.7
H05W-F	03030116021z	2 x 0.75	6.2
	03030117021z	2 x 1	6.4
	03030118021z	2 x 1.5	7.5
	03030119021z	2 x 2.5	9.1
	03030120021z	2 x 4	10.3
	03030121011z	3 G 0.75	6.6
	03030122021z	3 x 0.75	6.6
	03030123011z	3 G 1	6.9
	03030124021z	3 x 1	6.9
	03030125011z	3 G 1.5	8.1
	03030126021z	3 x 1.5	8.1
	03030127011z	3 G 2.5	9.7
	03030128021z	3 x 2.5	9.7
	03030129011z	3 G 4	11.2
	03030130021z	3 x 4	11.2
	03030131011z	4 G 0.75	7.1
	03030132021z	4 x 0.75	7.1
	03030133011z	4 G 1	7.5
	03030134021z	4 x 1	7.5
	03030135011z	4 G 1.5	9.1
	03030136021z	4 x 1.5	9.1
	03030137011z	4 G 2.5	10.7
	03030138021z	4 x 2.5	10.7
	03030139011z	4 G 4	12.2
	03030140021z	4 x 4	12.2
	03030141011z	5 G 0.75	8.0
	03030142021z	5 x 0.75	8.0
	03030143011z	5 G 1	8.4
	03030144021z	5 x 1	8.4

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
03030145011z	5 G 1.5	10.2
03030146021z	5 x 1.5	10.2
03030147011z	5 G 2.5	12.0
03030148021z	5 x 2.5	12.0
03030149011z	5 G 4	13.8
03030150021z	5 x 4	13.8

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

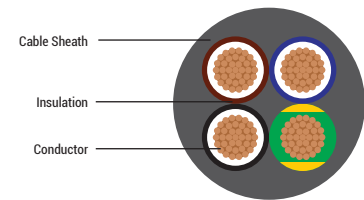
Range Details

Cable Type	Size Range	
	BASEC	VDE
H03VVH2-F	-	0.50...0.75 mm ² x 2C
H05VVH2-F	0.75 1.5 mm ² x 2C	0.75...1 mm ² x 2C
H05VV-F	0.75...4 mm ² x 2...5C	0.75...4 mm ² x 2...5C

For current rating refer table no. 11-1 & for voltage drop refer table no. 11-2 of Appendix

For current rating conversion factor, refer table no. 11-3 of Appendix

For current rating to DIN VDE 0298-4, refer table no. 12-3 of Appendix



Application

For use in connections of household appliances and wiring purposes. It is also used in manufacture of cords.

Standard

Adapted to DIN VDE 0281, 0293, 0295 with insulation thickness for 1.0 kV type.

Technical Data

Nominal Voltage : U_o/U 450/750V

Insulation Resistance : Min. 20 G Ω x cm

Temperature Range : Flexing -5°C to +70°C

Fixed Installation : -30°C to +70°C

Minimum Bending Radius : Flexing 7.5 x cable ϕ . Fixed Installation 4 x cable ϕ

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, as per EN 60228 Cl.5.

Special PVC core insulation TI2, to EN 50363-3.

Harmonised core colour to HD 308 (Refer Appendix Table No. 1-1).

For cores above 5, black core with continuous white numbering according to DIN VDE 0293.

Green-Yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC outer sheath TM2, to EN 50363-4.1.

Colour Grey (RAL 7001).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
030400201205	2 x 2.5	9.1
030400311205	3G 2.5	9.9
030400301205	3 x 2.5	9.9
030400411205	4G 2.5	11.1
030400401205	4 x 2.5	11.1
030400511205	5G 2.5	12.4
030400501205	5 x 2.5	12.4
030400611205	6G 2.5	13.3

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
030400711205	7G 2.5	14.6
030400200004	2 x 4	10.4
030400310004	3G 4	11.2
030400410004	4G 4	12.5
030400510004	5G 4	13.9
030400710004	7G 4	16.8
030401110004	11G 4	22.3
030400310006	3G 6	12.6
030400410006	4G 6	14.0
030400510006	5G 6	15.5
030400710006	7G 6	19.0
030400310010	3G 10	16.0
030400410010	4G 10	18.0
030400510010	5G 10	20.0
030400710010	7G 10	23.1
030400310016	3G 16	18.5
030400410016	4G 16	20.8
030400510016	5G 16	23.0
030400710016	7G 16	31.0
030400310025	3G 25	23.3
030400410025	4G 25	26.0
030400510025	5G 25	29.0
030400310035	3G 35	26.6
030400410035	4G 35	29.7
030400510035	5G 35	33.1
030400310050	3G 50	30.2
030400410050	4G 50	33.9
030400510050	5G 50	37.6
030400310070	3G 70	37.1
030400410070	4G 70	41.6
030400510070	5G 70	46.3
030400310095	3G 95	40.1
030400410095	4G 95	44.8
030400510095	5G 95	50.2
030400310120	3G 120	45.5
030400410120	4G 120	50.8
030400410150	4G 150	57.0
030400410185	4G 185	65.8

Note :

*G = With green/yellow earth core

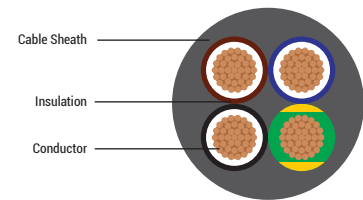
x = Without green/yellow earth core

For current ratings refer table no. 12-1 & voltage drop refer table no. 12-2 of Appendix.

For current ratings to DIN VDE 0298-4, refer table no. 12-3 of Appendix.

H03 / H05V2V2H2-F & H03 / H05V2V2-F

REACH | RoHS | CE | CPR Compliant



Application

For use in connections of household appliances and internal wiring purposes with high ambient temperatures and humid spaces

Standard

BS EN 50525-2-11.

Technical Data

Nominal Voltage : 300 / 500V (H05V2V2H2-F / H05V2V2-F); 300 / 300V (H03V2V2H2-F / H03V2V2-F)

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range :

Flexing -5°C to +90°C

Fixed Installation -30°C to +90°C

Fixed Installation 5 x cable ø

Minimum Bending Radius : Flexing 7.5 x cable ø; Fixed installation 4 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, as per EN 60228 Cl.5.

PVC core insulation TI3, to EN 50363-3.

Harmonised core colour to HD 308 (Refer Appendix Table No. 1-1).

Cores stranded in layers with optimal lay-length.

PVC outer sheath TM3, to EN 50363-4.1

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Please complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required,

1 - black (RAL 9005), 3 - grey (RAL 7001), 5 - white (RAL 9010).

	Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
H03V2V2-F	03050101023z	2 x 0.5	5.1
	03050102023z	2 x 0.75	5.5
	03050103023z	3 x 0.5	5.3
	03050104013z	3 G 0.5	5.3
	03050105023z	3 x 0.75	5.7
	03050106013z	3 G 0.75	5.7
	03050107023z	4 x 0.5	5.8
	03050108013z	4 G 0.5	5.8
	03050109023z	4 x 0.75	6.3
	03050110013z	4 G 0.75	6.3
H03V2V2H2-F	03051111023z	2 x 0.5	5.1 x 3.2
	03051112023z	2 x 0.75	5.5 x 3.4

	Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
H05V2V2H2-F	03051113023z	2 x 0.75	6.3 x 4.0
	03051114023z	2 x 1.0	6.6 x 4.1
	03051115023z	2 x 1.5	7.7 x 4.7
H05V2V2-F	03050116023z	2 x 0.75	6.2
	03050117023z	2 x 1.0	6.5
	03050118023z	2 x 1.5	7.5
	03050119023z	2 x 2.5	9.1
	03050120023z	2 x 4	10.3
	03050121023z	3 x 0.75	6.6
	03050122013z	3 G 0.75	6.6
	03050123023z	3 x 1.0	6.9
	03050124013z	3 G 1.0	6.9
	03050125023z	3 x 1.5	8.1
	03050126013z	3 G 1.5	8.1
	03050127023z	3 x 2.5	9.9
	03050128013z	3 G 2.5	9.9
	03050129023z	3 x 4	11.2
	03050130013z	3 G 4	11.2
	03050131023z	4 x 0.75	7.2
	03050132013z	4 G 0.75	7.2
	03050133023z	4 x 1.0	7.7
	03050134013z	4 G 1.0	7.7
	03050135023z	4 x 1.5	9.0
	03050136013z	4 G 1.5	9.0
	03050137023z	4 x 2.5	10.8
	03050138013z	4 G 2.5	10.8
	03050139023z	4 x 4	12.2
	03050140013z	4 G 4	12.2
	03050141023z	5 x 0.75	8.0
	03050142013z	5 G 0.75	8.0
	03050143023z	5 x 1.0	8.3
	03050144013z	5 G 1.0	8.3
	03050145023z	5 x 1.5	10.0
	03050146013z	5 G 1.5	10.0
	03050147023z	5 x 2.5	12.0
	03050148013z	5 G 2.5	12.0
03050149023z	5 x 4	13.7	
03050150013z	5 G 4	13.7	

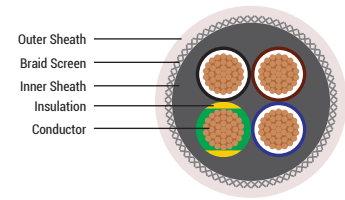
Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings refer table no. 12-1 & voltage drop refer table no. 12-2 of Appendix.

For current ratings to DIN VDE 0298-4, refer table no. 12-3 of Appendix.



Application

For use as a data and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The dense screening assures disturbance-free transmission of all signals and impulses. The PVC-inner sheaths of these cables raise the mechanical strength. The applied clear transparent PVC outer sheath accentuates the optical view of the tinned copper braid. These cables are suitable for flexible use for medium mechanical stresses with free movements.

Standard

Adapted to DIN/BS EN 50525-2-51.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V up to 1.5 mm². U_0 / U 450 / 750V for 2.5 mm² and above

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius: Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Mutual Capacitance (0.5 to 2.5 Sq. mm) : core to core (approx.) - 150 nF/km
core to screen (approx.) - 270 nF/km

Cable Construction

Bare copper, fine wire conductors, EN 60228 Cl. 5.

Core insulation of T12, EN 50363-3.

Core identification : As per VDE 0293-302/HD 308 S2 (Refer appendix table No. 1-1)

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Tinned copper, braided screen, approx 85% coverage.

Transparent special PVC outer sheath.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

EMC : Electromagnetic compatibility

To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030601010216	2 x 0.5	7.9	37	124
030601020116	3G 0.5	8.3	44	139
030601030116	4G 0.5	8.8	53	168
030601040116	5G 0.5	9.6	60	205
030601050116	7G 0.5	10.2	76	243
030601060216	2 x 0.75	8.3	44	140
030601070116	3G 0.75	8.7	54	160
030601080116	4G 0.75	9.5	66	198
030601090116	5G 0.75	10.1	78	239
030601100116	7G 0.75	10.8	99	286
030601110216	2 x 1	8.6	53	156
030601120116	3G 1	9.2	65	182
030601130116	4G 1	9.8	79	221
030601140116	5G 1	10.7	94	272
030601150116	7G 1	11.5	122	328
030601160216	2 x 1.5	9.7	66	198
030601170116	3G 1.5	10.2	87	231
030601180116	4G 1.5	11.1	106	286
030601190116	5G 1.5	12.4	129	368
030601200116	7G 1.5	13.2	165	442
030601210216	2 x 2.5	11.2	95	271
030601220116	3G 2.5	11.8	126	318
030601230116	4G 2.5	13.1	159	412
030601240116	5G 2.5	14.3	193	511
030601250116	7G 2.5	15.4	257	624
030601260116	4G 4	13.4	264	565
030601270116	5G 4	14.8	317	697
030601280116	4G 6	15.6	365	732
030601290116	5G 6	17	442	909
030601300116	3G 10	17.8	453	889
030601310116	4G 10	19.7	580	1125
030601320116	5G 10	21.6	711	1408
030601330116	3G 16	20.7	707	1274
030601340116	4G 16	22.6	917	1618
030601350116	5G 16	25.2	1128	2047

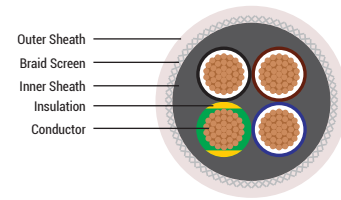
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030601330116	3G 25	26.3	1064	1965
030601340116	4G 25	28.9	1386	2512
030601350116	5G 25	31.8	1708	3153
030601360116	3G 35	29.4	1453	2554
030601370116	4G 35	32.2	1900	3259
030601380116	5G 35	36.0	2347	4133
030601390116	3G 50	35.1	2048	3653
030601380116	4G 50	38.8	2688	4701
030601390116	4G 70	43.7	3732	6229
030601400116	4G 95	50.4	4915	8123
030601410116	4G 120	56.8	6198	10118
030601420116	4G 150	62.2	7600	12511
030601430116	4G 185	67.8	9334	15306

Note :

*JB = With green/yellow earth core

OB = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

These cables are used as measuring and control cables in food processing industries, packaging industries, tool machinery, plant installation and power stations. The steel braid ensures best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering properties.

Standard

Adapted to DIN/BS EN 50525-2-51.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V up to 1.5 mm². U0/U 450/750V for 2.5 mm² and above

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C; Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl. 5.

Core insulation of TI2, EN 50363-3.

Core identification : As per VDE 0293-302/HD 308 S2 (Refer appendix table No. 1-1)

Green/Yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Galvanised steel wire screening.

Special PVC outer jacket.

Transparent Special PVC outer sheath (also available in grey)

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Please complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required, 3 - grey (RAL 7001), 6 - transparent.

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
03070101021z	2 x 0.75	9.0	18	120
03070102011z	3G 0.75	9.4	27	138
03070103011z	4G 0.75	10.2	36	176
03070104011z	5G 0.75	10.9	44	204
03070105011z	7G 0.75	11.7	62	250
03070106011z	12G 0.75	14.4	107	398

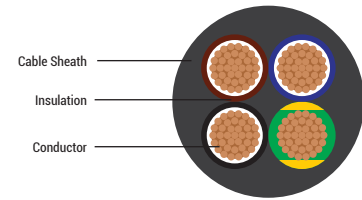
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
03070107021z	2 x 1	9.3	24	129
03070108011z	3G 1	9.9	36	166
03070109011z	4G 1	10.6	47	196
03070110011z	5G 1	11.5	59	234
03070111011z	7G 1	12.3	83	290
03070112011z	25G 1	19.5	296	857
03070113021z	2 x 1.5	10.4	35	171
03070114011z	3G 1.5	10.9	52	205
03070115011z	4G 1.5	11.9	69	252
03070116011z	5G 1.5	13.1	87	307
03070117011z	7G 1.5	14.1	122	381
03070118011z	12G 1.5	17.3	208	618
03070119011z	18G 1.5	19.7	313	873
03070120011z	25G 1.5	22.6	434	1183
03070121011z	32G 1.5	24.7	556	1480
03070122021z	2 x 2.5	11.9	58	238
03070123011z	3G 2.5	12.5	87	285
03070124011z	4G 2.5	13.8	116	371
03070125011z	5G 2.5	15.0	145	442
03070126011z	7G 2.5	16.3	203	558
03070127021z	2 x 4	12.9	92	304
03070128011z	4G 4	15.0	184	477
03070129011z	5G 4	16.4	230	574
03070130011z	3G 6	15.2	207	492
03070131011z	4G 6	16.6	276	638
03070132011z	5G 6	18.1	345	770
03070133011z	4G 10	21.3	470	1042
03070134011z	5G 10	23.3	588	1270
03070135011z	4G 16	24.1	783	1479
03070136011z	5G 16	26.6	979	1858
03070137011z	4G 25	29.4	1218	2258
03070138011z	5G 25	32.6	1522	2831
03070139011z	4G 35	32.4	1715	2955
03070140011z	5G 35	36.0	2144	3711
03070141011z	4G 50	38.8	2461	4256

Note :

*JB = With green/yellow earth core

OB = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

For flexible use with medium and free movement without tensile stress or forced movements in dry, moist and wet rooms as well as outside (fixed installation). These cables are used for manufacturing machines, machine tools. Also used in conveyor belts and product lines.

Standard

Adapted to DIN VDE 0262, DIN VDE 0281 Part 13 with increased insulation thickness for 1 kV.

Technical Data

Nominal Voltage : U_0 / U 0.6 / 1 kV

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Occasional flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of PVC, T12 to EN 50363-3.

Core identification : As per VDE 0293-302/HD 308 S2 (Refer appendix table No. 1-1)

Cores stranded in layers with optimal lay-length.

Special PVC outer sheath TM2, EN 50363-4-1, colour black (RAL 9005).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

UV & weather resistant according to ASTM G 154.

Ozone resistant according to EN 50396.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030800200001	2 x 1	8.6	19	101
030800310001	3G 1	9	28	117
030800410001	4G 1	9.6	38	138
030800510001	5G 1	10.4	47	164
030800201105	2 x 1.5	9.6	28	129
030800311105	3G 1.5	10.1	42	152
030800411105	4G 1.5	10.8	56	181
030800511105	5G 1.5	11.7	69	216
030800201205	2 x 2.5	10.8	46	173

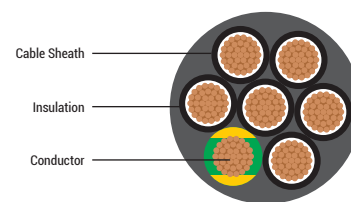
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030800311205	3G 2.5	11.3	69	205
030800411205	4G 2.5	12.2	93	249
030800511205	5G 2.5	13.3	116	301
030800410004	4G 4	13.8	147	344
030800410006	4G 6	15.1	221	450
030800410010	4G 10	18.7	376	723
030800410016	4G 16	21.3	626	1058
030800410025	4G 25	26.2	974	1623
030800410035	4G 35	29.1	1372	2150
030800410050	4G 50	35.6	1968	3144
030800410070	4G 70	40.5	2747	4245
030800410095	4G 95	46.6	3663	5639
030800410120	4G 120	53.3	4639	7242

Note :

*JB = With green/yellow earth core

OB = Without green/yellow earth core

For current ratings to DIN VDE 0298-4, refer table no. 12-3 of Appendix.



Application

These cables are used for flexible use for medium mechanical stresses with free movement without tensile stress of forced movements in dry, moist and wet rooms but not suitable for outdoor installation. Fit for measuring and control cables in tool machines, conveyor belts production lines in machinery production, in air-conditioning and steel production.

Standard

Requirement adapted to DIN VDE 0245, 0281, 0293, 0295.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Outer sheath of special PVC, TM2 to EN 50363-4.1.

Colour grey (RAL 7001).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

JZ-500 is also available in oil resistant variant as JZ-500 OR. The outer sheath provided here is of special PVC, TM5 to EN 50363 -4.1.

For Oil Resistant sheath kindly add 'OR' after the part nos.

Cable Design Parameters

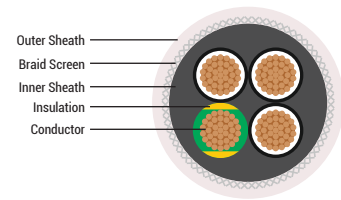
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030900211050	2 x 0.5	4.8	9.5	35
030900311050	3G 0.5	5.1	14.0	42
030900301050	3 x 0.5	5.1	14.2	42
030900411050	4G 0.5	5.5	19.0	49
030900401050	4 x 0.5	5.5	19.0	49
030900511050	5G 0.5	6.0	24.0	61
030900501050	5 x 0.5	6.0	24.0	61

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030900501050	5 x 0.5	6.0	24.0	61
030900611050	6G 0.5	6.6	28.5	74
030900711050	7G 0.5	6.6	33.5	76
030900701050	7 x 0.5	6.6	33.5	76
030900811050	8G 0.5	7.4	38.0	98
030900801050	8 x 0.5	7.4	38.0	98
030901011050	10G 0.5	8.4	47.5	124
030901211050	12G 0.5	8.7	57.0	133
030901201050	12 x 0.5	8.7	57.0	133
030901411050	14G 0.5	9.1	66.5	162
030901611050	16G 0.5	9.6	76.0	175
030901811050	18G 0.5	10.2	85.5	191
030902011050	20G 0.5	10.8	95.0	227
030902111050	21G 0.5	10.8	100.0	234
030902511050	25G 0.5	11.2	118.5	280
030903011050	30G 0.5	12.7	142.5	315
030903211050	32G 0.5	13.2	152.0	340
030903411050	34G 0.5	13.8	161.5	355
030904011050	40G 0.5	14.4	190.0	408
030904211050	42G 0.5	15.0	199.0	440
030905011050	50G 0.5	15.8	237.0	552
030905211050	52G 0.5	16.3	246.5	560
030906111050	61G 0.5	17.4	289.5	646
030906511050	65G 0.5	17.8	308.5	687
030908011050	80G 0.5	19.9	379.5	853
030910011050	100G 0.5	22.8	474.0	1085
030900201075	2 x 0.75	5.3	14.5	44
030900311075	3G 0.75	5.6	21.5	54
030900301075	3 x 0.75	5.6	21.5	54
030900411075	4G 0.75	6.2	28.5	71
030900401075	4 x 0.75	6.2	28.5	71
030900511075	5G 0.75	6.8	36.0	81
030900501075	5 x 0.75	6.8	36.0	81
030900611075	6G 0.75	7.4	43.0	100
030900601075	6 x 0.75	7.4	43.0	100
030900711075	7G 0.75	7.4	50.0	103
030900701075	7 x 0.75	7.4	50.0	103
030900811075	8G 0.75	8.3	57.0	142

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030900801075	8 x 0.75	8.3	57.0	142
030900911075	9G 0.75	9.0	64.0	156
030901011075	10G 0.75	9.4	71.0	166
030901211075	12G 0.75	9.8	85.5	180
030901201075	12 x 0.75	9.8	85.5	180
030901411075	14G 0.75	10.3	100.0	205
030901511075	15G 0.75	10.9	107.0	230
030901811075	18G 0.75	11.5	128.0	260
030901911075	19G 0.75	11.5	135.0	270
030902011075	20G 0.75	12.2	142.5	300
030902111075	21G 0.75	12.2	149.5	311
030902511075	25G 0.75	12.6	178.0	376
030902711075	27G 0.75	13.9	192.0	405
030903211075	32G 0.75	15.0	228.0	455
030903411075	34G 0.75	15.6	242.0	470
030903711075	37G 0.75	15.6	263.0	515
030904011075	40G 0.75	16.3	284.5	532
030904111075	41G 0.75	17.0	292.0	570
030904211075	42G 0.75	17.0	299.0	600
030905011075	50G 0.75	18.0	356.0	690
030906111075	61G 0.75	19.7	434.0	835
030906511075	65G 0.75	20.3	462.5	890
030908011075	80G 0.75	22.9	569.0	1087
030910011075	100G 0.75	26.0	711.5	1410
030900200001	2 x 1	5.6	19.0	52
030900310001	3G 1	6.0	28.5	66
030900300001	3 x 1	6.0	28.5	66
030900410001	4G 1	6.6	38.0	82
030900400001	4 x 1	6.6	38.0	82
030900510001	5G 1	7.2	47.5	100
030900500001	5 x 1	7.2	47.5	100
030900610001	6G 1	7.9	57.0	122
030900710001	7G 1	7.9	66.5	142
030900700001	7 x 1	7.9	66.5	142
030900810001	8G 1	8.9	76.0	165
030900910001	9G 1	9.6	85.5	190
030901010001	10G 1	10.1	95.0	205
030901000001	10 x 1	10.1	95.0	205

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030901210001	12G 1	10.4	114.0	230
030901200001	12 x 1	10.4	114.0	230
030901410001	14G 1	11.0	133.0	258
030901610001	16G 1	11.6	152.0	293
030901810001	18G 1	12.3	171.0	330
030901800001	18 x 1	12.3	171.0	330
030901910001	19G 1	12.3	180.5	337
030902010001	20G 1	13.0	190.0	370
030902000001	20 x 1	13.0	190.0	370
030902110001	21G 1	13.0	199.5	383
030902410001	24G 1	13.5	228.0	420
030902510001	25G 1	13.5	237.5	435
030902500001	25 x 1	13.5	237.5	435
030902610001	26G 1	13.5	246.5	445
030902710001	27G 1	14.8	256.0	502
030903010001	30G 1	15.4	284.5	535
030903410001	34G 1	16.7	322.5	620
030903610001	36G 1	16.7	341.5	635
030903710001	37G 1	16.7	351.0	680
030904010001	40G 1	17.5	379.5	730
030904000001	40 x 1	17.5	379.5	730
030904110001	41G 1	18.2	389.0	740
030904210001	42G 1	18.2	398.5	749
030905010001	50G 1	19.3	474.5	870
030905610001	56G 1	20.5	531.0	972
030906110001	61G 1	21.2	578.5	1050
030906510001	65G 1	21.8	616.5	1112
030908010001	80G 1	24.3	759.0	1380
030910010001	100G 1	27.8	948.5	1767
030900201105	2 x 1.5	6.3	29.0	69
030900311105	3G 1.5	6.7	43.5	87
030900301105	3 x 1.5	6.7	43.5	87
030900411105	4G 1.5	7.3	58.0	107
030900401105	4 x 1.5	7.3	58.0	107
030900511105	5G 1.5	8.0	72.5	135
030900501105	5 x 1.5	8.0	72.5	135
030900611105	6G 1.5	8.8	86.7	162
030900711105	7G 1.5	8.8	101.0	168

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
030900701105	7 x 1.5	8.8	101.0	168
030900811105	8G 1.5	9.9	116.0	213
030900801105	8 x 1.5	9.9	116.0	213
030900911105	9G 1.5	10.8	130.0	248
030901011105	10G 1.5	11.3	145.0	263
030901111105	11G 1.5	11.3	159.0	278
030901211105	12G 1.5	11.7	173.5	295
030901201105	12 x 1.5	11.7	173.5	295
030901411105	14G 1.5	12.4	202.5	340
030901611105	16G 1.5	13.1	202.5	382
030901811105	18G 1.5	13.9	260.0	433
030902111105	21G 1.5	14.8	303.5	505
030902511105	25G 1.5	15.3	361.0	605
030902611105	26G 1.5	15.3	361.0	622
030903211105	32G 1.5	18.2	462.5	799
030903411105	34G 1.5	18.9	491.0	812
030904111105	41G 1.5	20.6	592.5	960
030905011105	50G 1.5	21.9	722.5	1240
030906111105	61G 1.5	24.0	881.5	1420
030906511105	65G 1.5	24.7	939.0	1570
030900201205	2 x 2.5	7.5	40.1	101
030900311205	3G 2.5	8.0	61.0	130
030900411205	4G 2.5	8.9	82.0	162
030900511205	5G 2.5	9.8	102.0	200
030900711205	7G 2.5	10.7	142.0	260
030901211205	12G 2.5	14.4	248.0	452
030901411205	14G 2.5	15.2	290.0	517
030901811205	18G 2.5	17.0	378.0	665
030902511205	25G 2.5	18.8	525.0	870
030903411205	34G 2.5	23.4	715.0	1250
030905011205	50G 2.5	27.0	1050.0	1810
030900310004	3G 4	9.2	96.0	185
030900410004	4G 4	10.1	128.0	230
030900510004	5G 4	11.2	159.5	286
030900710004	7G 4	12.3	223.5	370
030901110004	10G 4	16.0	325.0	608
030901210004	12G 4	16.6	383.0	660
030900310006	3G 6	11.0	144.0	277



Application

For use as a data and control cable in machinery, computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance-free transmission of all signals and impulses.

Standard

Requirements adapted to DIN VDE 0245, 0281 Part 13.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 G Ω x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 10 x cable \varnothing . Fixed installation 5 x cable \varnothing

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of PVC TI2 EN 50363-3.

Black Core with continuous white numbering to DIN VDE 0293.

Green/Yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Tinned copper, braided screen, approx 85% coverage.

Transparent special PVC outer sheath.

Properties

The clear transparent PVC outer sheath accentuates the optical view of the tinned copper braid.

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

JZ-YCY grey (RAL 7001) is available in oil resistant variant as JZ-YCY OR. The outer sheath provided here is of special PVC TM5 to BS EN 50363 -4.1.

For oil resistant sheath kindly add 'OR' after the part nos.

EMC : Electromagnetic compatibility to optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031000201050	2 x 0.5	7.1	21.6	76
031000311050	3G 0.5	7.5	27.6	85
031000301050	3 X 0.5	7.5	27.6	85
031000411050	4G 0.5	8.0	32.5	99
031000401050	4 X 0.5	8.0	32.5	99
031000511050	5G 0.5	8.5	38.7	114
031000501050	5 X 0.5	8.5	38.7	114
031000711050	7G 0.5	9.1	47.7	136
031000701050	7 X 0.5	9.1	47.7	136
031001211050	12G 0.5	11.3	75.2	198
031001201050	12 X 0.5	11.3	75.2	198
031001811050	18G 0.5	13.0	102.2	260
031002511050	25G 0.5	14.0	153.7	353
031003011050	30G 0.5	15.9	178.7	402
031004011050	40G 0.5	17.6	228.0	515
031000201075	2 x 0.75	7.7	27.5	91
031000311075	3G 0.75	8.1	36.2	103
031000301075	3 X 0.75	8.1	36.2	103
031000411075	4G 0.75	8.6	42.4	122
031000401075	4 X 0.75	8.6	42.4	122
031000511075	5G 0.75	9.3	48.7	142
031000501075	5 X 0.75	9.3	48.7	142
031000711075	7G 0.75	9.9	64.0	170
031000701075	7 X 0.75	9.9	64.0	170
031001211075	12G 0.75	12.5	101.1	275
031001201075	12 X 0.75	12.5	101.1	275
031001811075	18G 0.75	14.6	160.6	352
031001801075	18 X 0.75	14.6	160.6	352
031002511075	25G 0.75	15.8	214.1	448
031003411075	34G 0.75	19.0	279.0	627
031004001075	40 X 0.75	19.8	337.4	691
031004111075	41G 0.75	20.7	345.2	703
031000200001	2 x 1	8.1	32.0	101
031000310001	3G 1	8.4	42.2	117
031000300001	3 x 1	8.4	42.2	117
031000410001	4G 1	9.1	50.7	139

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031000400001	4 x 1	9.1	50.7	139
031000510001	5G 1	9.7	61.3	163
031000710001	7G 1	10.4	79.5	197
031001210001	12G 1	13.2	146.2	300
031001610001	16G 1	14.7	185.5	375
031001810001	18G 1	15.4	202.5	402
031002510001	25G 1	16.7	271.5	525
031003410001	34G 1	20.2	354.0	700
031004110001	41G 1	22.0	437.1	880
031005010001	50G 1	23.1	521.9	990
031000201105	2 x 1.5	8.7	42.1	119
031000311105	3G 1.5	9.2	56.0	140
031000301105	3 x 1.5	9.2	56.0	140
031000411105	4G 1.5	9.9	69.1	167
031000401105	4 x 1.5	9.9	69.1	167
031000511105	5G 1.5	10.7	99.2	208
031000501105	5 x 1.5	10.7	99.2	208
031000711105	7G 1.5	11.5	124.6	256
031000701105	7 x 1.5	11.5	124.6	256
031001211105	12G 1.5	14.8	198.6	397
031001811105	18G 1.5	17.1	279.6	521
031002511105	25G 1.5	18.6	375.2	709
031003411105	34G 1.5	22.8	497.4	977
031004111105	41G 1.5	24.6	611.9	1168
031005011105	50G 1.5	25.9	730.1	1402
031000201205	2 x 2.5	10.1	61.2	166
031000311205	3G 2.5	10.7	99.1	208
031000411205	4G 2.5	11.5	121.1	253
031000511205	5G 2.5	12.5	146.4	274
031000711205	7G 2.5	13.5	192.3	350
031001211205	12G 2.5	17.7	304.4	585
031000200004	2 x 4	11.2	104.4	211
031000410004	4G 4	12.9	173.2	316
031000510004	5G 4	14.2	212.4	385
031000200006	2 x 6	13.1	141.6	296
031000410004	4G 6	15.3	250.2	450

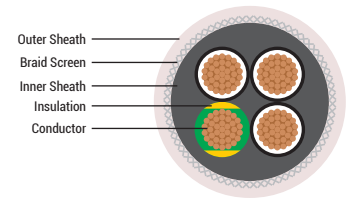
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031000510006	5G 6	16.7	303.7	544
031000200010	2 x 10	15.3	220.4	445
031000310010	3G 10	16.3	308.7	550
031000410010	4G 10	17.8	395.2	680
031000510010	5G 10	19.5	482.7	840
031000710010	7G 10	21.4	653.4	1068
031000200016	2 x 16	18.3	367.3	655
031000410016	4G 16	21.5	657.4	1021
031000510016	5G 16	23.6	807.2	1362
031000410025	4G 25	26.0	984.1	1618
031000510025	5G 25	31.6	1210.5	1980
031000410035	4G 35	32.0	1352.0	2235
031000510035	5G 35	35.5	1670.1	2760

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

These cables are used as measuring and control cables in tool machinery, plant installation, power stations and in data equipment. The braided screen offers best possible protection against mechanical damage. The galvanised coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.

Standard

Adapted to DIN VDE 0245, 0281, 0293, 0295.

Technical Data

Nominal Voltage : U0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of PVC T12, EN 50363-3.

Black Core with continuous white numbering to DIN VDE 0293.

Green/Yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Galvanized steel wire screening.

Special PVC outer jacket.

Colour transparent (also available in grey).

Properties

The clear transparent PVC outer sheath accentuates the optical view of the galvanized steel wire braid.

PVC self-extinguishing and flame retardant according to EN 60332-1-2

JZ-YSY Grey(RAL 7001) is also available in oil resistant variant as JZ-YSY OR. The outer sheath provided here is of special PVC TM5 to BS EN 50363 -4.1.

Cable Design Parameters

Please complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required :

3 - grey (RAL 7001), 6 - transparent. For oil resistant sheath (grey), kindly add 'OR' after the part nos.

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
03110101021z	2 x 0.5	8.0	9.5	99
03110102011z	3G 0.5	8.3	14.0	109
03110103011z	4G 0.5	8.8	19.0	123
03110104011z	5G 0.5	9.3	24.0	153
03110105011z	7G 0.5	9.9	33.5	171
03110106011z	10G 0.5	11.8	47.5	246
03110107011z	12G 0.5	12.1	57.0	263
03110108011z	14G 0.5	12.6	66.5	289
03110109011z	18G 0.5	13.8	85.5	313
03110110011z	21G 0.5	14.4	100.0	354
03110111011z	25G 0.5	14.8	118.5	391
03110112011z	30G 0.5	16.5	142.5	462
03110113011z	40G 0.5	18.3	190.0	582
03110114011z	61G 0.5	21.5	289.5	833
03110115021z	2 x 0.75	8.5	14.5	109
03110116011z	3G 0.75	8.9	21.5	123
03110117011z	4G 0.75	9.5	28.5	157
03110118011z	5G 0.75	10.1	36.0	174
03110119011z	7G 0.75	10.8	50.0	199
03110120011z	9G 0.75	12.5	64.0	261
03110121011z	12G 0.75	13.3	85.5	315
03110122011z	15G 0.75	14.5	107.0	363
03110123011z	18G 0.75	15.2	128.0	435
03110124011z	25G 0.75	16.4	178.0	507
03110125011z	34G 0.75	19.7	242.0	730
03110126011z	50G 0.75	22.2	356.0	901
03110127021z	2 x 1	8.9	19.0	120
03110128011z	3G 1	9.3	28.5	149
03110129011z	4G 1	9.9	38.0	172
03110130011z	5G 1	10.6	47.5	193
03110131011z	7G 1	11.3	66.5	232
03110132011z	8G 1	12.3	76.0	260
03110133011z	9G 1	13.2	85.5	300
03110134011z	12G 1	14.0	114.0	373
03110135011z	14G 1	14.6	133.0	406
03110136011z	18G 1	16.1	171.0	504
03110137011z	20G 1	16.8	190.0	522
03110138011z	25G 1	17.4	237.5	598
03110139011z	34G 1	20.8	322.5	762
03110140011z	41G 1	22.5	389.0	1013
03110141011z	50G 1	23.6	474.5	1105
03110142011z	65G 1	26.3	616.5	1426

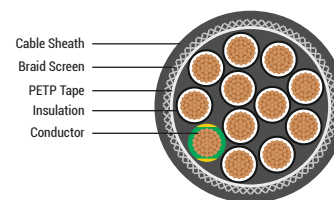
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
03110143021z	2 x 1.5	9.6	29.0	159
03110144011z	3G 1.5	10.0	43.5	181
03110145011z	4G 1.5	10.7	58.0	206
03110146011z	5G 1.5	11.5	72.5	243
03110147011z	7G 1.5	12.3	101.0	302
03110148011z	8G 1.5	13.5	116.0	334
03110149011z	12G 1.5	15.5	173.5	449
03110150011z	14G 1.5	16.2	202.5	499
03110151011z	18G 1.5	17.8	260.0	593
03110152011z	25G 1.5	19.3	361.0	890
03110153011z	32G 1.5	22.1	462.5	1003
03110154011z	41G 1.5	25.1	592.5	1214
03110155011z	50G 1.5	26.4	722.5	1636
03110156011z	3G 2.5	11.5	61.0	228
03110157011z	4G 2.5	12.4	82.0	290
03110158011z	5G 2.5	13.3	102.0	341
03110159011z	7G 2.5	14.3	142.0	394
03110160011z	12G 2.5	18.3	248.0	627
03110161011z	18G 2.5	21.4	378.0	892
03110162011z	25G 2.5	23.1	525.0	1182
03110163011z	3G 4	12.7	96.0	296
03110164011z	4G 4	13.7	128.0	345
03110165011z	5G 4	14.9	159.5	410
03110166011z	7G 4	16.1	223.5	550
03110167011z	4G 6	16.0	191.5	540
03110168011z	5G 6	17.3	239.5	570
03110169011z	7G 6	18.8	335.0	725
03110170011z	4G 10	18.4	326.0	710
03110171011z	5G 10	20.1	407.5	865
03110172011z	7G 10	21.9	570.5	1100
03110173011z	4G 16	22.0	543.0	1050
03110174011z	5G 16	24.1	678.5	1280
03110175011z	4G 25	26.4	844.5	1620
03110176011z	5G 25	29.0	1055.5	1970
03110177011z	4G 35	30.6	1189.0	2205

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

For use as a data cable in control circuits, in tool-making and machine industries as well as a signal cable in computer systems and electronics. The more usual PVC inner sheath has been removed in the cable, thus reducing the total diameter of the cables considerably and thereby reducing the bending radius, total weight etc. The dense screening assures disturbance-free transmission of all signals and impulses.

Standard

Adapted to DIN VDE 0245, 0281 Part 13.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

Test Voltage : Core/core 4000V. Core/screen 2000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of special PVC TI2, EN 50363-3.

Black Core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Plastic foil over the laid up cores.

Tinned copper, braided screen, approx 85% coverage.

Cable Sheath of Special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour grey (RAL 7001).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

JZ-CY grey (RAL 7001) is available in oil resistant variant as JZ-CY OR. The outer sheath provided here is of special PVC TM5 to BS EN 50363 -4.1.

For Oil Resistant sheath kindly add 'OR' after the part nos.

EMC : Electromagnetic compatibility : To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031200201050	2 x 0.5	5.8	18.8	46
031200311050	3G 0.5	6.1	24.7	55

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031200301050	3 x 0.5	6.1	24.7	55
031200411050	4G 0.5	6.6	29.2	69
031200401050	4 x 0.5	6.6	29.2	69
031200511050	5G 0.5	7.1	34.6	80
031200501050	5 x 0.5	7.1	34.6	80
031200711050	7G 0.5	7.6	45.1	99
031200701050	7 x 0.5	7.6	45.1	99
031201211050	12G 0.5	9.8	71.4	151
031201201050	12 x 0.5	9.8	71.4	151
031201811050	18G 0.5	11.3	100.1	210
031201801050	18 x 0.5	11.3	100.1	210
031202511050	25G 0.5	12.3	134.1	270
031202501050	25 x 0.5	12.3	134.1	270
031200201075	2 x 0.75	6.3	25.0	58
031200311075	3G 0.75	6.7	31.3	70
031200301075	3 x 0.75	6.7	31.3	70
031200411075	4G 0.75	7.2	39.0	84
031200401075	4 x 0.75	7.2	39.0	84
031200511075	5G 0.75	7.8	47.2	101
031200501075	5 x 0.75	7.8	47.2	101
031200711075	7G 0.75	8.4	62.0	126
031200701075	7 x 0.75	8.4	62.0	126
031201211075	12G 0.75	10.9	98.9	200
031201811075	18G 0.75	12.7	141.0	275
031202511075	25G 0.75	13.8	210.6	360
031202501075	25 x 0.75	13.8	210.6	360
031200200001	2 x 1	6.7	29.5	65
031200310001	3G 1	7.0	38.9	80
031200300001	3 x 1	7.0	38.9	80
031200410001	4G 1	7.6	49.1	100
031200400001	4 x 1	7.6	49.1	100
031200510001	5G 1	8.3	58.4	120
031200500001	5 x 1	8.3	58.4	120
031200710001	7G 1	8.9	77.2	150
031200700001	7 x 1	8.9	77.2	150
031201210001	12G 1	11.6	125.5	240
031201810001	18G 1	13.5	180.0	330
031202510001	25G 1	14.7	266.1	430

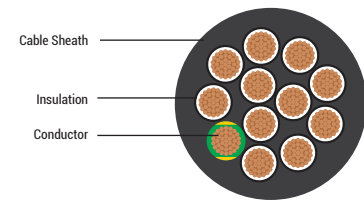
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031200201105	2 x 1.5	7.3	39.4	80
031200311105	3G 1.5	7.7	51.7	100
031200301105	3 x 1.5	7.7	51.7	100
031200411105	4G 1.5	8.4	66.2	125
031200401105	4 x 1.5	8.4	66.2	125
031200511105	5G 1.5	9.1	80.9	150
031200501105	5 x 1.5	9.1	80.9	150
031200711105	7G 1.5	9.9	108.0	190
031200701105	7 x 1.5	9.9	108.0	190
031201211105	12G 1.5	12.9	175.1	285
031201811105	18G 1.5	15.1	276.0	435
031202511105	25G 1.5	16.7	377.6	590
031203411105	34G 1.5	20.4	488.3	800
031200311205	3G 2.5	9.1	80.9	150
031200411205	4G 2.5	10.0	102.9	190
031200511205	5G 2.5	10.9	125.0	220
031200711205	7G 1.5	9.9	168.4	260
031201211205	12G 2.5	15.8	301.0	475
031201811205	18G 2.5	18.5	433.3	654
031202511205	25G 2.5	20.3	588.0	878
031200410004	4G 4	11.3	153.4	245
031200710004	7G 4	13.5	256.1	400
031200410006	4G 6	13.4	222.7	360
031200710006	7G 6	16.2	396.3	590
031200410010	4G 10	15.9	384.1	560
031200510010	5G 10	17.5	475.8	711
031200410016	4G 16	19.3	616.3	840
031200510016	5G 16	21.4	760.4	1050
031200410025	4G 25	23.6	937.4	1300
031200510025	5G 25	26.1	1160.0	1605
031200410035	4G 35	28.0	1312.0	1804

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

Wiring cable in tool machinery, conveyor belts and production lines, plant engineering, Industrial machinery, air conditioning, steel production plants and rolling mills.

Standard

Adapted to DIN VDE 0262, DIN VDE 0281 Part 13 with increased insulation thickness for 1 kV.

Technical Data

Nominal Voltage : U_0 / U 0.6 / 1 kV

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, as per EN60228 Cl. 5.

Special PVC core insulation TI2, to EN 50363-3.

Black Core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC outer sheath TM2, to EN 50363-4-1.

PVC self-extinguishing and flame retardant according to IEC 60332-1-2.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

UV & weather resistant according to ASTM G 154.

Ozone resistant according to EN 50396.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
31300201075	2 x 0.75	8.3	13.0	90
31300311075	3G 0.75	8.7	19.6	103
31300301075	3 x 0.75	8.7	19.6	103
31300411075	4G 0.75	9.2	26.1	119
31300511075	5G 0.75	9.9	32.6	139
31300711075	7G 0.75	10.7	45.6	169
31301211075	12G 0.75	13.4	78.2	271
31301811075	18G 0.75	15.6	117.3	377

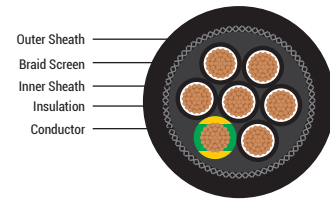
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
31304111075	41G 0.75	23.2	267.3	840
31300200001	2 x 1	8.6	17.4	99
31300310001	3G 1	9	26.1	114.4
31300300001	3 x 1	9	26.1	114.4
31300410001	4G 1	9.6	34.8	134.5
31300400001	4 x 1	9.6	34.8	134.5
31300510001	5G 1	10.4	43.5	160.1
31300500001	5 x 1	10.4	43.5	160.1
31300710001	7G 1	11.4	60.8	199.8
31301210001	12G 1	14.5	104.3	328.2
31301810001	18G 1	16.5	156.5	443.2
31302510001	25G 1	19.7	217.3	626.9
31303410001	34G 1	22.5	295.5	828
31304110001	41G 1	24.4	356.4	981.3
31300201105	2 x 1.5	9.6	25.5	127
31300311105	3G 1.5	10.1	38.2	149
31300301105	3 x 1.5	10.1	38.2	149
31300411105	4G 1.5	10.8	50.9	176
31300511105	5G 1.5	11.7	63.7	210
31300711105	7G 1.5	12.6	89.1	257
31301211105	12G 1.5	16.1	152.8	425
31301411105	14G 1.5	17	178.3	481
31301811105	18G 1.5	18.8	229.2	598
31302511105	25G 1.5	21.7	318.3	807
31303411105	34G 1.5	24.9	407.4	1053
31305011105	50G 1.5	29.8	636.6	1553
31300211205	2G 2.5	10.8	42.4	169
31300311205	3G 2.5	11.3	63.7	200
31300411205	4G 2.5	12.2	84.9	242
31300511205	5G 2.5	13.3	106.1	292
31300711205	7G 2.5	14.4	148.5	363
31301211205	12G 2.5	18.7	254.6	615
31301411205	14G 2.5	19.8	297.1	699
31301811205	18G 2.5	22	382	876
31302511205	25G 2.5	25.8	530.5	1210
31300410004	4G 4	13.8	135	332
31300510004	5G 4	15.1	168.7	403
31300710004	7G 4	16.4	236.2	507
31300410006	4G 6	15.1	202.4	432
31300510006	5G 6	16.8	253.1	537
31300710006	7G 6	18.2	354.3	679
31300410010	4G 10	18.7	344.7	692
31300510010	5G 10	20.7	430.8	855

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
31300410016	4G 16	21.3	574.1	1006
31300510016	5G 16	23.6	717.7	1245
31300710016	7G 16	26.2	1004.7	1637
31300410025	4G 25	26.2	893.1	1542
31300510025	5G 25	29	1116.3	1908
31300410035	4G 35	29.1	1257.6	2035
31300510035	5G 35	32.5	1572	2541
31300410050	4G 50	35.6	1804.4	2980
31300410070	4G 70	40.7	2549.7	4058
31300410095	4G 95	46.8	3399.7	5389
31300410120	4G 120	53.5	4306.2	6926

Note :

*G = With green/yellow earth core
x = Without green/yellow earth core

For current ratings refer table no. 12-1 & voltage drop refer table no. 12-2 of Appendix.
For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

Wiring cable in tool machinery, conveyor belts and production lines, plant engineering, Industrial machinery, air conditioning, steel production plants and rolling mills. The dense coverage of copper screening offers EMI compliance.

Standard

Adapted to DIN VDE 0262/12.95 and 0281 Part 13 with insulation thickness for 1 kV type.

Technical Data

Nominal Voltage : U0 / U 0.6 / 1kV

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : 4000V

Breakdown Voltage : Min. 8000V

Cable Construction

Bare copper, fine wire conductors, as per DIN VDE 0295 Cl. 5.

Special PVC core insulation T12, to EN 50363-3.

Black Core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

PVC inner jacket, Black color.

Tinned copper, braided screen, approx 85% coverage.

Special PVC outer sheath TM2, to EN 50363-4.1.

Colour Black (RAL 9005).

Properties

PVC self-extinguishing and flame retardant according to IEC 60332-1-2.

UV & weather resistant according to ASTM G 154.

Ozone resistant according to EN 50396.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031400201075	2 x 0.75	10.5	34.4	150
031400311075	3G 0.75	10.9	40.9	165
031400301075	3 x 0.75	10.9	40.9	165
031400411075	4G 0.75	11.4	49.8	185
031400401075	4 x 0.75	11.4	49.8	185
031400511075	5G 0.75	12.1	60.0	212
031400501075	5 x 0.75	12.1	60.0	212

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031400711075	7G 0.75	12.9	74.9	247
031400701075	7 x 0.75	12.9	74.9	247
031401211075	12G 0.75	15.8	138.7	389
031401201075	12 x 0.75	15.8	138.7	389
031401811075	18G 0.75	18.0	185.5	510
031402511075	25G 0.75	20.7	243.4	676
031400200001	2 x 1	10.8	38.9	161
031400310001	3G 1	11.2	50.4	181
031400300001	3 x 1	11.2	50.4	181
031400410001	4G 1	11.8	59.4	203
031400400001	4 x 1	11.8	59.4	203
031400510001	5G 1	12.6	70.8	235
031400710001	7G 1	13.3	107.3	281
031401210001	12G 1	16.4	165.7	433
031401810001	18G 1	18.7	233.9	581
031402510001	25G 1	21.6	304.6	771
031400201105	2 x 1.5	11.8	50.3	196
031400311105	3G 1.5	12.3	62.4	219
031400301105	3 x 1.5	12.3	62.4	219
031400411105	4G 1.5	13.0	77.9	252
031400401105	4 x 1.5	13.0	77.9	252
031400511105	5G 1.5	13.9	93.4	293
031400711105	7G 1.5	15	143.3	366
031401211105	12G 1.5	18.7	222.3	572
031401811105	18G 1.5	21.8	309	785
031402511105	25G 1.5	25.1	411.1	1045
031400311205	3G 2.5	13.5	91.9	279
031400411205	4G 2.5	14.6	137.7	349
031400511205	5G 2.5	15.7	158.8	403
031400711205	7G 2.5	17.0	209	493
031401211205	12G 2.5	21.7	333.7	802
031400410004	4G 4	17.0	195	483
031400510004	5G 4	18.6	235	581
031400710004	7G 4	20.1	308	704
031400410006	4G 6	18.2	269	590
031400510006	5G 6	19.7	327	706

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031400710006	7G 6	21.8	437	895
031400410010	4G 10	21.7	425.5	880
031400510010	5G 10	23.0	521.9	1027
031400410016	4G 16	24.3	666.5	1219
031400510016	5G 16	26.7	820.1	1487
031400410025	4G 25	29.8	1007	1844
031400510025	5G 25	31.6	1242.1	2167
031400410035	4G 35	32.7	1384.4	2368
031400410050	4G 50	39.6	2032.2	3471
031400410070	4G 70	44.5	2824.2	4602
031400410095	4G 95	51.0	3706.2	6050
031400410120	4G 120	58.1	4650.3	7727

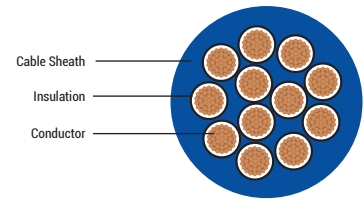
Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings refer table no. 12-1 & voltage drop refer table no. 12-2 of Appendix.

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

These cables are used for intrinsically safe circuits. For hazard prone areas cables with blue sheath are used for controlling and measuring requirements. These installations are not earthed and require a separate power circuit.

Standard

Adapted to DIN EN 60079-14, VDE 0165 Part 1.

Technical Data

Nominal Voltage : U0 / U 300 / 500V.

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 3000V

Mutual Capacitance : core to core (approx.) - 120 nF/km

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl.5.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Green/Yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour Blue (RAL 5015).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031500201075	2 x 0.75	5.3	14.5	44
031500301075	3 x 0.75	5.6	21.5	54
031500401075	4 x 0.75	6.1	28.5	66
031500501075	5 x 0.75	6.9	36	85
031501211075	12G 0.75	10.1	85.5	190
031501811075	18G 0.75	11.9	128	273
031502511075	25G 0.75	14.6	178	396
031500200001	2 x 1	5.6	19	52
031500300001	3 x 1	6	28.5	66
031500400001	4 x 1	6.8	38	86

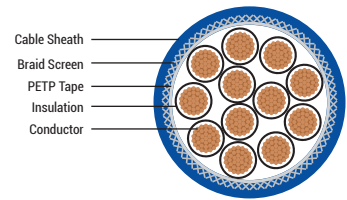
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031500500001	5 x 1	7.5	47.5	104
031500700001	7 x 1	8.9	66.5	148
031501200001	12 x 1	11.1	114	239
031501800001	18 x 1	13.2	171	346
031500201105	2 x 1.5	6.3	29	69
031500301105	3 x 1.5	6.7	43.5	87
031500401105	4 x 1.5	7.3	58	109
031500501105	5 x 1.5	8.2	72.5	137
031500311105	3 G 1.5	6.7	43.5	87
031500411105	4 G 1.5	7.3	58	109
031500511105	5 G 1.5	8.2	72.5	137
031501811105	18G 1.5	14.5	260	455
031502511105	25G 1.5	17.2	361	637

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

These cables are used for intrinsically safe circuits. For hazard prone areas cables with blue sheath are used for controlling and measuring requirements. These installations are not earthed and require a separate power circuit. Tinned copper braid screen ensures disturbance free transmission of data and signals.

Standard

Adapted to DIN EN 60079-14: VDE 0165 Part 1.

Technical Data

Nominal Voltage : U0 / U 300 / 500V.

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : 3000V

Mutual Capacitance : core to core (approx.) - 140 nF/km
core to screen (approx.) - 185 nF/km

Inductance : 0.68 mH/km (approx.)

Cable Construction

Bare copper, fine wire conductors, to DIN/BS EN 60228 Cl.5.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Cores stranded in layers with optimal lay-length.

Plastic foil over the laid up cores.

Tinned-copper braided screen, approx. 85% coverage.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour Blue (RAL 5015).

Properties

PVC self-extinguishing and flame retardant according to IEC 60332-1-2.

Cable Design Parameters

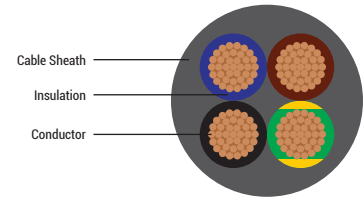
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031600201075	2 x 0.75	6.2	25	53.2
031600201075	3 x 0.75	6.5	31.3	64.0
031600201075	4 x 0.75	7.0	39.0	77.0
031600201075	4G 0.75	7.0	39.0	77.0
031600201075	5 x 0.75	7.7	47.2	93.4
031600201075	7 x 0.75	8.3	62.0	116.4
031600201075	12 x 0.75	10.9	98.9	189.7

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031600201075	18 x 0.75	12.7	141.0	265
031600201075	25 x 0.75	14.8	210.6	363.6
031600201075	2 x 1	6.5	29.5	59.7
031600201075	3 x 1	6.8	38.9	73.6
031600201075	4 x 1	7.3	49.1	89
031600201075	5 x 1	8.1	58.4	108.1
031600201075	7 x 1	8.8	77.2	136.8
031600201075	12 x 1	11.5	125.5	223.3
031600201075	18 x 1	13.9	180	328.9
031600201075	25 x 1	15.9	266.1	439.8
031600201075	2 x 1.5	7.1	39.4	73.9
031600201075	3 x 1.5	7.5	51.7	92.7
031600201075	4 x 1.5	8.2	66.2	115.9
031600201075	5 x 1.5	8.9	80.9	138.7
031600201075	7 x 1.5	9.9	108	182.3
031600201075	12 x 1.5	13	175.1	298
031600201075	18 x 1.5	15.6	276	450.8
031600201075	25 x 1.5	17.9	377.6	596.4

Note :

x = Without green/yellow earth core (OZ)

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

Halogen-free cables for airports railway station, plant engineering and Industrial machinery

Standard

Adapted to EN 50525-3-11

Technical Data

Nominal Voltage : U0 / U 450 / 750V

Temperature Range : Flexing -15°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing approx. 15 x cable ø. Fixed installation approx. 4 x cable ø

Test Voltage : 3000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl. 5.

Core insulation of halogen-free compound TI6 to EN 50363-7.

Colour coded to DIN VDE 0293-308 (Refer Appendix Table No. 1-1).

Green/Yellow earth core in outer layer.

Cores stranded in layers with optimal lay-length.

Halogen-Free sheath compound TM7, to EN 50363-8.

Sheath colour grey (RAL 7001).

Properties

Flame retardant to IEC 60332-1-2.

No flame propagation according to IEC 60332-3-24 (flame spread on Vertical cable or wire bundle).

Halogen free according to IEC 60754-1.

Corrosive gas evolution to IEC 60754-2.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031700311105	3 G 1.5	8.2	38.2	110
031700411105	4 G 1.5	8.9	50.9	135
031700511105	5 G 1.5	10	63.7	169
031700311205	3G 2.5	10	63.7	169
031700411205	4G 2.5	10.9	84.9	209
031700511205	5G 2.5	12	106.1	256
031700310004	3G 4	11.2	101.2	231
031700410004	4G 4	12.5	135	295
031700510004	5G 4	13.9	168.7	366

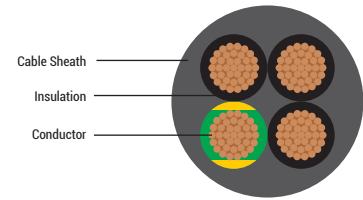
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031700410006	4G 6	14	202.4	398
031700510006	5G 6	15.5	253.1	492
031700410010	4G 10	17.4	344.7	642
031700510010	5G 10	19.4	430.8	800
031700410016	4G 16	20.2	574.1	959
031700510016	5G 16	22.5	717.7	1194
031700410025	4G 25	25.1	893.1	1486
031700510025	5G 25	28.1	1116.3	1860
031700410035	4G 35	28.6	1257.6	2013
031700510035	5G 35	32.1	1572	2525
031700410050	4G 50	33.9	1804.4	2860
031700410070	4G 70	39.2	2549.7	3940
031700410095	4G 95	44.8	3399.7	5205
031700410120	4G 120	50.3	4306.2	6579

Note :

*G = With green/yellow earth core

For current ratings conversion factors, refer table no. 11-3 of Appendix.

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

Halogen-free cables for airports railway station, plant engineering and Industrial machinery, in EMC sensitive instruments

Standard

Adapted to EN 50525-3-11.

Technical Data

Nominal Voltage : U0 / U 300 / 500V

Temperature Range : Flexing -15°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing approx. 10 x cable ø. Fixed installation approx. 4 x cable ø

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl. 5.

Core insulation of halogen-free compound TI6 to EN 50363-7.

Black colour with white numbers DIN VDE 0293.

Green/Yellow earth core in outer layer.

Cores stranded in layers with optimal lay-length.

Halogen-free sheath compound TM7, to EN 50363-8.

Sheath colour grey (RAL 7001).

Properties

Flame retardant to IEC 60332-1-2.

No flame propagation according to IEC 60332-3-24 (flame spread on Vertical cable or wire bundle).

Halogen free according to IEC 60754-1.

Corrosive gas evolution to IEC 60754-2.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031800201050	2 x 0.5	4.8	9.5	35
031800311050	3G 0.5	5.1	14.0	42
031800301050	3 x 0.5	5.1	14.2	43
031800411050	4G 0.5	5.5	19.0	52
031800401050	4 x 0.5	5.5	19.0	52
031800511050	5G 0.5	6.0	24.0	62
031800711050	7G 0.5	6.6	33.5	81
031801211050	12G 0.5	8.7	57.0	141

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031800201075	2 x 0.75	5.3	14.5	45
031800311075	3G 0.75	5.6	21.5	55
031800301075	3 x 0.75	5.6	21.5	55
031800411075	4G 0.75	6.2	28.5	67
031800401075	4 x 0.75	6.2	28.5	67
031800511075	5G 0.75	6.8	36.0	86
031800501075	5 x 0.75	6.8	36.0	86
031800711075	7G 0.75	7.4	50.0	109
031800701075	7 x 0.75	7.4	50.0	109
031800911075	9G 0.75	9.0	64.0	165
031801211075	12G 0.75	9.8	85.5	192
031801811075	18G 0.75	11.5	128.0	275
031802511075	25G 0.75	12.6	178.0	400
031800200001	2 x 1	5.6	19.0	53
031800310001	3G 1	6.0	28.5	66
031800300001	3 x 1	6.0	28.5	66
031800410001	4G 1	6.6	38.0	87
031800400001	4 x 1	6.6	38.0	87
031800510001	5G 1	7.2	47.5	105
031800710001	7G 1	7.9	66.5	149
031800810001	8G 1	8.9	76.0	175
031801210001	12G 1	10.4	114.0	241
031801410001	14G 1	11.0	133.0	274
031801810001	18G 1	12.3	171.0	349
031802510001	25G 1	13.5	237.5	508
031804110001	41G 1	18.2	389.0	782
031800201105	2 x 1.5	6.3	25.5	67
031800311105	3G 1.5	6.7	38.2	84
031800301105	3 x 1.5	6.7	38.2	84
031800411105	4G 1.5	7.3	50.9	105
031800511105	5G 1.5	8.0	63.7	132
031800711105	7G 1.5	8.8	89.1	169
031800811105	8G 1.5	9.9	101.9	216
031800911105	9G 1.5	10.8	114.6	250
031801211105	12G 1.5	11.7	152.8	299
031801411105	14G 1.5	12.4	178.3	344

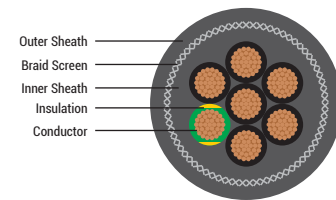
Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031801811105	18G 1.5	13.9	229.2	437
031802511105	25G 1.5	15.3	318.3	612
031803411105	34G 1.5	18.9	432.9	820
031800201205	2 x 2.5	7.5	40.1	103
031800311205	3G 2.5	8.0	61.0	134
031800411205	4G 2.5	8.9	82.0	168
031800511205	5G 2.5	9.8	102.0	210
031800711205	7G 2.5	10.7	142.0	271
031801211205	12G 2.5	14.4	248.0	469
031800410004	4G 4	10.1	128.0	250
031800510004	5G 4	11.2	159.5	312
031800710004	7G 4	12.3	223.5	405
031800410006	4G 6	12.2	191.5	367
031800510006	5G 6	13.5	239.5	458
031800710006	7G 6	14.8	335.0	596
031800410010	4G 10	14.5	326.0	570
031800510010	5G 10	16.0	407.5	703
031800410016	4G 16	17.8	543.0	896
031800510016	5G 16	19.7	678.5	1119
031800410025	4G 25	21.9	844.5	1391
031800510025	5G 25	25.8	1055.5	1717
031800410035	4G 35	26.4	1189.0	1872

Note :

*G = With green/yellow earth core

x = Without green/yellow earth core

For current ratings to DIN VDE 0298-4 refer table no. 12-3 of Appendix.



Application

Halogen-free cables for airports railway station, plant engineering and Industrial machinery, in EMC sensitive instruments. Tinned copper braid screen ensures disturbance free transmission of data and signals.

Standard

Adapted to EN 50525-3-11.

Technical Data

Nominal Voltage : U_0 / U 300 / 500V

Temperature Range : Flexing -15°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing approx. 15 x cable ϕ . Fixed installation approx. 6 x cable ϕ

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors, to EN 60228 Cl. 5.

Core insulation of halogen-free compound T16 to EN 50363-7.

Black colour with white numbers DIN VDE 0293.

Green/Yellow earth core in outer layer.

Cores stranded in layers with optimal lay-length.

Halogen free inner sheath in Grey (RAL 7001).

Tinned-copper braided screen, approx. 85% coverage.

Halogen-free sheath compound TM7, to EN 50363-8.

Sheath colour grey (RAL 7001).

Properties

Flame retardant to IEC 60332-1-2.

No flame propagation according to IEC 60332-3-24 (flame spread on Vertical cable or wire bundle).

Halogen free according to IEC 60754-1.

Corrosive gas evolution to IEC 60754-2.

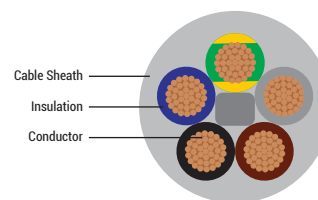
Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031900201050	2 x 0.5	7.1	21.6	72
031900311050	3G 0.5	7.5	27.6	82
031900301050	3 X 0.5	7.5	27.6	82
031900411050	4G 0.5	8.0	32.5	97
031900401050	4 X 0.5	8.0	32.5	97
031900511050	5G 0.5	8.5	38.7	111
031900711050	7G 0.5	9.1	47.7	129

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
031901211050	12G 0.5	75.2	75.2	208
031900201075	2 x 0.75	27.5	27.5	86
031900311075	3G 0.75	36.2	36.2	99
031900301075	3 X 0.75	36.2	36.2	99
031900411075	4G 0.75	42.4	42.4	114
031900401075	4 X 0.75	42.4	42.4	114
031900511075	5G 0.75	48.7	48.7	130
031900501075	5 X 0.75	48.7	48.7	130
031900711075	7G 0.75	64.0	64.0	163
031900701075	7 X 0.75	64.0	64.0	163
031901211075	12G 0.75	101.1	101.1	258
031901811075	18G 0.75	160.6	160.6	372
031902511075	25G 0.75	214.1	214.1	493
031900200001	2 x 1	32.0	32.0	96
031900310001	3G 1	42.2	42.2	111
031900300001	3 X 1	42.2	42.2	111
031900410001	4G 1	50.7	50.7	127
031900400001	4 X 1	50.7	50.7	127
031900510001	5G 1	61.3	61.3	153
031900710001	7G 1	79.5	79.5	192
031901210001	12G 1	146.2	146.2	322
031901810001	18G 1	202.5	202.5	444
031902510001	25G 1	271.5	271.5	586
031904110001	41G 1	437.1	437.1	923
031900201105	2 x 1.5	42.1	42.1	116
031900311105	3G 1.5	56.0	56.0	136
031900301105	3 X 1.5	56.0	56.0	136
031900411105	4G 1.5	9.6	69.1	163
031900511105	5G 1.5	10.6	99.2	209
031900711105	7G 1.5	11.3	124.6	247
031901211105	12G 1.5	14.8	198.6	416
031901811105	18G 1.5	17.2	279.6	575
031902511105	25G 1.5	20.1	375.2	783
031900311205	3G 2.5	10.4	99.1	204
031900411205	4G 2.5	11.4	121.1	248
031900511205	5G 2.5	12.6	146.4	302
031900711205	7G 1.5	13.9	124.6	382
031901211205	12G 2.5	17.6	304.4	613

H05Z1Z1-F (318B)

REACH | RoHS | CE | CPR Compliant



Application

Used as an indoor general wiring cable primarily for installations in public areas or in any application where fire safety is utmost important. The cable can be used as pendant lighting drops or as a general supply lead within hospital, hotels, airport, educational institutions, etc.

Standard

BS EN 50525-3-11

Technical Data

Nominal Voltage: U / U 300/500 V

Temperature Range: Flexing -5°C to +70°C. Fixed Installation : -30°C to +70°C

Minimum Bending Radius: Flexing 7.5 x cable ϕ ; Fixed installation 4 x cable ϕ

Cable Construction

Conductor : Bare copper, fine wire conductors, as per EN 60228 Cl.5.

Insulation : LSZH (Low Smoke Zero Halogen) core insulation Type TI6, BS EN 50363-7

Core colours : Harmonised core colour to HD 308 (Refer Appendix Table No. 1-1).

Cores stranded in layers with optimal lay-length

Outer sheath : LSZH (Low Smoke Zero Halogen) outer sheath Type TM7, to BS EN 50363-8

Properties

Self-extinguishing and flame retardant according to IEC 60332-1-2.

Please complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required:

1 - black (RAL 9005), 3 - grey (RAL 7001), 5 - white (RAL 9010).

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
03200101007z	2 x 0.5	5.3	72
03200102007z	3G 0.5	5.6	82
03200103007z	4G 0.5	6.1	82
03200104007z	5G 0.5	6.4	97
03200105007z	2 x 0.75	6.5	97
03200106007z	3 G 0.75	6.8	111
03200107007z	4 G 0.75	7.4	129
03200108007z	5 G 0.75	8.3	106
03200109007z	7 G 0.75	9.0	130
03200110007z	12 G 0.75	12.4	239

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
03200111007z	2 x 1	6.8	67
03200112007z	3 G 1	7.2	80
03200113007z	4 G 1	8.0	102
03200114007z	5 G 1	8.8	122
03200115007z	2 x 1.5	7.7	88
03200116007z	3 G 1.5	8.4	110
03200117007z	4 G 1.5	9.3	140
03200118007z	5 G 1.5	10.4	174
03200119007z	2 x 2.5	9.3	134
03200120007z	3 G 2.5	10.1	168
03200121007z	4 G 2.5	11.0	208
03200122007z	5 G 2.5	12.3	257
03200123007z	2 x 4	10.3	183
03200124007z	3 G 4	11.4	231
03200125007z	4 G 4	12.5	287
03200126007z	5 G 4	14.1	362

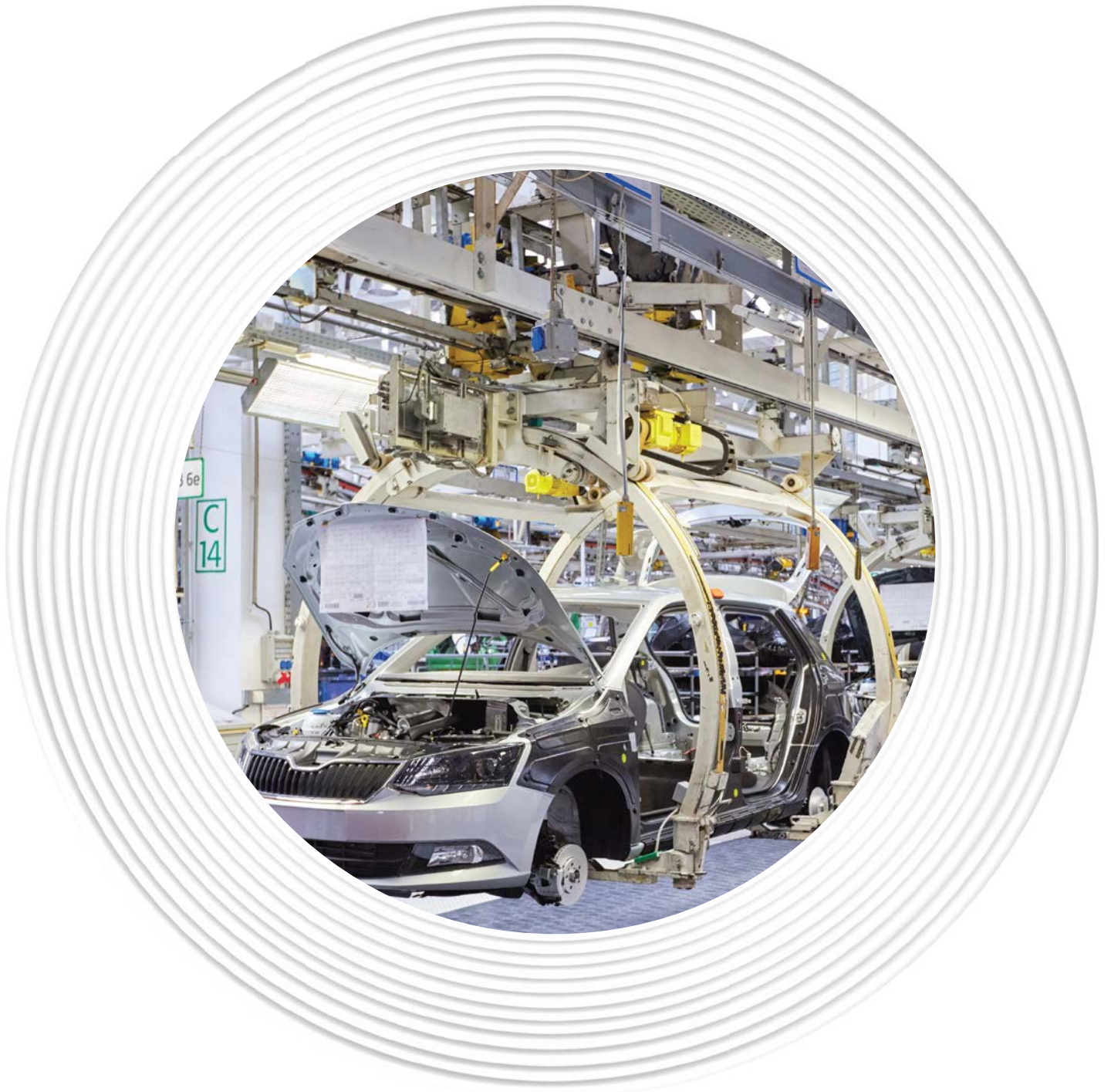
Note :

*G = With green/yellow earth core
x = Without green/yellow earth core

For electrical parameters refer table 11.1, 11.2, 11.3 of Appendix.

SECTION-IV

DRAG CHAIN AND SERVO CABLES



PRODUCTS

JZ-30400 P

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Servo FD 75781 CY

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JZ-35400 CP

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Servo FD 80785 P

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JZ-40415 CP

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Servo FD 85810

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JZ-45440 P

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Servo FD 90810 CY

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Servo FD 95810 P

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Servo 55700

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Servo FD 30810 CP

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Servo 60700 CY

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Servo FD 05855 P

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2YSLCY-JB Servo

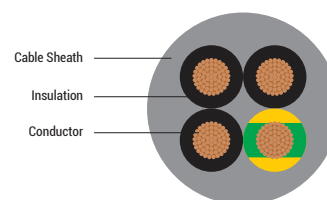
Page No.: 125 - 126

Servo FD 10855 CP

Page No.: 144 - 146

Servo FD 70750 P

Page No.: 127



Application

These cables are used in machine tools, industrial machineries, measurement control, and electrical applications. These are suitable for oily and wet areas within machinery and production shop floors that are subjected to normal mechanical stress. JZ-30400 P is resistant to contact with mineral oil based lubricants, diluted acids, aqueous alkaline and other chemical media. Outdoor use is possible within the indicated temperature range.

Technical Data

Standard : Adapted to EN 50525-2-51

Nominal Voltage : U_o / U 300 / 500 V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing approx 12.5 x cable ø. Fixed installation approx. 4 x cable ø

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Cores stranded in layers with optimal lay-length.

Special polyurethane outer sheath (PUR).

Sheath color : Grey (RAL 7001).

Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

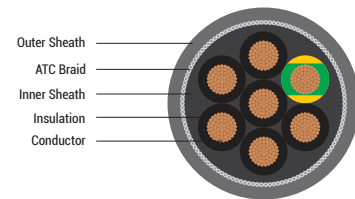
Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040100201050	2 x 0.5	4.8	8.7	30
040100311050	3G 0.5	5.1	13	37
040100301050	3 x 0.5	5.1	13	37
040100411050	4G 0.5	5.6	17.4	46
040100401050	4 x 0.5	5.6	17.4	46
040100511050	5G 0.5	6	21.7	55
040100501050	5 x 0.5	6	21.7	55
040100711050	7G 0.5	6.7	30.4	72

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040100701050	7 x 0.5	6.7	30.4	72
040101011050	10G 0.5	8.8	43.5	115
040101211050	12G 0.5	8.9	52.2	126
040101811050	18G 0.5	10.5	78.2	180
040102511050	25G 0.5	12.9	108.6	263
040103411050	34G 0.5	14.3	147.8	337
040104211050	42G 0.5	16.6	182.5	437
040100201075	2 x 0.75	5.3	13	39
040100311075	3G 0.75	5.6	19.6	48
040100301075	3 x 0.75	5.6	19.6	48
040100411075	4G 0.75	6.1	26.1	59
040100401075	4 x 0.75	6.1	26.1	59
040100511075	5G 0.75	6.9	32.6	76
040100501075	5 x 0.75	6.9	32.6	76
040100711075	7G 0.75	7.6	45.6	97
040100701075	7 x 0.75	7.6	45.6	97
040101011075	10G 0.75	10.0	65.2	156
040101211075	12G 0.75	10.1	78.2	171
040101811075	18G 0.75	11.9	117.3	247
040102511075	25G 0.75	14.6	163	357
040103411075	34G 0.75	15.7	221.6	446
040104111075	41G 0.75	17.4	267.3	543
040100200001	2 x 1	5.6	17.4	46
040100310001	3G 1	6.0	26.1	59
040100300001	3 x 1	6.0	26.1	59
040100410001	4G 1	6.8	34.8	77
040100400001	4 x 1	6.8	34.8	77
040100510001	5G 1	7.5	43.5	93
040100500001	5 x 1	7.5	43.5	93
040100710001	7G 1	8.9	60.8	132
040101010001	10G 1	10.8	86.9	191
040101210001	12G 1	11.1	104.3	215
040101810001	18G 1	13.2	156.5	311
040102510001	25G 1	16.2	217.3	452
040103410001	34G 1	18.1	295.5	587
040104110001	41G 1	19.7	356.4	700

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040100201105	2 x 1.5	6.3	25.5	61
040100311105	3G 1.5	6.7	38.2	78
040100301105	3 x 1.5	6.7	38.2	78
040100411105	4G 1.5	7.3	50.9	98
040100401105	4 x 1.5	7.3	50.9	98
040100511105	5G 1.5	8.2	63.7	123
040100501105	5 x 1.5	8.2	63.7	123
040100711105	7G 1.5	9.0	89.1	160
040100701105	7 x 1.5	9.0	89.1	160
040101211105	12G 1.5	12.1	152.8	280
040101811105	18G 1.5	14.5	229.2	412
040102511105	25G 1.5	17.2	318.3	576
040103411105	34G 1.5	19.6	432.9	766
040104111105	41G 1.5	21.3	522.0	915
040100201205	2 x 2.5	7.6	42.4	93
040100311205	3G 2.5	8.3	63.7	124
040100411205	4G 2.5	9.1	84.9	157
040100511205	5G 2.5	10.2	106.1	196
040100711205	7G 2.5	11.2	148.5	256
040101211205	12G 2.5	14.8	254.6	443
040100410004	4G 4	10.8	135.0	234
040100510004	5G 4	12.1	168.7	292
040100710004	7G 4	13.3	236.2	383
040100410006	4G 6	13.0	202.4	345
040100510006	5G 6	14.5	253.1	430
040100710006	7G 6	16.0	354.3	566
040100410010	4G 10	15.5	344.7	539
040100510010	5G 10	17.1	430.8	666
040100710010	7G 10	19.0	603.2	888
040100410016	4G 16	18.8	574.1	852

Note :
 * G = With green/yellow earth core
 X = Without green/yellow earth core



Application

These cables are used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. The PVC-inner sheaths of these cables raise the mechanical strength. Such cables can also be used for outdoor applications for the permitted temperature range.

Technical Data

Standard : Adapted to EN 50525-2-51

Nominal Voltage : U_0 / U 300 / 500 V

Insulation Resistance : Min. 20 G Ω x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable \varnothing . Fixed installation 6 x cable \varnothing

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of PVC TI2, EN 50363-3.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

Special PVC inner jacket.

Tinned copper braided screen.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

The screening density assures disturbance-free transmission of all signals and impulses.

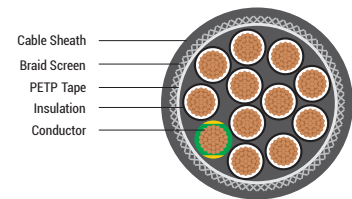
To optimize the EMC features we recommend a large round contact of copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040200201075	2 x 0.75	7.4	30.3	80
040200311075	3G 0.75	7.9	38.5	95
040200301075	3 x 0.75	7.9	38.5	95
040200411075	4G 0.75	8.4	46.7	111
040200401075	4 x 0.75	8.4	46.7	111
040200511075	5G 0.75	8.9	53.6	126
040200501075	5 x 0.75	8.9	53.6	126
040200711075	7G 0.75	9.7	70.4	156
040200701075	7 x 0.75	9.7	70.4	156
040201211075	12G 0.75	12.3	111.2	252
040201811075	18G 0.75	14.5	176.6	366
040202511075	25G 0.75	16.6	235.6	487
040203411075	34G 0.75	18.9	306.9	635
040204111075	41G 0.75	20.6	379.7	765
040200200001	2 x 1	7.9	35.3	92
040200310001	3G 1	8.2	46.5	107
040200300001	3 x 1	8.2	46.5	107
040200410001	4G 1	8.7	55.8	124
040200400001	4 x 1	8.7	55.8	124
040200510001	5G 1	9.5	67.4	149
040200710001	7G 1	10.2	87.5	182
040201210001	12G 1	13.3	160.8	318
040201810001	18G 1	15.5	222.7	437
040202510001	25G 1	17.5	298.6	574
040203410001	34G 1	20.2	389.4	760
040204110001	41G 1	22.0	480.8	915
040200201105	2 x 1.5	8.5	46.3	112
040200311105	3G 1.5	8.9	61.6	133
040200301105	3 x 1.5	8.9	61.6	133
040200411105	4G 1.5	9.6	76.0	159
040200401105	4 x 1.5	9.6	76.0	159
040200511105	5G 1.5	10.3	109.1	200
040200501105	5 x 1.5	10.3	109.1	200
040200711105	7G 1.5	11.3	137	246
040200701105	7 x 1.5	11.3	137	246

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040201211105	12G 1.5	14.8	218.4	411
040201811105	18G 1.5	17.2	307.5	569
040202511105	25G 1.5	20.1	412.7	774
040203411105	34G 1.5	22.8	547.2	1014
040204111105	41G 1.5	24.7	673.1	1216
040200312105	3G 2.5	10.3	109.0	200
040200412105	4G 2.5	11.3	133.2	243
040200512105	5G 2.5	12.6	161.1	299
040200712105	7G 1.5	13.9	211.6	378
040201212105	12G 2.5	17.6	334.8	608
040200410004	4G 4	13.4	190.6	345
040200510004	5G 4	14.7	233.6	420
040200410006	4G 6	15.8	275.2	493
040200510006	5G 6	17.3	334.1	596
040200410010	4G 10	19.0	434.7	745
040200410016	4G 16	22.2	723.2	1130

Note :
 * G = With green/yellow earth core
 X = Without green/yellow earth core (OZ)re



Application

These cables are used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. Such cables can also be used for outdoor applications for the permitted temperature range.

Technical Data

Standard : In acc to HD 21.13 S1 resp. VDE 0281-13 and HD 22.10 S1

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Nominal Voltage : U_0 / U 300 / 500 V

Insulation Resistance : Min. 20 GΩ x cm

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 6 x cable ø

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of PVC T12, EN 50363-3.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

PETP tape.

Tinned copper, braided screen, approx 85% coverage.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

UV resistant to ASTM G 154.

The screening density assures disturbance-free transmission of all signals and impulses.

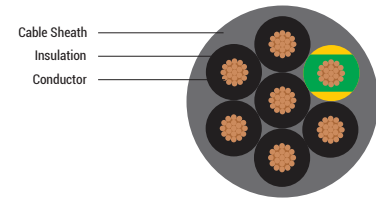
To optimize the EMC features we recommend a large round contact of copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040300201050	2 x 0.5	5.8	19.3	45
040300311050	3G 0.5	6.1	25.5	56
040300301050	3 x 0.5	6.1	25.5	56
040300411050	4G 0.5	6.5	30.1	64
040300401050	4 x 0.5	6.5	30.1	64
040300511050	5G 0.5	7.0	35.8	75
040300501050	5 x 0.5	7.0	35.8	75
040300711050	7G 0.5	7.5	46.7	92
040300701050	7 x 0.5	7.5	46.7	92
040301211050	12G 0.5	9.9	74.2	152
040301201050	12 x 0.5	9.9	74.2	152
040301811050	18G 0.5	11.5	104.3	210
040301801050	18 x 0.5	11.5	104.3	210
040302511050	25G 0.5	13.4	140.0	278
040302501050	25 x 0.5	13.4	140.0	278
040300201075	2 x 0.75	6.2	25.7	54
040300311075	3G 0.75	6.5	32.3	65
040300301075	3 x 0.75	6.5	32.3	65
040300411075	4G 0.75	7.0	40.4	78
040300401075	4 x 0.75	7.0	40.4	78
040300511075	5G 0.75	7.7	48.9	95
040300501075	5 x 0.75	7.7	48.9	95
040300711075	7G 0.75	8.3	64.5	119
040300701075	7 x 0.75	8.3	64.5	119
040301211075	12G 0.75	10.9	103.2	194
040301811075	18G 0.75	12.7	147.4	271
040302511075	25G 0.75	14.8	219.5	372
040302501075	25 x 0.75	14.8	219.5	372
040300200001	2 x 1	6.5	30.5	61
040300310001	3G 1	6.8	40.3	75
040300300001	3 x 1	6.8	40.3	75
040300410001	4G 1	7.3	51.0	91
040300400001	4 x 1	7.3	51.0	91
040300510001	5G 1	8.1	60.7	110
040300500001	5 x 1	8.1	60.7	110
040300710001	7G 1	8.8	80.5	140
040300700001	7 x 1	8.8	80.5	140

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040301210001	12G 1	11.5	131.2	229
040301810001	18G 1	13.9	188.5	337
040302510001	25G 1	15.9	277.9	452
040300201105	2 x 1.5	7.1	40.8	75
040300311105	3G 1.5	7.5	53.8	95
040300301105	3 x 1.5	7.5	53.8	95
040300411105	4G 1.5	8.2	69	119
040300401105	4 x 1.5	8.2	69	119
040300511105	5G 1.5	8.9	84.4	142
040300501105	5 x 1.5	8.9	84.4	142
040300711105	7G 1.5	9.9	112.9	187
040300701105	7 x 1.5	9.9	112.9	187
040301211105	12G 1.5	13	183.5	306
040301811105	18G 1.5	15.6	288.5	463
040302511105	25G 1.5	17.9	395	614
040303411105	34G 1.5	20.8	511.9	811
040300311205	3G 2.5	8.9	84.4	140
040300411205	4G 2.5	9.9	107.5	179
040300511205	5G 2.5	11	130.8	219
040300711205	7G 2.5	11.9	176.5	281
040301211205	12G 2.5	16	314.8	491
040301811205	18G 2.5	19	454.1	709
040302511205	25G 2.5	22.2	617	954
040300410004	4G 4	11.6	160.8	258
040300710004	7G 4	14.4	269	425
040300410006	4G 6	14.2	233.7	382
040300710006	7G 6	17	415.7	619
040300410010	4G 10	17.2	402.9	608
040300510010	5G 10	19.5	499.3	772
040300410016	4G 16	20.2	647.6	909
040300510016	5G 16	22.6	799.6	1132
040300410025	4G 25	25.1	986.2	1396
040300510025	5G 25	28	1220.9	1737
040300410035	4G 35	28	1369	1838

Note :
* G = With green/yellow earth core
X = Without green/yellow earth core (OZ)



Application

These are halogen free cables used in machine tools, industrial machineries, measurement control, and electrical applications rated for higher operating temperature. These are suitable for oily and wet areas within machinery and production shop floors that are subjected to normal mechanical stress. It is resistant to contact with mineral oil based lubricants, diluted acids, aqueous, alkaline and other chemical media. Outdoor use is possible within the indicated temperature range.

Technical Data

Standard : Adapted to EN 50525-2-51

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -40°C to +90°C. Fixed installation -50°C to +90°C

Minimum Bending Radius : Flexing 12.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Cores stranded in layers with optimal lay-length.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

Flexible at low temperatures.

Halogen free and flame retardant to EN 60332-1-2.

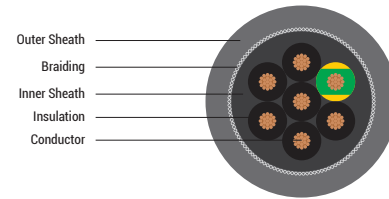
UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040400201050	2 x 0.5	5.9	8.7	39
040400311050	3G 0.5	6.2	13.0	45
040400411050	4G 0.5	6.9	17.4	57
040400511050	5G 0.5	7.4	21.7	67
040400711050	7G 0.5	9.1	30.4	100
040401211050	12G 0.5	11.3	52.2	158

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040401811050	18G 0.5	13.2	78.2	220
040402511050	25G 0.5	15.0	108.6	290
040400201075	2 x 0.75	6.4	13.0	48
040400311075	3G 0.75	6.8	19.6	58
040400411075	4G 0.75	7.4	26.1	71
040400511075	5G 0.75	8.6	32.6	94
040400711075	7G 0.75	10.0	45.6	128
040401211075	12G 0.75	12.4	78.2	203
040401811075	18G 0.75	14.4	117.3	283
040402511075	25G 0.75	17.2	163.0	401
040400200001	2 x 1	6.8	17.4	57
040400310001	3G 1	7.2	26.1	69
040400410001	4G 1	8.2	34.8	90
040400510001	5G 1	9.0	43.5	110
040400710001	7G 1	11.1	60.8	163
040401210001	12G 1	13.2	104.3	244
040401810001	18G 1	15.4	156.5	344
040402510001	25G 1	19	217.3	507
040403410001	34G 1	21.8	295.5	675
040404110001	41G 1	23.4	356.4	791
040400201105	2 x 1.5	7.4	25.5	71
040400311105	3G 1.5	8.3	38.2	94
040400411105	4G 1.5	9.0	50.9	116
040400511105	5G 1.5	9.8	63.7	140
040400711105	7G 1.5	12.2	89.1	209
040401211105	12G 1.5	14.5	152.8	317
040401811105	18G 1.5	17.6	229.2	471
040402511105	25G 1.5	20.7	318.3	653
040404111105	41G 1.5	26.3	522.0	1060
040400311205	3G 2.5	9.7	63.7	139
040400411205	4G 2.5	11.0	84.9	181
040400511205	5G 2.5	12.1	106.1	221
040400711205	7G 2.5	14.2	148.5	307
040401211205	12G 2.5	17.8	254.6	500

Note :
 *G = With green/yellow earth core
 X = Without green/yellow earth core



Application

These are halogen free cables used as data and control cable in machinery. The high level of screening ensures a high degree of interference protection. The special inner sheath aids to the increase in flexibility for robust application. Such cables can also be used for outdoor applications for the permitted temperature range.

Technical Data

Standard : Adapted to EN 50525-2-51

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -40°C to +90°C. Fixed installation -50°C to +90°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 6 x cable ø

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

Core insulation of TPE.

Black core with continuous white numbering to DIN VDE 0293.

Green/yellow earth core in outer layer (3 cores and above).

Cores stranded in layers with optimal lay-length.

TPE inner sheathed.

Tinned copper braided screen.

Special polyurethane outer sheath (PUR).

Sheath colour : Grey (RAL 7001).

Properties

Extensively oil resistant.

Abrasion and notch resistant.

Low adhesive surface.

Resistant to hydrolysis and microbes.

Halogen free and flame retardant to EN 60332-1-2.

UV resistant to ASTM G 154.

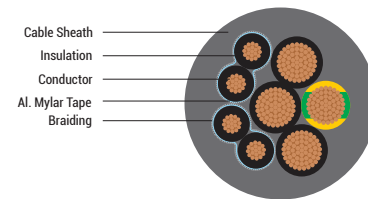
To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040500311050	3G 0.5	8.3	31.1	83
040500411050	4G 0.5	8.8	37.1	95
040500511050	5G 0.5	9.7	43.3	114

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040500711050	7G 0.5	11.2	53.8	150
040501211050	12G 0.5	13.7	83.1	226
040501811050	18G 0.5	15.7	114.4	301
040502511050	25G 0.5	18.5	176.0	430
040500201075	2 x 0.75	8.4	31.0	84
040500311075	3G 0.75	8.7	38.8	95
040500411075	4G 0.75	9.5	47.0	114
040500511075	5G 0.75	10.2	55.4	133
040500711075	7G 0.75	11.9	71.2	179
040501211075	12G 0.75	14.5	111.8	269
040502511075	25G 0.75	20.3	236.3	542
040500200001	2 x 1	8.7	36.2	93
040500310001	3G 1	9.3	46.3	111
040500410001	4G 1	9.9	58.3	131
040500510001	5G 1	10.8	67.6	154
040500710001	7G 1	12.8	88.2	213
040501210001	12G 1	15.4	161.2	332
040501810001	18G 1	17.7	223.2	448
040502510001	25G 1	21.5	295.9	637
040503410001	34G 1	23.8	386.0	799
040500201105	2 x 1.5	9.5	46.8	114
040500311105	3G 1.5	9.9	60.8	132
040500411105	4G 1.5	10.8	76.3	161
040500511105	5G 1.5	11.3	91.0	182
040500711105	7G 1.5	13.9	119.5	265
040501211105	12G 1.5	16.8	216.1	416
040501811105	18G 1.5	20.0	302.9	591
040502511105	25G 1.5	23.5	408.1	808
040504111105	41G 1.5	28.7	635.4	1229
040500311205	3G 2.5	11.1	90.9	178
040500411205	4G 2.5	12.3	115.1	222
040500511205	5G 2.5	14.0	159.9	296
040500711205	7G 1.5	16.4	208.5	402
040501211205	12G 2.5	21.0	329.4	648

Note :
* G = With green/yellow earth core
X = Without green/yellow earth core



Application

These cables are with composite construction for supply and control between frequency converter and motor. These are also used as connecting cable between servo controller and motor plant engineering. One common cable for multiple circuits.

Technical Data

Standard : Adapted to VDE 0812 / 0250 / 0281

Nominal Voltage : Supply cores : 600 / 1000V

Control core pairs : 250V

Insulation Resistance : > 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C

Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 20 x cable ø

Fixed installation 6 x cable ø

Test Voltage : Supply cores : C/C 4000V & C/S : 2000V

Control cores : C/C : 1500V, C/S : 750V

Cable construction

Bare copper, fine wire conductors according to EN 60228 cl. 5. Supply cores : black with white numbers according to VDE 0293 and GN-YE protective conductor.

Control pairs 0.34 Sq. mm, colour coded-WH/BR, GN/YE.

Control pairs 0.5 Sq. mm and above - Black coloured with white numbers to VDE 0293.

Control pair with laminated aluminium film and tinned copper braiding.

The model with one control pair does not have laminated aluminium foil

PVC outer sheath, grey (RAL 7001).

Properties

Flame retardant according to EN 60332-1-2.

Low mutual capacitance.

For use in dry, wet and damp interiors.

SERVO 55700 is also available with UV resistance property as SERVO 55700 UV.

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

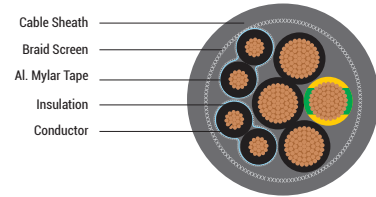
Cable Design Parameters

Part Number	Number of Cores and Sq. mm per Conductor	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040601010113	4 G 0.75 + 2 x (2 x 0.34)	9.5	59.9	124
040601020113	4 G 1.5 + 2 x (2 x 0.75)	12.1	103.0	195
040601030113	4 G 2.5 + (2 x 2 x 0.75)	13.9	127.6	258
040601040113	4 G 4 + (2 x 0.75 + 2 x 1)	15.8	182.8	351
040601050113	4 G 6 + (2 x 0.75 + 2 x 1)	16.7	250.3	435
040601060113	4 G 16 + (2 x 2 x 1)	23.5	626.3	1052
040601070113	4 G 1.5 +(2 x 0.75)	11.7	76.9	174
040601080113	5 G 1.5 +(2 x 0.75)	12.7	89.7	203
040601090113	7 G 1.5 +(2 x 0.75)	12.4	115.1	203
040601100113	4 G 2.5 +(2 x 0.75)	13.1	110.9	239
040601110113	7 G 2.5 +(2 x 0.75)	15.2	174.6	335

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

These cables are with composite construction for supply and control between frequency converter and motor. These are also used as connecting cable between servo controller and motor plant engineering. One common cable for multiple circuits.

Technical Data

- Standard** : Adapted to VDE 0812 / 0250 / 0281
- Nominal Voltage** : Supply cores : 600 / 1000V
- Control Core Pairs** : 250V / AC
- Insulation Resistance** : > 20 GΩ x cm
- Temperature Range** : Flexing -5°C to +70°C
Fixed installation -30°C to +70°C
- Minimum Bending Radius** : Flexing 20 x cable ø
Fixed installation 6 x cable ø
- Test Voltage** : **Supply cores** : C/C 4000V & C/S : 2000V
- Control cores** : C/C : 1500V, C/S : 750V

Cable Construction

Conductor Fine wire according to EN 60228, cl. 5
 Supply cores: black with white numbers according to VDE 0293 and GN-YE protective conductor;
 Control pairs 0.34 sq mm, color coded - WH/BR, GN/YE
 Control pairs 0.5 sq mm and above - Black colored with white numbers to VDE 0293
 Control pair with laminated aluminium film and tinned copper braiding.
 The model with one control pair does not have laminated aluminium foil.
 Overall Unit screened with tinned copper braiding.
 PVC outer sheath, grey (RAL 7001)

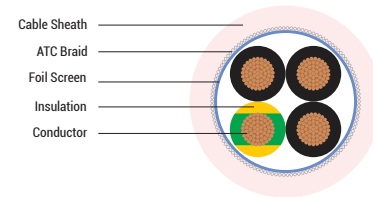
Properties

Flame retardant according to EN 60332-1-2.
 Low mutual capacitance.
 Screening over each control pair offers mutual EMI protection. Optimal braid screen over the complete unit further offers external EMI protection and aids interference-free operations of frequency converters.
 Servo 60700 CY is also available with UV resistance property as SERVO 60700 CY UV.
 Kindly add 'UV' after the part no. for UV resistant cable.
 UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	Number of Cores and Sq. mm per Conductor	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040701010113	4 G 0.75 + 2 x (2 x 0.34)	10.5	86.2	173
040701020113	4 G 1.5 + 2 x (2 x 0.75)	12.7	136.4	246
040701030113	4 G 2.5 + (2 x 2 x 0.75)	14.9	164.1	328
040701040113	4 G 4 + (2 x 0.75 + 2 x 1)	16.6	223.4	421
040701050113	4 G 6 + (2 x 0.75 + 2 x 1)	17.7	323.5	548
040701060113	4 G 10 + (2 x 0.75 + 2 x 1)	21.6	473.2	839
040701070113	4 G 16 + (2 x 2 x 1)	24.5	712.3	1192
040701080113	4 G 25 + (2 x 2 x 1.5)	30.1	1078.4	1809

Note : * G = With green/yellow earth core X = Without green/yellow earth core



Application

Connecting cable between frequency convertor and motor. This motor power supply cable is used for the frequency converters and assures electromagnetic compatibility in plants and buildings Handling equipment, for SIMOVERT drives, they are particularly suitable for use with industrial pumps, ventilators, conveyor belts and air-conditioning installations and similar applications.

Technical Data

Standard : Adapted DINVDE 0207/0250/0295

Nominal Voltage : U0 / U 600 / 1000V

Insulation Resistance : Min. 200 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 4 x cable ø

Test Voltage : Supply cores : C/C 4000V & C/S : 2000V

Control cores : C/C : 1500V, C/S : 750V

Mutual Capacitance: According to different cross sections:

core/core 70 to 250 nF/km

core/screen 110 to 410 nF/km

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 5.

PE (polyethylene) core insulation.

Core colours : black, brown, grey, green-yellow.

Cores stranded in concentric layers.

1. screening with special aluminum foil.

2. screening with tinned coated copper braids.

Transparent special PVC outer sheath.

Properties

Flame retardant according to EN 60332-1-2.

Special PE insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Low capacitance design allows a longer cable connection between frequency converter and motor.

Meets EMC requirements.

Due to the optimal screening an interference-free operation of frequency converters is obtained.

Cable Design Parameters

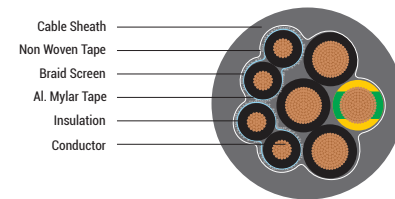
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040801010116	4 G 1.5	11.4	72.9	167
040801020116	4 G 2.5	12.4	110.0	215
040801030116	4 G 4.0	15.6	193.3	363
040801040116	4 G 6.0	17.0	269	462
040801050116	4 G 10.0	19.6	435	660

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
040801060116	4 G 16.0	22.1	698.3	955
040801070116	4 G 25.0	26.3	1045.7	1390
040801080116	4 G 35.0	29.5	1431.6	1842
040801090116	4 G 50.0	35.8	2010.3	2656
040801100116	4 G 70.0	40.3	2784.5	3579
040801110116	4 G 95.0	46.5	3146.1	4371
040801120116	4 G 120.0	53.2	4687.6	6190
040801130116	4 G 150.0	57.3	5643.8	7315
040801140116	4 G 185.0	62.3	6959.5	8853
040801150116	3 x 1.5 + 3 G 0.25	11.4	65.1	158
040801160116	3 x 2.5 + 3 G 0.5	12.2	99.4	202
040801170116	3 x 4 + 3 G 0.75	14.4	174.0	308
040801180116	3 x 6 + 3 G 1	15.7	237.6	391
040801190116	3 x 10 + 3 G 1.5	18.0	375.2	554
040801200116	3 x 16 + 3 G 2.5	20.2	603.9	809
040801210116	3 x 25 + 3 G 4	23.8	906.3	1174
040801220116	3 x 35 + 3 G 6	26.9	1250.8	1581
040801230116	3 x 50 + 3 G 10	32.6	1798.9	2317
040801240116	3 x 70 + 3 G 10	36.4	2380.3	2988
040801250116	3 x 95 + 3 G 16	42.0	2825.8	3730
040801260116	3 x 120 + 3 G 16	47.8	3991.9	5072
040801270116	3 x 150 + 3 G 25	51.6	4946.4	6193
040801280116	3 x 185 + 3 G 35	56.5	6217.8	7691

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

Connecting between the frequency convertor and the motor for power circuits in machine cabling. In dry damp or wet interiors with normal mechanical stress conditions For outdoor usage within the permitted range of temperature.

Technical Data

Standard : Adapted to VDE 0250 / 0281 / 0282

Nominal Voltage : U_0 / U 600 / 1000V. Control cores 250V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 12 x cable ø. Fixed installation 4 x cable ø

Test Voltage : Supply cores: C/C 4000V & C/S: 2000 V

Control cores: C/C: 1500 V, C/S: 750 V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 cl. 6.

Core insulation of special PVC or TPE (control cores).

Control pairs screened with laminated film and braided with a layer of tinned-copper wires.

Cores and pairs are twisted together.

Non woven wrapping.

Extruded PUR outer sheath grey (RAL 7001)

Properties

Flame retardant according to EN 60332-1-2.

The version with special TPE insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Meets EMC requirements.

Due to the optimal screening an interference-free operation of frequency converters is obtained.

UV resistant to ASTM G 154.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the insulation material required:

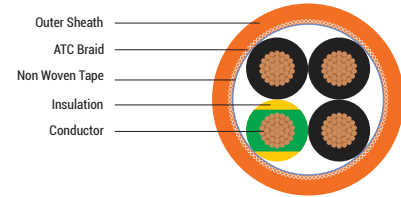
1 - PVC 70°C, 9 - TPE

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
00409010101y3	4 G 0.75 + 2 X (2 X 0.34)	13.9	67.4	168
00409010201y3	4 G 1.5 + 2 X (2 X 0.75)	15.9	108.9	240
00409010301y3	4 G 2.5 + 2 X (2 X 0.75)	16.7	142.9	290
00409010401y3	4 G 4 + (2 X 0.75) + (2 X 1)	19	197.9	374
00409010501y3	4 G 6 + (2 X 0.75) + (2 X 1)	19.6	265.3	459
00409010601y3	4 G 10 + (2 X 0.75) + (2 X 1)	21.2	407.6	663

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

For power circuits in machine cabling power circuits for electrical equipments used in automation engineering. In dry damp or wet interiors with normal mechanical stress conditions For outdoor usage within the permitted range of temperature.

Technical Data

Standard : Based on EN 50525-2-51

Nominal Voltage : U_0 / U 600 / 1000V

Insulation Resistance : Min. 20 G Ω x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 7.5 x cable ϕ . Fixed installation 4 x cable ϕ

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6,

PP(polypropylene) core insulation.

Cores are twisted together with shorter lay length.

Non woven wrapping.

Tinned copper braiding.

Special PVC TM5 outer sheath to EN 50363-4.1

PVC orange (RAL 2003).

Properties

Flame retardant according to EN 60332-1-2

Extensively Oil resistant

PP insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents.

Low adhesive surface

SERVO FD 75781-CY is also available with UV resistance property as SERVO FD 75781-CY UV.

Kindly add 'UV' after the part no. for UV resistant cable.

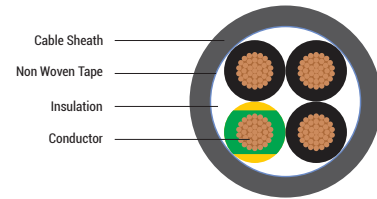
UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041000411105	4 G 1.5	9.8	74.3	130
041000411205	4 G 2.5	11.9	113.8	205
041000410004	4 G 4	13.5	169.7	286
041000410010	4 G 10	19.7	428	641
041000410016	4 G 16	23.9	661.4	931
041000410035	4 G 35	33.3	1386.2	1808
041000410050	4 G 50	38.3	1937.2	2476

Note :

* G = With green/yellow earth core



Application

For power circuits in machine cabling power circuits for electrical equipments used in automation engineering. In dry damp or wet interiors with normal mechanical stress conditions for outdoor usage within the permitted range of temperature.

Technical Data

Standard : Adapted to DIN VDE 0250 / 0281 / 0282
 Nominal Voltage : U_0 / U 600 / 1000V
 Insulation Resistance : Min. 20 GΩ x cm
 Temperature Range : Flexing -40°C to +70°C
 Fixed Installation : -50°C to +70°C
 Minimum Bending Radius : Flexing 5 x cable ø. Fixed installation 3 x cable ø
 Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6.
 TPE core insulation.
 Black coloured with white numbers acc to VDE 0293.
 Cores are twisted together with shorter lay length.
 Non woven wrapping.
 Outer sheath : PUR grey (RAL 7001).

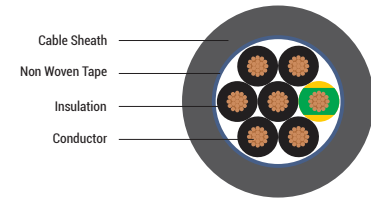
Properties

Flame retardant according to EN 60332-1-2.
 Halogen free.
 Oil resistant.
 Low adhesive surface.
 UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041100411105	4 G 1.5	10.0	51.2	132
041100411205	4 G 2.5	11.9	85.8	189
041100410004	4 G 4	13.7	138.3	268
041100410006	4 G 6	15.1	204.3	374
041100410010	4 G 10	19.6	358.5	609
041100410016	4 G 16	22.8	580.2	896
041100511105	5 G 1.5	11.2	64.0	161
041100511205	5 G 2.5	13.3	107.2	233
041100510004	5 G 4	15.2	172.9	330
041100510006	5 G 6	16.8	255.3	461
041100510016	5 G 16	25.5	725.2	1106
041100510025	5 G 25	30.8	1130	1699

Note : * G = With green/yellow earth core



Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

Technical Data

Standard : Requirement adapted to DIN VDE 0245, 0281

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Nominal Voltage : U_0 / U 300 / 500V

Test Voltage : 4000V

Insulation Resistance : Min. 20 GΩ x cm

Minimum Bending Radius : Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl. 6,

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Green-yellow earth core in the outer layer (3 cores and above).

Non-woven wrapping.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour grey (RAL 7001).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

This cable is also available with UV resistance property as SERVO FD 85810 UV

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041200201050	2 x 0.5	5.3	8.7	39
041200311050	3G 0.5	5.7	13	48
041200411050	4G 0.5	6.3	17.4	60
041200511050	5G 0.5	6.8	21.7	71
041200711050	7G 0.5	8.0	30.4	99
041201211050	12G 0.5	9.5	52.1	147
041201811050	18G 0.5	11.4	78.1	214
041202511050	25G 0.5	13.7	108.5	306

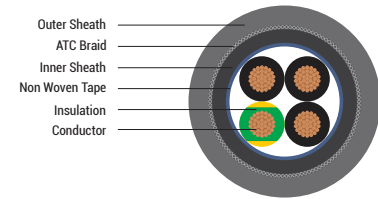
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041203011050	30G 0.5	14.3	130.2	344
041203411050	34G 0.5	15.6	147.5	403
041205011050	50G 0.5	18.5	216.9	574
041200201075	2 x 0.75	5.7	13.0	48
041200311075	3G 0.75	6.2	19.5	60
041200411075	4G 0.75	6.8	26.0	75
041200511075	5G 0.75	7.4	32.5	90
041200711075	7G 0.75	8.9	45.6	129
041201211075	12G 0.75	10.6	78.1	194
041201611075	16G 0.75	12	104.1	253
041201811075	18G 0.75	12.7	117.2	283
041202511075	25G 0.75	15.2	162.7	402
041200200001	2 x 1	6.1	17.4	57
041200310001	3G 1	6.6	26.0	72
041200410001	4G 1	7.3	34.7	90
041200510001	5G 1	8.0	43.4	110
041200710001	7G 1	9.6	60.7	157
041201210001	12G 1	11.4	104.1	237
041201410001	14G 1	12.3	121.5	276
041201610001	16G 1	13	138.8	311
041201810001	18G 1	13.9	156.2	353
041202510001	25G 1	16.4	216.9	491
041202610001	26G 1	16.4	225.6	498
041203410001	34G 1	18.9	295.1	658
041204110001	41G 1	20.6	355.8	786
041205010001	50G 1	22.3	433.9	936
041206510001	65G 1	25.4	564.1	1215
041200201105	2 x 1.5	6.8	26.0	75
041200311105	3G 1.5	7.4	39.1	96
041200411105	4G 1.5	8.1	52.1	119
041200511105	5G 1.5	9.1	65.1	150
041200711105	7G 1.5	9.9	91.1	189
041201211105	12G 1.5	12.9	156.2	322
041201811105	18G 1.5	15.0	234.3	456
041202511105	25G 1.5	17.6	325.4	630
041202611105	26G 1.5	17.8	338.4	649

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041203411105	34G 1.5	20.2	442.6	841
041204111105	41G 1.5	22.0	533.7	1006
041204211105	42G 1.5	22.0	546.7	1017
041205011105	50G 1.5	24.0	650.8	1210
041200311205	3G 2.5	9.0	65.1	148
041200411205	4G 2.5	10.0	86.8	188
041200511205	5G 2.5	11.2	108.5	235
041200711205	7G 2.5	12.5	151.9	307
041201211205	12G 2.5	16.0	260.3	513
041201411205	14G 2.5	17.2	303.7	595
041200310004	3G 4	10.6	104.1	217
041200410004	4G 4	11.7	138.8	274
041200510004	5G 4	13.1	173.6	343
041200410006	4G 6	13.9	208.6	398
041200510006	5G 6	15.5	260.8	496
041200410010	4G 10	17.6	358.5	658
041200510010	5G 10	19.6	448.2	819
041200410016	4G 16	21.0	565.0	983
041200510016	5G 16	23.6	706.2	1236

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering. The PVC-inner sheaths of these cables raise the mechanical strength of the cable.

Technical Data

Standard : Requirement adapted to DINVDE 0245, 0281

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Fixed installation 4 x cable ø

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DINVDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

PVC inner sheath, grey.

Tinned copper braiding.

Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.

Colour grey (RAL 7001).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

SERVO FD 90810 CY is also available with UV resistance property as SERVO FD 90810 CY UV

Kindly add 'UV' after the part no. for UV resistant cable.

UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041300201050	2 x 0.5	7.2	24.5	76
041300311050	3G 0.5	7.5	30.2	86
041300411050	4G 0.5	8.1	36.3	102
041300511050	5G 0.5	8.6	42.4	116
041300711050	7G 0.5	9.1	54.3	136

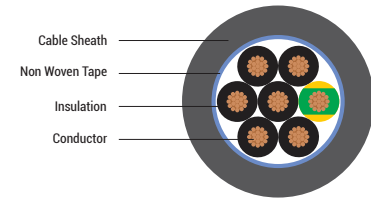
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041301211050	12G 0.5	11.5	84.2	216
041301811050	18G 0.5	13.5	117.5	301
041302511050	25G 0.5	15.12	156.9	386
041303011050	30G 0.5	16.02	185.1	442
041300201075	2 x 0.75	7.6	30.6	88
041300311075	3G 0.75	8.1	39.5	104
041300411075	4G 0.75	8.6	47.2	120
041300511075	5G 0.75	9.1	56.6	138
041300711075	7G 0.75	9.9	71.7	167
041301211075	12G 0.75	12.5	117.1	271
041301811075	18G 0.75	14.42	166.1	371
041302511075	25G 0.75	16.52	221.4	491
041303011075	30G 0.75	18	288.2	595
041300200001	2 x 1	8.1	37.3	102
041300310001	3G 1	8.4	47.3	116
041300410001	4G 1	8.9	58.8	136
041300510001	5G 1	9.7	69.4	161
041301210001	12G 1	13.22	145.7	316
041301810001	18G 1	15.42	210.4	442
041302510001	25G 1	17.4	286.0	580
041302610001	26G 1	17.4	295.7	588
041303410001	34G 1	20.2	392.5	788
041304110001	41G 1	22	466.3	927
041305010001	50G 1	23.7	554.0	1093
041300201105	2 x 1.5	8.9	48.2	126
041300311105	3G 1.5	9.3	64.0	148
041300411105	4G 1.5	10.0	82.3	180
041300511105	5G 1.5	10.5	96.8	202
041300711105	7G 1.5	11.5	128.8	254
041301211105	12G 1.5	15.2	216.8	439
041301611105	16G 1.5	16.7	295.2	555
041301811105	18G 1.5	17.7	317.5	617
041302511105	25G 1.5	20.7	426.7	840
041303411105	34G 1.5	23.5	563.9	1095
041300311205	3G 2.5	10.3	100.7	200
041300411205	4G 2.5	11.3	129.4	249

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041300511205	5G 2.5	12.6	158.5	309
041300711205	7G 2.5	13.9	211.5	392
041300410004	4G 4	13.4	192.3	361
041300510004	5G 4	14.7	236.4	439
041300410006	4G 6	15.8	254.9	492
041300410010	4G 10	19.3	414.4	763
041300410016	4G 16	22.0	635.7	1076

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

Technical Data

Standard : Requirement adapted to DIN VDE 0245, 0281

Nominal Voltage : U₀ / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC T12 EN 50363-3.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

Outer sheath of PUR.

Colour grey (RAL 7001).

Properties

Flame retardant according to EN 60332-1-2.

Oil resistant.

UV resistant to ASTM G 154.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041400201050	2 x 0.5	5.3	9.7	35
041400311050	3G 0.5	5.7	13	43
041400411050	4G 0.5	6.3	17.4	54
041400511050	5G 0.5	6.8	21.7	64
041400711050	7G 0.5	8.0	30.4	89
041401211050	12G 0.5	9.5	52.1	135

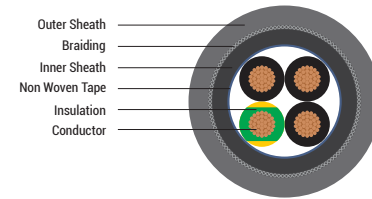
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041401811050	18G 0.5	11.4	78.1	198
041400201075	2 x 0.75	5.7	13.0	43
041400311075	3G 0.75	6.2	19.5	55
041400411075	4G 0.75	6.8	26.0	68
041400511075	5G 0.75	7.4	32.5	82
041400711075	7G 0.75	8.9	45.6	118
041401211075	12G 0.75	10.6	78.1	180
041401811075	18G 0.75	12.7	117.2	264
041402511075	25G 0.75	15.2	162.7	373
041400200001	2 x 1	6.1	17.4	51
041400310001	3G 1	6.6	26.0	65
041400410001	4G 1	7.3	34.7	83
041400510001	5G 1	8.0	43.4	101
041400710001	7G 1	9.6	60.7	144
041401210001	12G 1	11.4	104.1	220
041401810001	18G 1	13.9	156.2	329
041402510001	25G 1	16.4	216.9	457
041403410001	34G 1	18.9	295.1	614
041404110001	41G 1	20.6	355.8	735
041405010001	50G 1	22.3	433.9	877
041406510001	65G 1	25.4	564.1	1139
041400201105	2 x 1.5	7.0	26.0	70
041400311105	3G 1.5	7.6	39.1	90
041400411105	4G 1.5	8.3	52.1	114
041400511105	5G 1.5	9.3	65.1	143
041400711105	7G 1.5	10.2	91.1	182
041401211105	12G 1.5	13.3	156.2	312
041401611105	16 G 1.5	14.6	208.3	395
041401811105	18G 1.5	15.4	234.3	444
041402511105	25G 1.5	18.1	325.4	614
041403411105	34G 1.5	20.8	442.6	822
041404211105	42G 1.5	22.6	546.7	997
041405011105	50G 1.5	24.7	650.8	1186
041400311205	3G 2.5	9.0	65.1	136
041400411205	4G 2.5	10.0	86.8	174
041400511205	5G 2.5	11.2	108.5	218

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041400711205	7G 2.5	12.5	151.9	287
041401211205	12G 2.5	16.0	260.3	482
041401411205	14G 2.5	17.2	303.7	559
041400410004	4G 4	11.7	138.8	255
041400510004	5G 4	13.1	173.6	320
041400110006	1 G 6	6.4	52.2	87
041400410006	4G 6	13.9	208.6	372
041400110010	1 G 10	7.7	89.6	139
041400410010	4G 10	17.6	358.5	616
041400510010	5G 10	19.6	448.2	767
041400110016	1 G 16	9.2	141.2	209
041400410016	4G 16	21.0	565.0	925

Note :

* G = With green/yellow earth core

x = Without green/yellow earth core



Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering. The PVC-inner sheath of these cables raise the mechanical strength of the cable.

Technical Data

Standard : Requirement adapted to DINVDE 0245, 0281

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexible use 7.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special PVC TI2 EN 50363-3.

Black core with continuous white numbering according to DINVDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

PVC inner sheath, grey.

Tinned copper braiding.

Outer sheath of PUR.

Colour grey (RAL 7001).

Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

UV resistant to ASTM G 154.

Cable Design Parameters

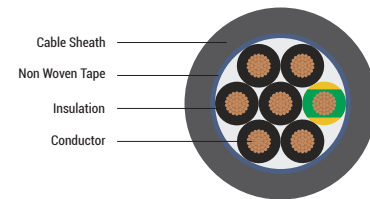
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041500201050	2 x 0.5	7.2	24.5	72
041500311050	3G 0.5	7.5	30.2	81
041500411050	4G 0.5	8.1	36.3	96
041500511050	5G 0.5	8.6	42.4	110
041500711050	7G 0.5	9.1	54.3	130
041501211050	12G 0.5	11.5	84.2	207

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041500201075	2 x 0.75	7.6	30.6	83
041500311075	3G 0.75	8.1	39.5	99
041500411075	4G 0.75	8.6	47.2	114
041500511075	5G 0.75	9.1	56.6	132
041500711075	7G 0.75	9.9	71.7	160
041501211075	12G 0.75	12.5	117.1	261
041501611075	16 G 0.75	13.8	149.1	325
041501811075	18G 0.75	14.4	166.1	358
041502511075	25G 0.75	16.5	221.4	475
041500200001	2 x 1	8.1	37.3	97
041500310001	3G 1	8.4	47.3	111
041500410001	4G 1	8.9	58.8	130
041500510001	5G 1	9.7	69.4	154
041500710001	7G 1	10.4	92.1	189
041501210001	12G 1	13.2	145.7	305
041501810001	18G 1	15.4	210.4	426
041502510001	25G 1	17.4	286.0	563
041500201105	2 x 1.5	8.9	48.2	120
041500311105	3G 1.5	9.3	64.0	142
041500411105	4G 1.5	10.0	82.3	172
041500511105	5G 1.5	10.5	96.8	196
041500711105	7G 1.5	11.5	128.8	247
041501211105	12G 1.5	15.2	216.8	424
041501811105	18G 1.5	17.7	317.5	598
041502511105	25G 1.5	20.7	426.7	814
041500311205	3G 2.5	10.3	100.7	194
041500411205	4G 2.5	11.3	129.4	241
041500511205	5G 2.5	12.6	158.5	298
041500711205	7G 2.5	13.9	211.5	380
041501211205	12 G 2.5	17.5	341.9	609
041501411205	14 G 2.5	18.2	394.5	684
041501410004	4G 4	13.4	192.3	347
041501410006	4G 6	15.8	254.9	477
041501410010	4G 10	19.3	414.4	737
041501410016	4G 16	22.0	635.7	1049

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core



Application

For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

Technical Data

Standard : Requirement adapted to DIN VDE 0250/0281/0282

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -40°C to +70°C. Fixed installation -50°C to +70°C

Minimum Bending Radius : Flexing 5 x cable ø. Fixed installation 3 x cable ø

Test Voltage : 4000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

Outer sheath of PUR.

Colour grey (RAL 7001).

Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

UV resistant to ASTM G 154.

Halogen free.

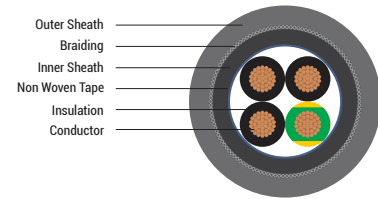
Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041600201050	2 x 0.5	5.1	9.7	33
041600311050	3G 0.5	5.5	13.0	39
041600411050	4G 0.5	6.0	17.4	49
041600511050	5G 0.5	6.6	21.7	59
041600611050	6 G 0.5	7.1	26.0	70
041600711050	7G 0.5	7.7	30.4	82
041601211050	12G 0.5	9.1	52.1	122

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041601811050	18G 0.5	10.9	78.1	179
041602011050	20 G 0.5	11.5	86.8	199
041602511050	25 G 0.5	13.4	108.5	262
041603011050	30 G 0.5	13.6	130.2	286
041603611050	36 G 0.5	14.7	156.2	338
041600201075	2x 0.75	5.6	13.0	40
041600311075	3G 0.75	6.0	19.5	51
041600411075	4G 0.76	6.7	26.0	64
041600511075	5G 0.75	7.3	32.5	78
041600711076	7G 0.75	8.8	45.6	112
041601211075	12G 0.75	10.3	78.1	167
041601611075	18G 0.75	12.4	117.2	245
041602011075	20 G 0.75	13.3	130.2	278
041602511075	25G 0.75	15.5	162.7	366
041603611075	36G 0.75	16.9	234.3	471
041600200001	2x 1	6.0	17.4	49
041600310001	3G 1	6.5	26.0	62
041600410001	4G 1	7.2	34.7	79
041600610001	5G 1	7.8	43.4	95
041600710001	7G 1	9.5	60.7	137
041601210001	12G 1	11.2	104.1	208
041601810001	18G 1	13.7	156.2	311
041602010001	20G 1	14.4	173.6	345
041602510001	25G 1	16.8	216.9	452
041603010001	30 G1	17.0	260.3	497
041603610001	36 G1	18.6	312.4	595
041600201105	2x 1.5	6.7	26.0	64
041600311105	3G 1.5	7.3	39.1	84
041600411105	4G 1.5	8.0	52.1	105
041600511105	5G 1.5	9.0	65.1	132
041600711105	7G 1.5	10.7	91.1	186
041601211105	12G 1.5	12.7	156.2	287
041601811105	18G 1.5	15.2	234.3	420
041602511105	25G 1.5	18.8	325.4	614
041603011105	30G 1.5	18.8	390.5	671
041603611105	36G 1.5	20.6	468.6	805

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041604111105	41G 1.5	22.4	533.7	934
041600311205	3G 2.5	8.9	65.1	131
041600411205	4G 2.5	9.9	86.8	167
041600511205	5G 2.5	11.0	108.5	207
041600711205	7G 2.5	13.4	151.9	300
041601211205	12G 2.5	15.8	260.3	460
041601811205	18G 2.5	18.9	390.5	674
041602511205	25G 2.5	23.5	542.4	989

Note :
 * G = With green/yellow earth core
 X = Without green/yellow earth core



Application

In power chains or moving machine parts suitable for use in measuring, control and regulating circuits. Power circuits for electrical equipments used in automation engineering, assembly lines, production lines, in all kinds of machines and plant engineering.

Technical Data

Standard : Requirement adapted to DIN VDE 0245, 0281

Nominal Voltage : U_0 / U 300 / 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -40°C to +80°C. Fixed installation -50°C to +80°C

Minimum Bending Radius : Flexible use 7.5 x cable ø. Fixed installation 4 x cable ø

Test Voltage : Core/core: 4000V. Core/screen: 2000V

Cable Construction

Bare copper, fine wire conductors according to EN 60228 Cl.6.

Core insulation of special TPE.

Black core with continuous white numbering according to DIN VDE 0293.

Green/yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with short lay-length.

Non-woven wrapping.

TPE inner sheath, grey.

Tinned copper braiding.

Outer sheath of PUR.

Colour grey (RAL 7001).

Properties

Flame retardant according to EN 60332-1-2.

For use in damp or wet interiors.

UV resistant to ASTM G 154.

Halogen free.

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041700201050	2 x 0.5	6.7	25.5	58
041700311050	3G 0.5	7.1	30.6	67
041700511050	5G 0.5	8.2	42.3	90
041700611050	6 G 0.5	8.7	49.2	103
041700711050	7G 0.5	9.5	53.7	120

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041701211050	12G 0.5	10.9	84.2	168
041701811050	18G 1	12.9	210.4	313
041702011050	20 G 0.5	13.5	128.1	259
041702511050	25G 0.5	15.0	156.9	319
041703011050	30 G 0.5	15.8	181.7	362
041703611050	36 G 0.5	16.9	214.5	420
041700201075	2 x 0.75	7.2	30.6	67
041700311075	3G 0.75	7.6	39.5	80
041700411075	4G 0.75	8.3	47.2	96
041700511075	5G 0.75	8.9	56.6	113
041700711075	7G 0.75	10.6	71.7	155
041701211075	12G 0.75	12.1	117.1	220
041701811075	18G 0.75	14.6	166.1	319
041702511075	25G 0.75	17.7	221.4	452
041703611075	36G 0.75	19.4	306.5	576
041700200001	2 x 1	7.6	37.3	78
041700310001	3G 1	8.1	47.3	94
041700410001	4G 1	8.8	58.8	114
041700510001	5G 1	9.6	69.4	135
041700710001	7G 1	11.3	92.1	185
041701210001	12G 1	13.2	145.7	269
041701810001	18G 1	15.9	210.4	392
041702510001	25G 1	19.5	286	568
041703010001	30 G 1	19.6	335.1	612
041703610001	36 G 1	21.2	397.8	722
041700201105	2 x 1.5	8.9	48.2	106
041700311105	3G 1.5	9.3	64.0	126
041700411105	4G 1.5	10.0	82.0	153
041700511105	5G 1.5	10.5	96.8	172
041700711105	7G 1.5	11.5	128.8	219
041701211105	12G 1.5	15.2	223.8	385
041701811105	18G 1.5	17.7	317.5	535
041702511105	25G 1.5	20.3	426.7	709
041703611105	36 G 1.5	22.7	593.0	938
041700311205	3G 2.5	10.7	96.6	178
041700411205	4G 2.5	11.7	123.6	220

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
041700511205	5G 2.5	12.8	151	266
041700711205	7G 2.5	14	211.5	344
041701211205	12 G 2.5	17.5	346.5	553
041701811205	18G 2.5	20.2	499.1	771
041702511205	25G 2.5	23.6	675.3	1044

Note :

* G = With green/yellow earth core

X = Without green/yellow earth core

SECTION - V

DATA & COMMUNICATION CABLES



PRODUCTS

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LiYY (TP)

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LiYCY

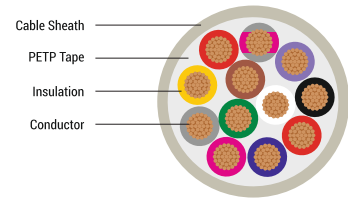
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PROcess Field BUS

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LiYCY (TP)

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Application

These are special PVC data cables used for flexible use with free movement without tensile stress of forced movements in dry, moist and wet rooms but not suitable for open air, wherever the construction requirements call for a minimum outer diameter.

Technical Data

Standard : Based on VDE 0812

Voltage Grade (Not for power installation) : 0.14 mm² = 350 V; >/= 0.25 mm² = 500 V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : For flexible use 10 x cable ø

Test Voltage : Up to 0.25 mm² = 1200 V. From 0.34 mm² = 2000 V

Breakdown Voltage : Up to 0.25 mm² = 2400 V. From 0.34 mm² = 4000 V

Cable Construction

Bare copper, fine wire conductors stranded according to DIN VDE 0295/ EN 60228 cl. 5, Special PVC core insulation T12, to EN 50363-3.

Conductor make-up for

0.14 mm² = 18 x 0.10 mm.

0.25 mm² = 14 x 0.15 mm.

0.34 mm² = 19 x 0.15 mm.

Core colours as per DIN 47100 (Refer table no. 2-2).

Cores stranded in layers with optimal lay-length.

Plastic foil wrapping for 10 cores and above.

Special PVC outer sheath TM2, to EN 50363-4.1.

Colour grey (RAL 7032).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Capacitance (approx. Value)

up to 0.5 mm² - 120 nF/km

above 0.5 mm² - 160 nF/km.

Inductance approx. 0.65 mH/km.

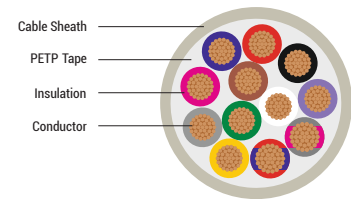
Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050100201014	2 x 0.14	3.3	2.6	15.0
050100301014	3 x 0.14	3.4	3.9	17.4
050100401014	4 x 0.14	3.7	5.2	20.8
050100501014	5 x 0.14	4.0	6.5	24.5

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050100701014	7 x 0.14	4.6	9.1	32.4
050100801014	8 x 0.14	5.0	10.6	38.6
050101001014	10 x 0.14	5.5	13.2	48.0
050101201014	12 x 0.14	5.7	15.9	52.5
050101401014	14 x 0.14	6.0	18.5	58.4
050101601014	16 x 0.14	6.3	21.1	65.1
050102001014	20 x 0.14	6.9	26.7	80.3
050102501014	25 x 0.14	7.6	33.4	98.1
050103601014	36 x 0.14	8.7	48.0	131.8
050103701014	37 x 0.14	8.7	49.4	134.1
050104001014	40 x 0.14	9.0	53.4	142.8
050105001014	50 x 0.14	9.9	66.7	174.4
050105601014	56 x 0.14	10.4	74.7	193.9
050100201025	2 x 0.25	4.1	4.5	23.5
050100301025	3 x 0.25	4.3	6.8	27.6
050100401025	4 x 0.25	4.7	9.1	33.5
050100501025	5 x 0.25	5.1	11.3	40.0
050100701025	7 x 0.25	5.8	15.9	52.9
050100801025	8 x 0.25	6.3	18.5	63.7
050101001025	10 x 0.25	7.1	23.1	80.3
050101201025	12 x 0.25	7.3	27.7	88.2
050101401025	14 x 0.25	7.7	32.4	98.6
050101601025	16 x 0.25	8.1	37.0	110.4
050101801025	18 x 0.25	8.5	42.0	123.6
050102001025	20 x 0.25	9.0	46.7	137.5
050102501025	25 x 0.25	10.0	58.4	169.3
050103001025	30 x 0.25	10.5	70.0	193.8
050103201025	32 x 0.25	11.0	74.7	208.5
050103601025	36 x 0.25	11.4	84.0	229.6
050103701025	37 x 0.25	11.5	86.4	233.6
050104001025	40 x 0.25	11.9	93.4	249.3
050105001025	50 x 0.25	13.1	116.7	306.2
050100201034	2 x 0.34	4.2	6.2	25.8
050100301034	3 x 0.34	4.4	9.2	30.8
050100401034	4 x 0.34	4.8	12.3	37.6
050100501034	5 x 0.34	5.2	15.4	45.1
050100701034	7 x 0.34	5.7	21.5	57.0
050100801034	8 x 0.34	6.5	25.1	72.0

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050101001034	10 x 0.34	7.3	31.4	90.8
050101201034	12 x 0.34	7.6	37.7	100.3
050101401034	14 x 0.34	7.9	43.9	112.5
050101601034	16 x 0.34	8.4	50.2	126.2
050101801034	18 x 0.34	8.8	57.0	141.6
050102001034	20 x 0.34	9.3	63.4	157.6
050102101034	21 x 0.34	9.3	66.5	160.3
050102501034	25 x 0.34	10.3	79.2	195.1
050103001034	30 x 0.34	10.9	95.0	223.3
050103601034	36 x 0.34	11.8	114.1	265.0
050104001034	40 x 0.34	12.2	126.7	288.2
050105001034	50 x 0.34	13.5	158.4	354.7
050100201050	2 x 0.5	4.8	9.2	35.2
050100301050	3 x 0.5	5.1	13.8	42.4
050100401050	4 x 0.5	5.5	18.4	52.2
050100501050	5 x 0.5	6.0	23.0	63.0
050100601050	6 x 0.5	6.6	27.6	75.0
050100701050	7 x 0.5	6.7	32.2	80.3
050100801050	8 x 0.5	7.6	37.6	101.1
050101001050	10 x 0.5	8.6	47.0	128.2
050101201050	12 x 0.5	8.9	56.4	142.2
050101401050	14 x 0.5	9.3	65.8	160.0
050101601050	16 x 0.5	9.8	75.2	179.9
050102001050	20 x 0.5	11.0	94.9	225.6
050102501050	25 x 0.5	12.2	118.6	280.3
050103001050	30 x 0.5	12.9	142.3	321.8
050104001050	40 x 0.5	14.6	189.7	416.8
050100201075	2 x 0.75	5.1	13.8	42.8
050100301075	3 x 0.75	5.4	20.7	52.5
050100401075	4 x 0.75	5.9	27.6	65.2
050100501075	5 x 0.75	6.5	34.5	79.1
050100701075	7 x 0.75	7.2	48.4	101.8
050100801075	8 x 0.75	8.1	56.4	127.1
050101001075	10 x 0.75	9.2	70.5	161.4
050101201075	12 x 0.75	9.5	84.6	180.4
050101601075	16 x 0.75	10.6	112.7	229.7

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050102001075	20 x 0.75	11.8	142.3	288.5
050102501075	25 x 0.75	13.2	177.9	359.2
050100200001	2 x 1	5.6	18.4	53.4
050100300001	3 x 1	6.0	27.6	66.0
050100500001	5 x 1	7.2	46.1	100.3
050100201105	2 x 1.5	6.7	27.0	75.7
050100301105	3 x 1.5	7.1	40.5	93.9
050100401105	4 x 1.5	7.8	54.0	117.4



Application

LiYY (TP) is applicable in the short runs and tight spaces, where the main requirements are smaller outer diameter and bending radii. The cable ideally meets these requirements.

Technical Data

Standard : Based on VDE 0812

Voltage Grade (Not for power installation) : 0.14 mm² = 350 V; \geq 0.25 mm² = 500 V

Insulation Resistance : Min. 20 G Ω x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : For flexible use 10 x cable ϕ

Test Voltage : Up to 0.25 mm² = 1200 V. From 0.34 mm² = 2000 V

Breakdown Voltage : Up to 0.25 mm² = 2400 V
From 0.34 mm² = 4000 V

Mutual Capacitance (approx.) : Up to 0.5 mm² - 120nF/km
Above 0.5 mm² - 160nF/km

Inductance : Approx. 0.65mH/km

Cable Construction

Bare copper, fine wire conductors stranded according to DIN VDE 0295

Conductor make-up for

0.14 mm² = 18 x 0.10 mm.

0.25 mm² = 14 x 0.15 mm.

0.34 mm² = 19 x 0.15 mm.

Core insulation of special PVC T12 EN 50363-3.

Core colours as per DIN 47100 (Refer table no. 2-1).

Pairs stranded in layers with optimal lay-length.

Plastic foil wrapping over laid up pairs.

Outer sheath of special PVC, TM2 to EN 50363-4.1.

Colour grey (RAL 7032).

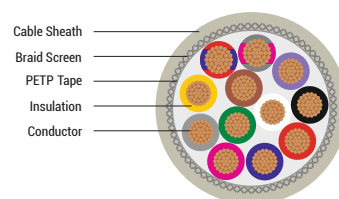
Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050200221014	2 x 2 x 0.14	4.95	5.13	26.82
050200321014	3 x 2 x 0.14	5.02	7.70	31.61
050200421014	4 x 2 x 0.14	5.53	10.26	38.55

Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050200521014	5 x 2 x 0.14	5.98	12.83	45.25
050200621014	6 x 2 x 0.14	6.38	15.39	51.77
050201021014	10 x 2 x 0.14	7.73	25.65	76.76
050201221014	12 x 2 x 0.14	8.30	30.79	88.84
050201621014	16 x 2 x 0.14	9.32	41.05	112.47
050200221025	2 x 2 x 0.25	6.16	8.98	40.21
050200321025	3 x 2 x 0.25	6.26	13.47	48.84
050200421025	4 x 2 x 0.25	6.96	17.96	60.62
050200621025	6 x 2 x 0.25	8.13	26.94	83.26
050200821025	8 x 2 x 0.25	9.12	35.92	105.16
050201021025	10 x 2 x 0.25	9.99	44.90	126.57
050200221050	2 x 2 x 0.5	7.30	18.24	59.10
050200321050	3 x 2 x 0.5	7.43	27.36	74.31
050200421050	4 x 2 x 0.5	8.31	36.49	93.73
050200821050	8 x 2 x 0.5	11.04	72.97	168.14
050201021050	10 x 2 x 0.5	12.13	91.22	204.28
050200221075	2 x 2 x 0.75	7.80	27.36	71.94
050200321075	3 x 2 x 0.75	7.94	41.05	92.30
050200421075	4 x 2 x 0.75	8.89	54.73	117.35
050200821075	8 x 2 x 0.75	11.86	109.46	214.00
050201021075	10 x 2 x 0.75	13.05	136.82	261.15



Application

These cables are used for data and signal transmission application in the electronics of computer systems, electronic control equipment and measuring devices in the tool making and machine industries.

The optimum screening substantially reduces the effect of electromagnetic interferences.

Technical Data

Standard : Based on VDE 0812

Voltage grade (not for power installation) : 0.14 mm² = 350 V; \geq 0.25 mm² = 500 V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 6 x cable ø

Test Voltage : Up to 0.25 mm² : 1200 V; $>$ 0.34 mm² : 1500 V.

Mutual capacitance (approx.)

Up to 0.34 mm²

C/C = 120 nF/km. C/S = 160 nF/km.

0.5 mm² to 1.5 mm²

C/C = 160 nF/km. C/S = 240 nF/km.

Inductance : Approx. 0.65 mH/km

Cable Construction

Bare copper, fine wire conductors stranded according to DIN VDE 0295

Special PVC core insulation T12, to EN 50363-3.

Conductor make-up for

0.14 mm² = 18 x 0.1 mm.

0.25 mm² = 14 x 0.15 mm.

0.34 mm² = 19 x 0.15 mm.

Colour coded to DIN 47100 (Refer table no. 2-2).

Cores stranded in layers with optimal lay-length.

Plastic foil over the laid up cores.

Tinned copper braided screen, approx 85% coverage.

Special PVC outer sheath TM2, to EN 50363-4.1.

Colour grey (RAL 7032).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

Cable Design Parameters

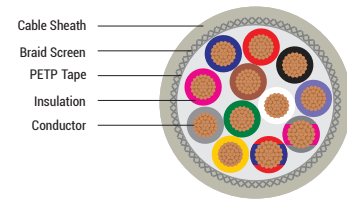
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050300201014	2 x 0.14	4.0	9.38	14.2
050300301014	3 x 0.14	4.1	10.73	15.7
050300401014	4 x 0.14	4.4	12.52	17.9

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050300501014	5 x 0.14	4.6	15.00	21.0
050300701014	7 x 0.14	5.0	18.24	24.9
050300801014	8 x 0.14	5.4	20.80	28.2
050301001014	10 x 0.14	6.0	25.05	33.6
050301201014	12 x 0.14	6.2	28.05	36.9
050301401014	14 x 0.14	6.4	31.45	40.8
050301501014	15 x 0.14	6.7	33.50	43.5
050301601014	16 x 0.14	6.7	34.66	44.7
050301801014	18 x 0.14	7.0	38.41	49.0
050302001014	20 x 0.14	7.5	42.18	54.0
050302101014	21 x 0.14	7.5	43.39	55.2
050302501014	25 x 0.14	8.2	51.24	64.5
050302801014	28 x 0.14	8.6	55.66	69.8
050303001014	30 x 0.14	8.6	58.27	72.4
050303201014	32 x 0.14	8.9	61.82	76.6
050303601014	36 x 0.14	9.2	67.85	83.5
050304001014	40 x 0.14	9.5	74.06	90.3
050304401014	44 x 0.14	10.2	81.35	99.2
050305001014	50 x 0.14	10.4	89.63	107.9
050300201025	2 x 0.25	4.9	14.92	22.4
050300301025	3 x 0.25	4.9	15.81	23.4
050300401025	4 x 0.25	5.3	19.47	27.9
050300501025	5 x 0.25	5.7	22.48	31.9
050300701025	7 x 0.25	6.2	28.32	38.8
050300801025	8 x 0.25	6.8	32.23	44.1
050301001025	10 x 0.25	7.6	39.10	52.9
050301201025	12 x 0.25	7.8	44.27	58.6
050301401025	14 x 0.25	8.1	50.02	65.2
050301501025	15 x 0.25	8.6	53.10	69.3
050301601025	16 x 0.25	8.6	55.36	71.6
050301801025	18 x 0.25	9.0	61.57	78.9
050302001025	20 x 0.25	9.6	67.53	86.6
050302101025	21 x 0.25	9.6	69.81	88.9
050302501025	25 x 0.25	10.5	82.36	104.0
050302801025	28 x 0.25	11.1	90.24	113.4
050303001025	30 x 0.25	11.1	94.82	118.0

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050303201025	32 x 0.25	11.5	100.42	124.7
050303601025	36 x 0.25	12.0	109.27	134.9
050304001025	40 x 0.25	12.4	121.11	147.9
050305001025	50 x 0.25	13.6	147.73	177.9
050306101025	61 x 0.25	14.8	176.02	209.6
050300201034	2 x 0.34	5.0	15.27	22.9
050300301034	3 x 0.34	5.0	18.52	26.3
050300401034	4 x 0.34	5.4	22.72	31.4
050300501034	5 x 0.34	5.8	26.70	36.3
050300701034	7 x 0.34	6.3	34.45	45.2
050300801034	8 x 0.34	6.9	39.20	51.4
050301001034	10 x 0.34	7.8	47.64	61.8
050301201034	12 x 0.34	8.0	54.48	69.2
050301401034	14 x 0.34	8.4	61.93	77.5
050301501034	15 x 0.34	8.8	65.90	82.6
050301601034	16 x 0.34	8.8	68.97	85.6
050301801034	18 x 0.34	9.2	77.21	95.0
050302001034	20 x 0.34	9.8	84.65	104.2
050302101034	21 x 0.34	9.8	87.76	107.3
050302501034	25 x 0.34	10.8	102.99	125.3
050302801034	28 x 0.34	11.4	113.92	137.7
050303001034	30 x 0.34	11.4	120.13	143.9
050303201034	32 x 0.34	11.9	127.76	152.7
050303601034	36 x 0.34	12.4	139.20	165.5
050304001034	40 x 0.34	12.8	155.20	182.7
050305001034	50 x 0.34	14.1	189.54	220.7
050300201050	2 x 0.5	5.8	20.13	30.6
050300301050	3 x 0.5	5.8	25.08	35.8
050300401050	4 x 0.5	6.3	30.85	42.8
050300501050	5 x 0.5	6.8	36.84	50.1
050300601050	6 x 0.5	7.3	43.13	57.8
050300701050	7 x 0.5	7.4	47.71	62.6
050300801050	8 x 0.5	8.1	54.24	71.1
050301001050	10 x 0.5	9.1	66.98	86.6
050301201050	12 x 0.5	9.4	76.60	97.1
050301401050	14 x 0.5	9.9	87.26	109.0

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050301601050	16 x 0.5	10.4	97.91	121.1
050301801050	18 x 0.5	10.9	109.29	134.1
050301901050	19 x 0.5	10.9	113.91	138.7
050302001050	20 x 0.5	11.8	120.19	148.8
050302401050	24 x 0.5	13.0	142.32	174.8
050302501050	25 x 0.5	13.1	146.98	179.5
050302701050	27 x 0.5	13.3	156.84	190.2
050303001050	30 x 0.5	13.8	172.11	206.9
050300201075	2 x 0.75	6.4	25.98	38.5
050300301075	3 x 0.75	6.5	32.85	45.6
050300401075	4 x 0.75	7.0	41.37	55.6
050300501075	5 x 0.75	7.5	49.35	65.1
050300701075	7 x 0.75	8.2	64.96	82.7
050300801075	8 x 0.75	9.0	74.16	94.2
050301001075	10 x 0.75	10.1	91.35	114.6
050301201075	12 x 0.75	10.4	106.17	130.4
050301801075	18 x 0.75	12.0	153.48	182.8
050302501075	25 x 0.75	14.0	207.72	243.5
050303001075	30 x 0.75	14.8	244.37	282.6
050300200001	2 x 1	7.0	31.67	46.6
050300300001	3 x 1	7.0	41.39	56.6
050300400001	4 x 1	7.6	51.91	68.9
050300500001	5 x 1	8.2	62.76	81.7
050300700001	7 x 1	9.0	83.12	104.4
050301000001	10 x 1	11.1	117.31	145.4
050301200001	12 x 1	11.5	136.90	166.2
050301800001	18 x 1	13.3	199.05	234.6
050302500001	25 x 1	15.6	270.56	314.0
050300201105	2 x 1.5	7.7	42.16	60.4
050300301105	3 x 1.5	7.8	55.88	74.5
050300401105	4 x 1.5	8.5	71.49	92.3
050300501105	5 x 1.5	9.2	86.50	109.6
050300601105	6 x 1.5	10.0	101.92	127.6
050300701105	7 x 1.5	10.1	115.53	141.6
050300801105	8 x 1.5	11.1	131.75	161.4
050301001105	10 x 1.5	12.5	163.84	198.4

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050301201105	12 x 1.5	12.9	191.62	227.6
050301401105	14 x 1.5	13.5	220.60	258.9
050301601105	16 x 1.5	14.3	249.79	290.8
050301901105	19 x 1.5	15.0	294.69	338.5
050302401105	24 x 1.5	17.8	394.72	448.7
050302701105	27 x 1.5	18.2	437.24	492.7
050303701105	37 x 1.5	20.6	583.86	648.9



Application

The high level of screening reduces substantially the effects of electrical disturbances. These cables are used for data & signal transmission. These cables are integral part of instrumentation in industries for precise signal and data transmission.

Technical Data

Standard : Based on VDE 0812

Voltage grade (not for power installation) : 0.14 mm² = 350 V; \geq 0.25 mm² = 500V

Insulation Resistance : Min. 20 GΩ x cm

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 6 x cable ø

Test Voltage : Up to 0.25 mm² : 1200 V; $>$ 0.34 mm² : 1500 V.

Capacitance (approx. Value)

Up to 0.34 mm²

C/C = 120 nF/km. C/S = 160 nF/km

0.5 mm² to 1.5 mm²

C/C = 160 nF/km. C/S = 240 nF/km

Inductance : Approx. 0.65 mH/km

Cable Construction

Bare copper, fine wire conductors stranded according to DIN VDE 0295/ EN 60228 cl. 5,

Conductor make-up for

0.14 mm² = 18 x 0.1 mm.

0.25 mm² = 14 x 0.15 mm.

0.34 mm² = 19 x 0.15 mm.

Special PVC core insulation TI2, to EN 50363-3.

Colour coded to DIN 47100 (Refer table no. 2-1).

Cores stranded in pair with optimal lay-length.

Cores stranded in layers with optimal lay-length.

Tinned copper braided screen, approx 85% coverage.

Special PVC outer sheath TM2, to EN 50363-4.1.

Sheath colour grey (RAL 7032).

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

The twisted pair construction further reduces crosstalk and electromagnetic interferences, enhancing the signal transmission characteristics

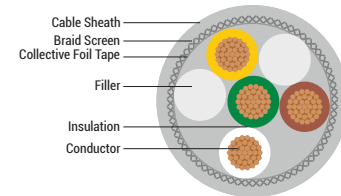
Cable Design Parameters

Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050400221014	2 x 2 x 0.14	5.4	14.6	38
050400321014	3 x 2 x 0.14	5.5	17.3	43
050400421014	4 x 2 x 0.14	6.0	21.5	52
050400621014	6 x 2 x 0.14	6.9	29.2	68
050400821014	8 x 2 x 0.14	7.6	36.2	82

Part Number	No. of Paires & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050401021014	10 x 2 x 0.14	8.2	43.3	97
050401221014	12 x 2 x 0.14	8.8	50.0	110
050401621014	16 x 2 x 0.14	9.8	63.9	138
050402021014	20 x 2 x 0.14	10.7	75.4	162
050402521014	25 x 2 x 0.14	11.7	92.1	195
050400221025	2 x 2 x 0.25	6.6	22.0	55
050400321025	3 x 2 x 0.25	6.7	26.8	64
050400421025	4 x 2 x 0.25	7.4	33.5	78
050400621025	6 x 2 x 0.25	8.6	45.6	104
050400821025	8 x 2 x 0.25	9.6	57.4	129
050401021025	10 x 2 x 0.25	10.5	69.4	154
050401221025	12 x 2 x 0.25	11.3	80.8	177
050401621025	16 x 2 x 0.25	12.7	102.8	223
050402521025	25 x 2 x 0.25	15.3	151.7	322
050400221034	2 x 2 x 0.34	6.8	25.9	60
050400321034	3 x 2 x 0.34	6.9	32.2	71
050400421034	4 x 2 x 0.34	7.6	40.4	87
050400621034	6 x 2 x 0.34	8.9	56.5	117
050400821034	8 x 2 x 0.34	9.9	71.8	146
050401021034	10 x 2 x 0.34	10.8	87.0	174
050401221034	12 x 2 x 0.34	11.6	101.2	200
050401621034	16 x 2 x 0.34	13.0	130.7	254
050402521034	25 x 2 x 0.34	15.8	195.1	371
050400221050	2 x 2 x 0.5	7.8	35.3	78
050400321050	3 x 2 x 0.5	7.9	44.7	94
050400421050	4 x 2 x 0.5	8.8	56.1	116
050400621050	6 x 2 x 0.5	10.3	78.6	158
050400821050	8 x 2 x 0.5	11.5	101.0	199
050401221050	12 x 2 x 0.5	13.6	143.3	276
050401621050	16 x 2 x 0.5	15.4	186.1	353
050400221075	2 x 2 x 0.75	8.3	45.6	92
050400321075	3 x 2 x 0.75	8.4	59.6	113
050400421075	4 x 2 x 0.75	9.4	76.4	141
050400521075	5 x 2 x 0.75	10.2	92.5	168
050400621075	6 x 2 x 0.75	11.0	108.7	195
050400821075	8 x 2 x 0.75	12.3	140.9	248
050401221075	12 x 2 x 0.75	14.6	202.0	348
050400220001	2 x 2 x 1	9.1	57.0	112
050400320001	3 x 2 x 1	9.3	75.7	139
050400420001	4 x 2 x 1	10.3	97.9	175
050400520001	5 x 2 x 1	11.3	118.7	209

Li2Y(St)CY (TP)

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Application

These data cables with twisted pairs are used for interference-free transmission of data and signals over longer distances. The high transmission rate are suitable for RS 422 and RS 485 interfaces. This cable forms an integral part of supervisory control and data acquisition (SCADA) systems.

These cables are suitable for fixed installations as well as for flexing applications, for free movement without forced motion and without tensile stress in dry and moist environment.

Technical Data

Standard : Based on VDE 0812

Voltage Grade (Not for power installation) : Max. 250 V

Test Voltage : Core/core 2000 V. Core/screen 1000 V

Insulation Resistance : Min. 5000 GΩ x cm

Mutual Capacitance* : Max. 60 nF/km

Characteristic Impedance* : 100 Ω ±15

Cross-talk Attenuation : Upto 1 MHz min. 50 dB. Upto 10 MHz min. 40 dB

Inductance : Approx. 0.65 mH/km

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Minimum Bending Radius : Flexing 15 x cable ø. Fixed installation 6 x cable ø

Cable Construction

Bare copper stranded 7 wire conductor

Conductor make-up for

0.22 mm² = 7 x 0.20 mm

0.34 mm² = 7 x 0.25 mm

0.5 mm² = 7 x 0.30 mm

Conductor resistance (loop) at 20°C

0.22 mm² = 186 Ω/km (max.)

0.34 mm² = 115 Ω/km (max.)

0.5 mm² = 78.5 Ω/km (max.)

Metal coated copper is also offered on request.

Core insulation of PE (Polyethylene).

Core colours as per DIN 47100 (Refer table no. 2-1)

Cores stranded in pair with optimal lay-length.

Pair stranded in layers with optimal lay-length.

Aluminium backed PETP foil over the laid up pairs.

Tinned copper braided screen, approx 85% coverage.

Special PVC outer sheath TM2, to EN 50363-4.1.

Sheath colour grey (RAL 7032).

Type Yv with reinforced black outer sheath suitable for outdoor application.

For underground burial, armoured version available on request.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

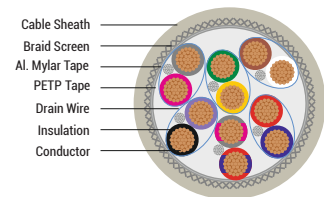
The twisted-pair lay-up prevents electrical unbalances within the cable and this thus effectively suppresses cross-talking effects.

*applicable upto 0.5 Sq. mm.

Cable Design Parameters

	Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
Li2Y(S)CY (TP) Grey	050500221022	2 x 2 x 0.22	8.1	25.0	67
	050500321022	3 x 2 x 0.22	8.2	29.1	77
	050500421022	4 x 2 x 0.22	9.2	36.0	93
	050500821022	8 x 2 x 0.22	12.0	60.7	154
	050501021022	10 x 2 x 0.22	13.2	71.8	182
	050500121034	2 x 2 x 0.34	8.6	31.7	78
	050500221034	3 x 2 x 0.34	8.7	37.6	90
	050500321034	4 x 2 x 0.34	9.7	46.4	110
	050500421034	8 x 2 x 0.34	12.9	81.7	185
	050500821034	10 x 2 x 0.34	14.1	96.7	219
	050500221050	2 x 2 x 0.5	9.1	38.9	89
	050500321050	3 x 2 x 0.5	9.2	48.1	105
	050500421050	4 x 2 x 0.5	10.3	59.9	129
	050500821050	8 x 2 x 0.5	13.7	106.6	221
	050501021050	10 x 2 x 0.5	15.0	127.9	263
	050500221075	2 x 2 x 0.75	9.7	50.1	106
	050500321075	3 x 2 x 0.75	9.9	63.5	127
	050500421075	4 x 2 x 0.75	11.1	80.8	158
	050500821075	8 x 2 x 0.75	14.8	145.2	274
	050501021075	10 x 2 x 0.75	16.3	178.3	331
Li2Y(S)CYv (TP)	050500220001	2 x 2 x 1	10.4	60.2	122
	050500320001	3 x 2 x 1	10.6	81.8	152
	050500420001	4 x 2 x 1	11.9	103.0	189
	050500820001	8 x 2 x 1	15.9	189.1	333
	050501020001	10 x 2 x 1	17.5	229.1	401
	050600221022	2 x 2 x 0.22	8.4	25.0	73
	050600321022	3 x 2 x 0.22	8.5	29.1	83
	050600421022	4 x 2 x 0.22	9.5	36.0	100
	050600821022	8 x 2 x 0.22	12.3	60.7	163
	050601021022	10 x 2 x 0.22	13.5	71.8	191
	050600221034	2 x 2 x 0.34	8.9	31.7	84
	050600321034	3 x 2 x 0.34	9.0	37.6	96
	050600421034	4 x 2 x 0.34	10.0	46.4	117
	050600821034	8 x 2 x 0.34	13.2	81.7	195
	050601021034	10 x 2 x 0.34	14.4	96.7	229

	Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
Li2Y(St)CvV (TP)	050600221050	2 x 2 x 0.5	9.4	38.9	96
	050600321050	3 x 2 x 0.5	9.5	48.1	112
	050600421050	4 x 2 x 0.5	10.6	59.9	137
	050600821050	8 x 2 x 0.5	14.0	106.6	231
	050601021050	10 x 2 x 0.5	15.3	127.9	274
	050600221075	2 x 2 x 0.75	10.0	50.1	113
	050600321075	3 x 2 x 0.75	10.2	63.5	134
	050600421075	4 x 2 x 0.75	11.4	80.8	166
	050600821075	8 x 2 x 0.75	15.1	145.2	285
	050601021075	10 x 2 x 0.75	16.6	178.3	343
	050600220001	2 x 2 x 1	10.7	60.2	129
	050600320001	3 x 2 x 1	10.9	81.8	160
	050600420001	4 x 2 x 1	12.2	103.0	198
	050600820001	8 x 2 x 1	16.2	189.1	345
	050601020001	10 x 2 x 1	17.8	229.1	414



Application

Absolute disturbance-free data transfer both for installed terminals in all areas of medicine and data technology. Also suitable for use in machine tool and steel producing industries, traffic signal systems, assembly lines and food processing.

Technical Data

Standard : Based on VDE 0812

Voltage Grade (Not for power installation) : Max. 250 V

Test Voltage : Core / core 2000 V. Core / screen 1000V

Insulation Resistance : Min. 5000 GΩ x cm

Mutual Capacitance

0.22 mm² max., 70 nF/km

0.34 mm² max., 70 nF/km

0.5 mm² max., 75 nF/km

1 mm² max., 85 nF/km

Inductance : Approx. 0.4 mH/km

Cross-Talk Attenuation : Min. 80 dB up to 1 MHz

Characteristic Impedance at : approx. 85 Ω (>1 MHz)

Minimum Bending Radius : Fixed 10 x cable ø

Temperature Range : Flexing -5°C to +70°C. Fixed installation -30°C to +70°C

Cable Construction

Bare copper stranded 7 wire conductor.

Conductor make-up for

0.22 mm² = 7 x 0.20 mm

0.34 mm² = 7 x 0.25 mm

0.5 mm² = 7 x 0.30 mm

0.75 mm² = 7 x 0.37 mm

1 mm² = 7 x 0.43 mm

Conductor Resistance (loop) at 20°C

0.22 mm² = 186 Ω/km (max.)

0.34 mm² = 115 Ω/km (max.)

0.5 mm² = 78.5 Ω/km (max.)

0.75 mm² = 58 Ω/km (max.)

1 mm² = 39.2 Ω/km (max.)

Core colours as per DIN 47100 (Refer table no. 2-1 of appendix)

PiMF : (pair in metal foil) cores twisted in pairs, foil wrapped plastic coated aluminium foil and copper drain-wire tinned, 100% coverage.

PiMFs are stranded in layer.

Core wrapping with plastic tapes.

Overall copper screened braiding, 85 % coverage.

Special PVC outer sheath TM2, to EN 50363-4.1.

Colour grey (RAL 7032).

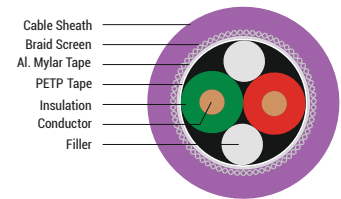
Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.

The twisted-pair lay-up prevents electrical unbalances within the cable and this thus effectively suppresses cross-talking effects.

Cable Design Parameters

Part Number	No. of Pairs & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
050700221022	2 x 2 x 0.22	8.0	33.5	76
050700321022	3 x 2 x 0.22	8.3	47.8	96
050700421022	4 x 2 x 0.22	9.3	68.8	127
050700821022	8 x 2 x 0.22	12.4	191.2	286
050701021022	10 x 2 x 0.22	13.8	284.0	398
050700221034	2 x 2 x 0.34	8.5	44.1	90
050700321034	3 x 2 x 0.34	8.8	67.2	120
050700421034	4 x 2 x 0.34	9.9	97.5	161
050700821034	8 x 2 x 0.34	13.2	283.3	389
050701021034	10 x 2 x 0.34	14.7	421.5	548
050700221050	2 x 2 x 0.5	9.0	56.3	106
050700321050	3 x 2 x 0.5	9.3	88.8	146
050700421050	4 x 2 x 0.5	10.4	132.7	203
050700521050	5 x 2 x 0.5	11.4	185.7	268
050700821050	8 x 2 x 0.5	14.1	405.5	523
050701021050	10 x 2 x 0.5	15.6	591.3	731
050700220001	2 x 2 x 1	10.3	76.3	138
050700320001	3 x 2 x 1	10.6	116.1	187
050700420001	4 x 2 x 1	12.0	167.3	254
050701020001	10 x 2 x 1	17.7	636.3	808



PROcess Field BUS is a standard for fieldbus communication in automation technology.

PROcess Field BUS links controller or control systems with decentralized field devices (sensors and actuators) via a single bus cable on the field level. It also enables consistent data exchange with higher ranking communication systems. Consistency of PROcess Field BUS is enabled by utilizing a single, standardized, application-independent communication protocol (named PROcess Field BUS DP), which, without any difference, supports fieldbus solutions both in factory and process automation as well as in motion control and safety-related tasks.

To ensure correct interaction between the numerous devices of an automation solution, the basic device functions and services must match in regard to communication, functionality and industry sector solutions. This uniformity is achieved by means of "application profiles" which refer to device families or special industry sector requirements, e.g. process automation (PA Devices), Motion Control (PROFIdrive) or integration of HART devices.

PROcess Field BUS DP is in the central position and carries communication data between a controller and field devices, preferably in Factory Automation (FA). PROcess Field BUS PA string is connected through a coupler or linking device to enable typical process automation (PA) applications, e.g. in a hazardous environments. The controller is connected to PROcess Field NET as system bus and interface to MES and ERP levels. PA segments can also be connected directly to PROcess Field NET using proxy technology.

Technical Data

Standard : Adapted to DIN 19245 & EN 50170

Operating Voltage: 250V (not for power installation)

Insulation Resistance : 5000 G x cm

Temperature Range : Flexing 12 x cable \varnothing
Fixed 6 x cable \varnothing

Minimum Bending Radius : Flexing 12 x cable \varnothing . Fixed installation 6 x cable \varnothing

Test Voltage : 1500V

Flame Retardant : Complies to IEC 60332-1-2

Cable Design Parameters

Bare copper stranded 7 wire conductor.

	Variants	Size	Configuration	Construction	Application	Sheath Colour	Approx. Cable Dia. (mm)
Li2Y(St)CYv (TP)	02Y(St) CY DP	22 AWG x 1PR (0.32 Sq. mm)	1/0.64 mm	ABC solid/Foam PE/PETP/AL. Mylar/ATC Braid 65%/PVC Outer sheath	Fixed installation, indoor usage	Violet	8.0
	02Y(St) C11Y DP	22 AWG x 1PR (0.32 Sq. mm)	1/0.64 mm	ABC solid/Foam PE/PETP/AL. Mylar/ATC Braid 65%/PUR Outer sheath	Fixed installation, Industrial Area	Black	8.0
	02Y(St)CY DP Armoured	22 AWG x 1PR (0.32 Sq. mm)	1/0.64 mm	ABC solid/Foam PE/PETP/AL. Mylar/ATC Braid 65%/PVC Inner sheath/GI armour wires/PVC Outer sheath	Direct Burial	Black (Outer) Inner (Violet)	13.0
PROcess Field BUS PA	02Y(St)CY PA Solid	18 AWG x 1PR (0.8 Sq. mm)	1/1.02 mm (1/18 AWG)	ABC solid/Foam PE/PETP/AL. Mylar/ATC Braid 65%/PVC Outer sheath	Fixed installation, indoor usage	Blue	9.2
	02Y(St)CY PA Armoured	18 AWG x 1PR (0.8 Sq. mm)	1/1.02 mm (1/18 AWG)	ABC solid/Foam PE/PETP/AL. Mylar/ATC Braid 65%/PVC Inner sheath/GI armour wires/PVC Outer sheath	Direct Burial	Black (Outer) Inner (Blue)	14.0

Electrical Parameters

PROcess Field BUS DP :

Conductor Resistance (Loop) at 20°C : 110 /km (Max.)

Mutual Capacitance : 35 nf/km (Max.)

Inductance : 0.65 mH/km (Nom.)

Frequency	Characteristic Impedance (Ω)	Attenuation (dB/100m)
9.6 kHz	270 \pm 27	\leq 0.25
38.4 kHz	185 \pm 18.5	\leq 0.40
4 MHz	150 \pm 15	\leq 2.2
16 MHz	150 \pm 15	\leq 4.2

PROcess Field BUS PA:

Conductor Resistance (Loop) at 20°C : 44 /km (Max.)

Mutual Capacitance : 55 nf/km (Max.)

Characteristic Impedance @ 31.25 kHz : 100 \pm 15

Attenuation @ 39 KHz : \leq 3 dB/km

Inductance : 0.65 mH/km (Nom.)

Baud Rate (kbit/s)	Segment Length (Meters)	Segment Length (Feet)
9.6	1200	3940
19.2	1200	3940
45.45	1200	3940
93.75	1200	3940
187.5	1000	3280
500	400	1310
1500	200	656
3000	100	328
6000	100	328
12000	100	328

More Variants Available

PROcess Field BUS DP and PA for flexible applications

PROcess Field BUS DP and PA with steel braid

Halogen free variant with Low Smoke Zero Halogen (LSZH) outer sheath.

Note :

HART = Highway Addressable Remote Transducer

DP = Decentralized Peripherals

PA = Process Automation

SECTION-VI
APPLIANCE WIRING MATERIAL



PRODUCTS

TRI RATED CABLE

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UL 1015

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UL 1007

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UL 1569

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UL 1275

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UL 2587

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UL 2464

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UL 2576, 2598

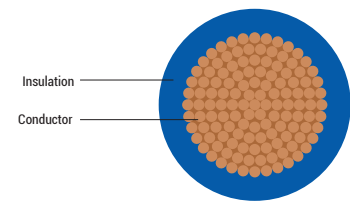
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UL 3289/3321/3173 3271/3344 XLPE Cable

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UL 2586

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Application

These cables are used for internal wiring of panels and electrical equipment. These are used as connection wire in machines laid in protective tubes and flexible pipes and also for motors and transformers.

Technical Data

Standard : UL 1015, 758, CSA C 22.2 No 210 & BS 6231

Nominal Voltage : 600V

UL - Type AWM 105°C 600V

CSA - Type AWM 105°C 600V

BS 6231 CK type 90°C 600V / 1000 V

Test Voltage (Spark Test)

AWG 18 to 16 : 6kV

≥ AWG 8: 7.5kV

Temperature Range : Flexing -5°C to +105°C. Fixed installation -20°C to +105°C

Bending Radius :

Cable diameter ≤ 8 mm : 4 x outer diameter

Approx diameter > 8 to 12 mm : 5 x outer diameter

Approx diameter > 12 mm : 6 x outer diameter

Cable Construction

Stranded copper conductor / according to BS EN 60228, cl. 5.

PVC-core insulation according to UL - Standard 1581, Class 43 and CSA - C22.2 No. 210 ULVW - 1 and CSA FT - 1, heat and damp resistant

Properties

Conditionally resistant to - Oils, Solvents, Acids, Dye.

PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Flame retardant to EN 60332 - 1 - 2.

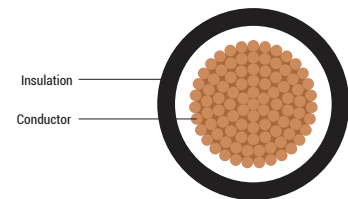
Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -Violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey, 13 - light blue

Part Number	AWG No.	No. of Cores and Nominal Cross Sectional (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06010101xx30	21	1 x 0.5	2.6	4.1	11.0
06010102xx30	19	1 x 0.75	2.8	6.1	13.5
06010103xx30	18	1 x 1	2.9	8.1	16.0
06010104xx30	16	1 x 1.5	3.2	11.7	21.0
06010105xx30	14	1 x 2.5	3.6	19.5	31.0
06010106xx30	12	1 x 4	4.1	31.5	45.0
06010107xx30	10	1 x 6	4.7	47.1	63.0
06010108xx30	8	1 x 10	6.3	81.6	111.0
06010109xx30	6	1 x 16	8.3	131.8	183.0
06010110xx30	4	1 x 25	9.6	204.8	267.0
06010111xx30	2	1 x 35	10.8	299.7	374.0
06010112xx30	1	1 x 50	13.2	416.8	531.0
06010113xx30	2/0	1 x 70	14.9	597.2	733.0
06010114xx30	3/0	1 x 95	16.4	774.0	928.0
06010115xx30	4/0	1 x 120	18	980.0	1156.0
06010116xx30	250 kcmil	1 x 150	20.3	1208.1	1439.0
06010117xx30	350 kcmil	1 x 185	22.4	1568.2	1834.0
06010118xx30	450 kcmil	1 x 240	24.7	2018.2	2324.0

For current ratings & voltage drop refer table no. 8-1.



Application

These cables are used for internal wiring of panels and electrical equipment. These are used as connection wire in machines laid in protective tubes and flexible pipes and also for motors and transformers.

Technical Data

Standard : UL - Std. 758, CSA C 22.2 No. 210

Nominal Voltage : 600V

UL - type AWM 105°C 600V

CSA - type AWM 105°C 600V

Test Voltage (Spark Test)

AWG 24 : 4kV

AWG 22 and 20 : 5kV

AWG 18 to 16 : 6kV

≥ AWG 8 : 7.5kV

Temperature Range : Flexing -5°C to +105°C. Fixed installation -20°C to +105°C

Temperature at Conductor : Max. UL and CSA : +105°C

Bending Radius : Flexing 10 x cable ϕ . Fixed installation 5 x cable ϕ

Cable Construction

Annealed plain or tinned stranded copper conductor.

PVC - core insulation according to UL - Standard 1581, Class 43 Tab. 50.182, heat and damp resistant.

Properties

Conditionally resistant to oils, solvents, acids and dyes.

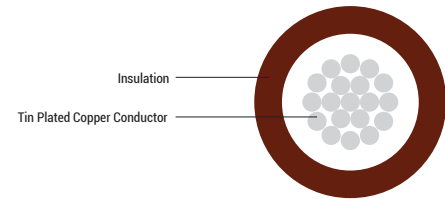
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -Violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey.

Part Number	AWG No.	No. of Cores and Nominal Cross Sectional (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06020101xx30	24	1 x 0.21	2.2	2.1	7
06020102xx30	22	1 x 0.33	2.4	3.5	9
06020103xx30	20	1 x 0.52	2.5	5.2	11
06020104xx30	18	1 x 0.82	2.8	8.3	16
06020105xx30	16	1 x 1.32	3.1	13.5	22
06020106xx30	14	1 x 2.08	3.5	20.4	31
06020107xx30	12	1 x 3.31	4.0	32.5	45
06020108xx30	10	1 x 5.26	4.6	51.7	68
06020109xx30	8	1 x 8.35	6.2	82.5	113
06020110xx30	6	1 x 13.3	8.0	132.1	184
06020111xx30	4	1 x 21.14	9.4	207.3	275
06020112xx30	3	1 x 26.65	10.2	262	339
06020113xx30	2	1 x 33.61	11.0	330.3	416
06020114xx30	1	1 x 42.38	13.0	416.9	543
06020115xx30	1/0	1 x 53.47	13.8	524.6	659
06020116xx30	2/0	1 x 67.4	15.2	661	820
06020117xx30	3/0	1 x 85.0	16.5	832.3	1013
06020118xx30	4/0	1 x 107.2	18.0	1050.9	1257
06020119xx30	250 kcmil	1 x 127	20.0	1245	1507
06020120xx30	300 kcmil	1 x 152	21.4	1489.8	1780
06020121xx30	350 kcmil	1 x 178	22.6	1734.6	2048
06020122xx30	400 kcmil	1 x 203	24.0	1989.9	2338
06020123xx30	500 kcmil	1 x 254	26.0	2479.5	2868



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, e. g. households, radio of televisions, monitor and control desks.

Technical Data

Standard : UL - Std. 758 , CSA C 22.2 No. 210

Nominal Voltage : 300V

Test Voltage : 2000V

Test Voltage (Spark Test)

AWG 26-20 : 4kV, AWG 10 -18 : 5kV

Temperature Range : Flexible -5°C to +80°C. Fixed installation -20°C to + 80°C

CSA - AWM I A/B

Bending Radius : Flexing 10 x cable ϕ . Fixed installation 5 x cable ϕ

Cable Construction

Annealed plain or tinned stranded copper conductor.

PVC - core insulation according to UL - Standard 1581, Class 43 Tab. 50.182, heat and damp resistant.

Properties

Conditionally resistant to oils, solvents, acids and dyes.

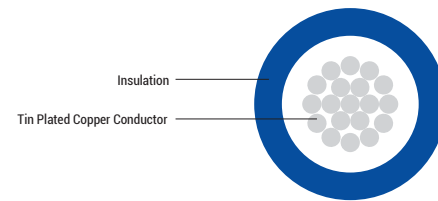
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -Violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey, 13 - light blue.

Part Number	AWG No.	No. of Cores and Nominal Cross Sectional (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06030101xx30	26	1 x 0.14	1.3	1.4	3.0
06030102xx30	24	1 x 0.21	1.5	2.1	4.3
06030103xx30	22	1 x 0.33	1.6	3.5	5.8
06030104xx30	20	1 x 0.52	1.9	5.2	8.0
06030105xx30	18	1 x 0.82	2.2	8.3	12.0
06030106xx30	16	1 x 1.32	2.5	13.5	18.4



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, e. g. households, radio of televisions, monitor and control desks.

Technical Data

Standard : UL - Std. 758 , CSA C 22.2 No.210

Nominal Voltage : 300V

Test Voltage : 2000V

Test Voltage (spark test)

AWG 26 - 20 : 4kV, AWG 10 -18: 5kV

Temperature Range : Flexible -5°C to + 105°C. Fixed installation -20°C to + 105°C

CSA - AWM I A/B

Bending Radius : Flexing 10 x cable ϕ . Fixed installation 5 x cable ϕ

Cable Construction

Annealed plain or tinned stranded copper conductor.

PVC - core insulation according to UL - Standard 1581, Class 43 Tab. 50.182, heat and damp resistant.

Properties

Conditionally resistant to oils, solvents, acids and dyes.

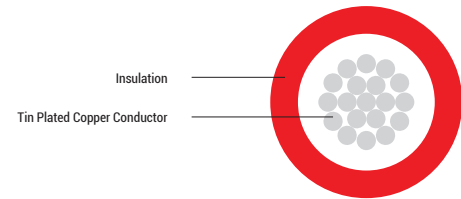
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -Violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey, 13 - light blue.

Part Number	AWG No.	No. of Cores and Nominal Cross Sectional (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06040101xx30	26	1 x 0.14	1.3	1.4	3.0
06040102xx30	24	1 x 0.21	1.5	2.1	4.3
06040103xx30	22	1 x 0.33	1.6	3.5	5.8
06040104xx30	20	1 x 0.52	1.8	5.2	8.0
06040105xx30	18	1 x 0.82	2.1	8.3	12.0
06040106xx30	16	1 x 1.32	2.5	13.5	18.4
06040107xx30	14	1 x 2.08	3.0	20.4	27.3
06040108xx30	12	1 x 3.31	3.5	32.5	41.3
06040109xx30	10	1 x 5.26	4.1	51.7	62.8



Application

PVC-insulated heavy wall lead wire, for use as hook - up wire and for internal wiring on refrigeration equipments.

Technical Data

Standard : UL - Std. 758, CSA C 22.2 No.210

Temperature Range : -20°C to 105°C

Nominal Voltage : 600V

Test Voltage (Spark Test)

AWG 18 to 16 : 6kV

≥ AWG 8: 7.5kV

Bending Radius : Fixed installation 5 x cable ø

Cable Construction

Annealed plain or tinned stranded copper conductor.

PVC - core insulation Type TW, Recognized Component QMTT2 heat and damp resistant.

Properties

Conditionally resistant to oils.

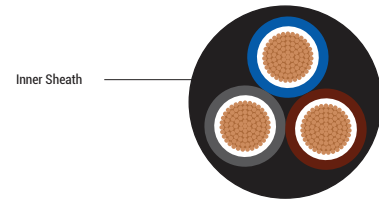
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -Violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey, 13 - light blue.

Part Number	AWG No.	No. of Cores and Nominal Cross Sectional (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06050101xx30	18	1 x 0.82	4.3	8.3	27.4
06050102xx30	16	1 x 1.32	4.6	13.5	35.1
06050103xx30	14	1 x 2.08	5.0	20.4	44.9
06050104xx30	12	1 x 3.31	5.5	32.5	60.6
06050105xx30	10	1 x 5.26	6.1	51.7	84.5



Application

Used in machine tools, control systems, connection between control panels and machines, assembly lines and other industrial equipment and moderate flexing applications.

Technical Data

Standard : UL - Std. 758; Control cable of special - PVC to UL AWM; Style 2587 cores according to UL 1015

Nominal Voltage : 600V

Test Voltage : 3000V

Temperature Range : Flexing -5°C to +90°C. Fixed installation -20°C to + 90°C

Insulation Resistance : Min 20 MΩ x km

Minimum Bending Radius : For permanent approx, 7.5 x cable ø

Cable Construction

Bare copper, fine wire conductors 0.5 - 35 Sq. mm (as per AWG - cross sections).

Special PVC core insulation class 43 to UL Standard 1581; color codes as per H05VV - F upto 5 cores.

Black conductors with consecutive numbering in white for above 5 cores.

Green - yellow earth core in the outer layer (3 cores and above).

Cores stranded in layers with optimal lay - length.

Special PVC outer sheath class 43 to UL Standard 1581 colour grey (RAL 7001).

PVC self - extinguishing and flame retardant, test method VW - 1, FT 1.

Properties

Suitable for installation in dry, moist or wet environment.

Resistant to mineral oils, synthetic oils and water based coolants. Aids easy stripping of sheath due to use of adequate Talc.

Cable Design Parameters

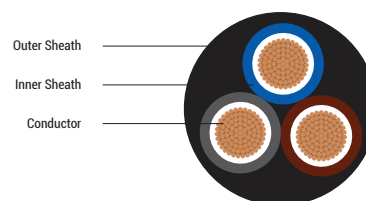
Kindly complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required:

1 - black (RAL 9005), 3 - grey (RAL 7001).

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06060101000z	2	21	6.4	7.9	53
06060102000z	3	21	7.1	11.9	68.5
06060103000z	4	21	8.5	15.8	96.9
06060104000z	6	21	11	23.7	157.9
06060105000z	10	21	11.7	39.5	190.7
06060106000z	12	21	12.1	47.4	208.4
06060107000z	16	21	13.5	63.2	262.2
06060108000z	18	21	15.3	71.1	327.8

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06060109000z	24	21	17.8	94.8	444.5
06060110000z	2	19	6.8	11.9	62.4
06060111000z	3	19	7.1	17.8	73.5
06060112000z	4	19	8.2	23.7	96.5
06060113000z	6	19	9.8	35.6	139.3
06060114000z	10	19	12.5	59.3	229.5
06060115000z	12	19	13	71.1	252.2
06060116000z	16	19	15.5	94.8	353.8
06060117000z	18	19	16.3	106.7	393.8
06060118000z	24	19	19	142.3	535
06060119000z	2	18	7.1	15.8	70.4
06060120000z	3	18	7.5	23.7	83.8
06060121000z	4	18	8.5	31.6	110.1
06060122000z	6	18	10.2	47.4	159.5
06060123000z	10	18	13.1	79	263.7
06060124000z	12	18	13.6	94.8	291.1
06060125000z	16	18	16.2	126.5	405.8
06060126000z	18	18	17	142.3	452.2
06060127000z	24	18	19.9	189.7	615
06060128000z	2	16	7.6	23.4	85.2
06060129000z	3	16	8.3	35.1	107.7
06060130000z	4	16	9.1	46.8	135.1
06060131000z	6	16	11	70.2	196.8
06060132000z	10	16	14.1	117	326.7
06060133000z	12	16	15.6	140.4	398.3
06060134000z	16	16	17.3	187.2	501.9
06060135000z	18	16	18.3	210.6	560.2
06060136000z	24	16	21.4	280.8	762.5
06060137000z	2	14	8.7	39	119.9
06060138000z	3	14	9.2	58.5	146.6
06060139000z	4	14	10.2	78	185.4
06060140000z	5	14	12.3	97.5	255.8
06060141000z	2	12	9.8	62	162.6
06060142000z	3	12	10.4	93	202
06060143000z	4	12	11.6	124	257.3
06060144000z	5	12	14	155	353.7

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06060145000z	2	10	10.9	93	214.7
06060146000z	3	10	11.6	139.5	270.6
06060147000z	4	10	12.9	186	346.5
06060148000z	2	8	15.3	158.4	402.6
06060149000z	3	8	16.2	237.6	501.4
06060150000z	4	8	18	316.8	638.1
06060151000z	2	6	19.4	263.8	654.5
06060152000z	3	6	21.1	395.7	843.3
06060153000z	4	6	23.5	527.6	1074.8
06060154000z	2	4	22.2	410.4	911.1
06060155000z	3	4	23.6	615.6	1153.6
06060156000z	4	4	26.3	820.7	1479.2
06060157000z	2	2	24.7	596.7	1201.9
06060158000z	3	2	26.3	895.1	1540.7
06060159000z	4	2	30.3	1193.4	2053.9



Application

Suitable for use as a command, measuring and control cable in tool making machinery conveyor system and production lines, in industrial plants and in air conditioning as well as in the steel producing industries.

Technical Data

Standard : UL- Std. 758. Special PVC command cable, approved to UL-Style 2464, cores according to AWG 24-16 to UL-Style 1007/1569

Nominal Voltage : 300V

Test Voltage : 1500V

Break down Voltage : Min. 3000V

Temperature Range : Flexible -10°C to +80°C. Fixed installation -20°C to + 80°C

Minimum Bending Radius : Flexing approx. 15x cable ø

Cable Construction

Annealed Plain copper, fine wire conductors AWG 24 -16, Table 30.3 UL 1581 ASTM - B.

Conductor make - up to.

0.22 Sq. mm = 8 x 0.187mm

0.44 Sq. mm = 16 x 0.187 mm

0.66 Sq. mm = 24 x 0.187 mm

0.88 Sq. mm = 32 x 0.187 mm

1.30 Sq. mm = 30 x 0.235 mm

Special PVC core insulation class 43, semirigid to UL- Std. 1581 table 50.182 and 50.183.

Colour coded to H05VV - F up to 5 cores coloured black with numbers for above 5 cores.

Cores stranded in layers with optimal lay-length.

Special PVC outer jacket class 43 to UL - Std. 1581 table 50.182.

Outer jacket colour black or grey.

Properties

PVC self-extinguishing and flame retardant, test method VW-1, FT 1

Cable Design Parameters

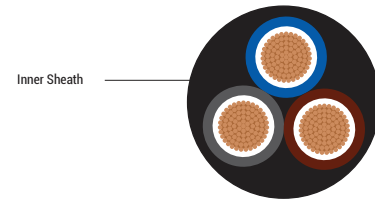
Kindly complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required:

1 - black (RAL 9005), 3 - grey (RAL 7001)

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06070101000z	2	24	5.1	4	32.9
06070102000z	3	24	5.3	5.9	36.9
06070103000z	4	24	5.7	7.9	43.5

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06070104000z	6	24	6.5	11.9	58.1
06070105000z	10	24	7.9	19.8	87.8
06070106000z	12	24	8.1	23.7	95.2
06070107000z	16	24	8.9	31.6	116.5
06070108000z	18	24	9.3	35.6	128.6
06070109000z	24	24	10.7	47.4	170.6
06070110000z	2	21	5.7	7.9	43.6
06070111000z	3	21	5.9	11.9	50.1
06070112000z	4	21	6.4	15.8	60.1
06070113000z	6	21	7.4	23.7	82.3
06070114000z	10	21	9.1	39.5	127.7
06070115000z	12	21	9.4	47.4	140
06070116000z	16	21	10.3	63.2	173.9
06070117000z	18	21	10.8	71.1	192.9
06070118000z	24	21	12.5	94.8	258.1
06070119000z	2	19	6.1	11.9	52.3
06070120000z	3	19	6.3	17.8	61.1
06070121000z	4	19	6.9	23.7	74.1
06070122000z	6	19	8.0	35.6	102.8
06070123000z	10	19	9.9	59.3	161.6
06070124000z	12	19	10.2	71.1	178.5
06070125000z	16	19	11.2	94.8	223.6
06070126000z	18	19	11.8	106.7	248.5
06070127000z	24	19	13.7	142.3	333.8
06070128000z	2	18	6.7	15.8	64.4
06070129000z	3	18	7.0	23.7	75.9
06070130000z	4	18	7.6	31.6	92.8
06070131000z	6	18	8.9	47.4	130.2
06070132000z	10	18	11.1	79	207
06070133000z	12	18	11.4	94.8	229.4
06070134000z	16	18	12.6	126.5	288.6
06070135000z	18	18	13.3	142.3	321.5
06070136000z	24	18	15.5	189.7	433.8
06070137000z	2	16	7.3	23.4	80.4
06070138000z	3	16	7.6	35.1	96.2
06070139000z	4	16	8.3	46.8	118.8

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06070140000z	6	16	9.8	70.2	168.5
06070141000z	10	16	12.3	117	271
06070142000z	12	16	12.7	140.4	302
06070143000z	16	16	14	187.2	382.6
06070144000z	18	16	14.8	210.6	427
06070145000z	24	16	17.3	280.8	577.7



Application

These cables are used for internal wiring of public address systems, intercoms, internal telephones, remote control circuits, wiring for machine tool control circuits, medical equipments.

Technical Data

Standard : UL - Std. 758; UL - Style 2576, 2598

Nominal Voltage : 300V

Temperature Range : -20°C to + 80°C

Test Voltage : 1500V

Minimum Bending Radius : Flexing approx. 15x cable ϕ

Cable Construction

Annealed Plain copper, fine wire conductors AWG 24 - 16, Table 30.3 UL 1581 ASTM - B.

Special PVC core insulation class 43, semirigid to UL - Std. 1581 table 50.182 and 50.183.

Colour coded to H05VV - F up to 5 cores; coloured black with numbers for above 5 cores.

Cores stranded in layers with optimal lay - length.

Special PVC outer jacket class 43 to UL - Std. 1581 table 50.182.

Outer jacket colour black or grey.

Properties

PVC self-extinguishing and flame retardant, test method VW-1, FT 1

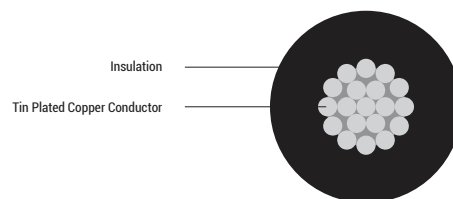
Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'z') for the sheath colour required:

1 - black (RAL 9005), 3 - grey (RAL 7001)

Part Number	No. of Cores	AWG No.	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06080101000z	2	24	5.1	4.0	32.9
06080102000z	3	24	5.3	5.9	36.9
06080103000z	4	24	5.7	7.9	43.5
06080104000z	6	24	6.5	11.9	58.1
06080105000z	10	24	7.9	19.8	87.8
06080106000z	12	24	8.1	23.7	95.2
06080107000z	16	24	8.9	31.6	116.5
06080108000z	18	24	9.3	35.6	128.6
06080109000z	24	24	10.7	47.4	170.6
06080110000z	2	21	5.7	7.9	43.6
06080111000z	3	21	5.9	11.9	50.1

Part Number	AWG No.	No. of Cores x Cross Section (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
06080112000z	4	21	6.4	15.8	60.1
06080113000z	6	21	7.4	23.7	82.3
06080114000z	10	21	9.1	39.5	127.7
06080115000z	12	21	9.4	47.4	140
06080116000z	16	21	10.3	63.2	173.9
06080117000z	18	21	10.8	71.1	192.9
06080118000z	24	21	12.5	94.8	258.1
06080119000z	2	19	6.1	11.9	52.3
06080120000z	3	19	6.3	17.8	61.1
06080121000z	4	19	6.9	23.7	74.1
06080122000z	6	19	8.0	35.6	102.8
06080123000z	10	19	9.9	59.3	161.6
06080124000z	12	19	10.2	71.1	178.5
06080125000z	16	19	11.2	94.8	223.6
06080126000z	18	19	11.8	106.7	248.5
06080127000z	24	19	13.7	142.3	333.8
06080128000z	2	18	6.7	15.8	64.4
06080129000z	3	18	7.0	23.7	75.9
06080130000z	4	18	7.6	31.6	92.8
06080131000z	6	18	8.9	47.4	130.2
06080132000z	10	18	11.1	79.0	207
06080133000z	12	18	11.4	94.8	229.4
06080134000z	16	18	12.6	126.5	288.6
06080135000z	18	18	13.3	142.3	321.5
06080136000z	24	18	15.5	189.7	433.8
06080137000z	2	16	7.3	23.4	80.4
06080138000z	3	16	7.6	35.1	96.2
06080139000z	4	16	8.3	46.8	118.8
06080140000z	6	16	9.8	70.2	168.5
06080141000z	10	16	12.3	117.0	271
06080142000z	12	16	12.7	140.4	302
06080143000z	16	16	14.0	187.2	382.6
06080144000z	18	16	14.8	210.6	427
06080145000z	24	16	17.3	280.8	577.7



Application

These cables have excellent resistance to abrasion, deformation, cut-through and chemical attack. This wire is widely used in appliances, transformers, electrical heating, motors, ballast, lighting and cooking equipment. Suitable for use as Appliance Wiring Material (AWM), coil leads and as Class B IEEE 130°C Class Motor Leads. Economical replacement for silicone rubber/glass braid insulated wire and cable.

Technical Data

Standard : UL - Std. 758. Complies to CSA No. 22.2 210 and 127

Nominal Voltage : 600V

Test Voltage (Spark Test)

AWG 22 and 20 = 5kV

AWG 18 to 10 = 6kV

≥ AWG 8 = 7.5kV

Temperature Range : Flexible -5°C to +150°C. Fixed installation -50°C to +150°C

Temperature at Conductor : Max. UL : +150°C

Bending Radius : Approx. 5 x cable ø

Cable Construction

Annealed plain or tinned stranded copper conductor.

XLPE insulation according to UL- Std. 1581 Table 50.232, Complies to CSA No. 22.2 210 and 127.

Properties

PVC self - extinguishing and flame retardant, test method to FT 2

Cable Design Parameters

AWG	Metric Cross Section Area (Sq. mm)	No. of Strands/Strand Dia. (mm)	Max. DC Conductor Resistance for ABC @ 20°C (Ω/km)	Max. DC Conductor Resistance for ATC @ 20°C (Ω/km)	Insulation Thickness (mm)	Nominal Cable Diameter (mm)
21	0.50	16/0.2	43.6	46.9	0.762	2.4
19	0.75	24/0.2	27.4	29.1	0.762	2.6
18	1.00	32/0.2	21.8	23.2	0.762	2.8
16	1.50	30/0.25	13.7	14.6	0.762	3.1
14	2.50	50/0.25	8.62	8.96	0.762	3.5
12	4.00	56/0.3	5.43	5.64	0.762	4.0
10	6.00	84/0.3	3.409	3.546	0.762	4.6

AWG	Metric Cross Section Area (Sq. mm)	No. of Strands/Strand Dia. (mm)	Max. DC Conductor Resistance for ABC @ 20°C (Ω/km)	Max. DC Conductor Resistance for ATC @ 20°C (Ω/km)	Insulation Thickness (mm)	Nominal Cable Diameter (mm)
8	10.00	140/0.3	2.144	2.23	1.143	6.1
6	16.00	126/0.4	1.348	1.403	1.524	7.9
4	25.00	196/0.4	0.8481	0.882	1.524	9.1
2	35.00	276/0.4	0.5335	0.5548	1.524	10.7
1	50.00	296/0.4	0.423	0.4398	2.032	12.8
2/0	70.00	360/0.5	0.266	0.2766	2.032	14.8
3/0	95.00	480/0.5	0.211	0.2194	2.032	16.2
4/0	120.00	608/0.5	0.1673	0.1722	2.032	17.7

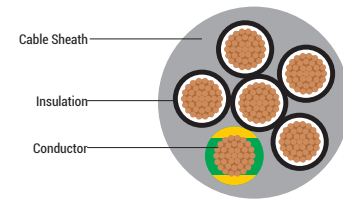
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green/yellow, 07 - white, 08 -violet, 09 - brown, 10 - orange, 11 - pink, 12 - grey, 13 - light blue

Kindly complete the part numbers by adding the suffix (in place of 'c') for the conductor type required:

0 = annealed bare copper (ABC), 1 = annealed tinned copper (ATC)

AWG	Metric Cross Section Area (Sq. mm)	Part Number				
		UL 3289	UL 3321	UL 3173	UL 3271	UL 3344
21	0.5	06090101xx9c	06090116xx9c	06090131xx9c	06090146xx9c	06090161xx9c
19	0.75	06090102xx9c	06090117xx9c	06090132xx9c	06090147xx9c	06090162xx9c
18	1.00	06090103xx9c	06090118xx9c	06090133xx9c	06090148xx9c	06090163xx9c
16	1.5	06090104xx9c	06090119xx9c	06090134xx9c	06090149xx9c	06090164xx9c
14	2.5	06090105xx9c	06090120xx9c	06090135xx9c	06090150xx9c	06090165xx9c
12	4.00	06090106xx9c	06090121xx9c	06090136xx9c	06090151xx9c	06090166xx9c
10	6.00	06090107xx9c	06090122xx9c	06090137xx9c	06090152xx9c	06090167xx9c
8	10.00	06090108xx9c	06090123xx9c	06090138xx9c	06090153xx9c	06090168xx9c
6	16.00	06090109xx9c	06090124xx9c	06090139xx9c	06090154xx9c	06090169xx9c
4	25.00	06090110xx9c	06090125xx9c	06090140xx9c	06090155xx9c	06090170xx9c
2	35.00	06090111xx9c	06090126xx9c	06090141xx9c	06090156xx9c	06090171xx9c
1	50.00	06090112xx9c	06090127xx9c	06090142xx9c	06090157xx9c	06090172xx9c
2/0	70.00	06090113xx9c	06090128xx9c	06090143xx9c	06090158xx9c	06090173xx9c
3/0	95.00	06090114xx9c	06090129xx9c	06090144xx9c	06090159xx9c	06090174xx9c
4/0	120.00	06090115xx9c	06090130xx9c	06090145xx9c	06090160xx9c	06090175xx9c



Application

This cables are used for grinding machines, CNC, machine tools, control systems, assembly lines, machining centers, bottling equipment, data processing equipment and connections between control panels and machines.

Technical Data

Standard : UL-758 UL 2586

Nominal Voltage : 1000 Vac

Temperature Range : -30°C to + 150 °C

Test Voltage : 1500 V

Minimum Bending Radius : 12x cable Ø

Cable Construction

Annealed Plain copper, fine wire conductor AWG 24 – 16, Table 30.3 UL 1581 ASTM – B.

Special PVC Core insulation class 43, semirigid to UL – Std. 1581 table 50.182 and 50.183.

Colour coded to H05VV-F up to 5 cores; coloured black with number for above 5 cores.

Cores stranded in layers with optimal lay-length.

Special PVC Outer jacket class 43 to UL – Std. 1581 table 50.182.

Outer jacket colour black or grey

Properties

PVC self-extinguishing and flame retardant, test method FT 1, FT 2

Note : This cable is available in different variants - Shielded, Braided, Shielded and Braided, etc.

Cable design parameters shall be provided on request for relevant cable construction.

SECTION-VII
INSTRUMENTATION CABLES



PRODUCTS

RE-Y(St) Y - Single & Multi - Pair

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RE-Y(St) Y - PiMF Multi - Pair

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RE-2X(St) Y - Single & Multi - Pair

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RE-2X(St) Y -PiMF - Multi - Pair

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RE-Y(St) Y -SWAY - Singal & Multi - Pair

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RE-Y(St) Y -SWAY - PiMF - Multi - Pair

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RE-2X(St) YSWAY - Single & Multi - Pair

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RE-2X(St) YSWAY - PiMF - Multi - Pair

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RE-Y(St) Y - Multicore

Page No.: 224 - 227

RE-2X(St) Y - Multicore

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RE-Y(St) YSWAY- Multicore

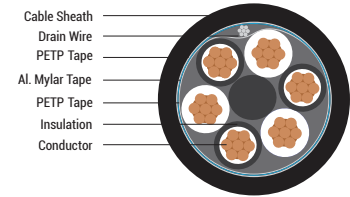
Page No.: 232 - 235

RE-2X(St) YSWAY- Multicore

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RE-Y(St)Y - SINGLE & MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7.

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl chloride PVC

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl Chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request

Marking : RR KABEL RE-Y(St)Y nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V _{rms} (Core-Core)	Test Voltage V _{rms} (Core-Screen)
0.5	2	7/0.3	36	25	20	250	1	2000	2000
0.5	5	16/0.2	39	25	20	250	1	2000	2000
0.75	2	7/0.37	24.5	25	20	250	1	2000	2000
0.75	5	24/0.2	26	25	20	250	1	2000	2000
1	2	7/0.43	18.1	25	20	250	1	2000	2000
1	5	32/0.2	19.5	25	20	250	1	2000	2000
1.5	2	7/0.53	12.1	40	20	250	1	2000	2000
2.5	2	7/0.67	7.41	60	20	250	1	2000	2000

*For multi-pair maximum resistance shall be increased by 2%

Cable Design Parameters

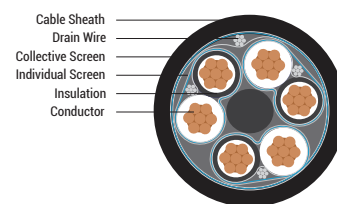
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070150121050	1 x 2 x 0.5	0.44	1.0	6.4	48.2
	070150221050	2 x 2 x 0.5	0.44	1.0	7.7	74.2
	070150321050	3 x 2 x 0.5	0.44	1.1	9.0	100.8
	070150421050	4 x 2 x 0.5	0.44	1.1	10.1	126.5
	070150521050	5 x 2 x 0.5	0.44	1.2	11.1	151.8
	070150821050	8 x 2 x 0.5	0.44	1.3	13.6	225.5
	070151021050	10 x 2 x 0.5	0.44	1.3	15.0	274.0
	070151221050	12 x 2 x 0.5	0.44	1.4	16.2	321.9
	070151621050	16 x 2 x 0.5	0.44	1.4	18.4	416.1
	070152021050	20 x 2 x 0.5	0.44	1.5	20.4	510.0
	070152421050	24 x 2 x 0.5	0.44	1.6	22.2	603.1
	070150121075	1 x 2 x 0.75	0.44	1.0	6.8	56.7
	070150221075	2 x 2 x 0.75	0.44	1.1	8.3	89.5
	070150321075	3 x 2 x 0.75	0.44	1.1	9.7	122.9
	070150421075	4 x 2 x 0.75	0.44	1.2	10.9	155.8
	070150521075	5 x 2 x 0.75	0.44	1.2	12.0	188
	070150821075	8 x 2 x 0.75	0.44	1.3	14.7	282.2
	070151021075	10 x 2 x 0.75	0.44	1.4	16.2	345
	070151221075	12 x 2 x 0.75	0.44	1.4	17.6	406.3
	070151621075	16 x 2 x 0.75	0.44	1.5	20.0	527.7
	070152021075	20 x 2 x 0.75	0.44	1.6	22.2	649.5
	070152421075	24 x 2 x 0.75	0.44	1.6	24.1	769.0
	070150120001	1 x 2 x 1	0.44	1.0	7.1	64.1
	070150220001	2 x 2 x 1	0.44	1.1	8.7	103.4
	070150320001	3 x 2 x 1	0.44	1.1	10.2	143.1
	070150420001	4 x 2 x 1	0.44	1.2	11.5	182.2
	070150520001	5 x 2 x 1	0.44	1.2	12.6	220.5
	070150820001	8 x 2 x 1	0.44	1.3	15.5	333.8
	070151020001	10 x 2 x 1	0.44	1.4	17.1	408.9
	070151220001	12 x 2 x 1	0.44	1.4	18.6	482.3
	070151620001	16 x 2 x 1	0.44	1.5	21.2	629.0
	070152020001	20 x 2 x 1	0.44	1.6	23.5	776.5
070152420001	24 x 2 x 1	0.44	1.7	25.5	920.3	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070120121050	1 x 2 x 0.5	0.44	1.0	6.4	48.0
	070120221050	2 x 2 x 0.5	0.44	1.0	7.7	73.9
	070120321050	3 x 2 x 0.5	0.44	1.1	9.0	100.4
	070120421050	4 x 2 x 0.5	0.44	1.1	10.1	125.9
	070120521050	5 x 2 x 0.5	0.44	1.2	11.1	151.2
	070120821050	8 x 2 x 0.5	0.44	1.3	13.6	224.5
	070121021050	10 x 2 x 0.5	0.44	1.3	15	272.7
	070121221050	12 x 2 x 0.5	0.44	1.4	16.2	320.4
	070121621050	16 x 2 x 0.5	0.44	1.4	18.4	414.1
	070122021050	20 x 2 x 0.5	0.44	1.5	20.4	507.5
	070122421050	24 x 2 x 0.5	0.44	1.6	22.2	600.1
	070120121075	1 x 2 x 0.75	0.44	1.0	6.8	56.7
	070120221075	2 x 2 x 0.75	0.44	1.1	8.3	89.5
	070120321075	3 x 2 x 0.75	0.44	1.1	9.7	123.4
	070120421075	4 x 2 x 0.75	0.44	1.2	10.9	155.9
	070120521075	5 x 2 x 0.75	0.44	1.2	12.0	188
	070120821075	8 x 2 x 0.75	0.44	1.3	14.7	282.4
	070121021075	10 x 2 x 0.75	0.44	1.4	16.3	345.1
	070121221075	12 x 2 x 0.75	0.44	1.4	17.6	406.4
	070121621075	16 x 2 x 0.75	0.44	1.5	20.1	527.9
	070122021075	20 x 2 x 0.75	0.44	1.6	22.2	649.7
	070122421075	24 x 2 x 0.75	0.44	1.6	24.2	769.4
	070120120001	1 x 2 x 1	0.44	1.0	7.2	65.2
	070120220001	2 x 2 x 1	0.44	1.1	8.8	105.6
	070120320001	3 x 2 x 1	0.44	1.1	10.4	146.7
	070120420001	4 x 2 x 1	0.44	1.2	11.7	186.8
	070120520001	5 x 2 x 1	0.44	1.2	12.9	226.1
	070120820001	8 x 2 x 1	0.44	1.3	15.8	342.3
	070121020001	10 x 2 x 1	0.44	1.4	17.4	419.3
	070121220001	12 x 2 x 1	0.44	1.5	19	495.5
	070121620001	16 x 2 x 1	0.44	1.6	21.6	646
	070122020001	20 x 2 x 1	0.44	1.6	23.9	796.2
	070122420001	24 x 2 x 1	0.44	1.7	26.0	945.0
	070120121105	1 x 2 x 1.5	0.44	1.0	7.9	81.9
070120221105	2 x 2 x 1.5	0.44	1.1	9.7	136.4	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070120321105	3 x 2 x 1.5	0.44	1.2	11.5	191.5
	070120421105	4 x 2 x 1.5	0.44	1.2	13.0	246.0
	070120521105	5 x 2 x 1.5	0.44	1.3	14.3	299.7
	070120821105	8 x 2 x 1.5	0.44	1.4	17.7	457.6
	070121021105	10 x 2 x 1.5	0.44	1.5	19.5	563.2
	070121221105	12 x 2 x 1.5	0.44	1.5	21.2	666.6
	070121621105	16 x 2 x 1.5	0.44	1.6	24.2	872.3
	070122021105	20 x 2 x 1.5	0.44	1.7	26.8	1079.7
	070122421105	24 x 2 x 1.5	0.44	1.8	29.2	1283.9
	070120121205	1 x 2 x 2.5	0.53	1.1	9.3	113.8
	070120221205	2 x 2 x 2.5	0.53	1.2	11.5	195.3
	070120321205	3 x 2 x 2.5	0.53	1.3	13.6	278.3
	070120421205	4 x 2 x 2.5	0.53	1.3	15.5	360.2
	070120521205	5 x 2 x 2.5	0.53	1.4	17.1	441.1
	070120821205	8 x 2 x 2.5	0.53	1.5	21.1	680.6
	070121021205	10 x 2 x 2.5	0.53	1.6	23.4	840.3
	070121221205	12 x 2 x 2.5	0.53	1.7	25.5	998.3
	070121621205	16 x 2 x 2.5	0.53	1.8	29.1	1310.9
	070122021205	20 x 2 x 2.5	0.53	1.9	32.3	1627.1
	070122421205	24 x 2 x 2.5	0.53	2.1	35.2	1938.7

RE-Y(St)Y PiMF - MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl Chloride PVC

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Individual Screen : Aluminium / PETP tape over tinned copper drain wire, plastic tape under and above screen

Assembly : Concentric layers

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-Y(St)Y PiMF nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.7	25	20	250	1	2000	2000
0.5	5	16/0.2	39.8	25	20	250	1	2000	2000
0.75	2	7/0.37	25.0	25	20	250	1	2000	2000
0.75	5	24/0.2	26.5	25	20	250	1	2000	2000
1	2	7/0.43	18.5	25	20	250	1	2000	2000
1	5	32/0.2	19.9	25	20	250	1	2000	2000
1.5	2	7/0.53	12.3	40	20	250	1	2000	2000
2.5	2	7/0.67	7.6	60	20	250	1	2000	2000

Cable Design Parameters

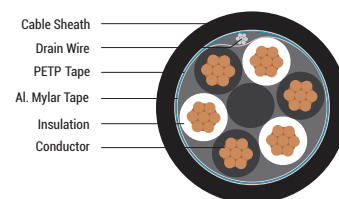
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070250221050	2 x 2 x 0.5	0.44	1.1	8.1	77
	070250321050	3 x 2 x 0.5	0.44	1.1	9.7	104.8
	070250421050	4 x 2 x 0.5	0.44	1.2	11	132.3
	070250521050	5 x 2 x 0.5	0.44	1.2	12.2	159.7
	070250821050	8 x 2 x 0.5	0.44	1.3	15.3	239.4
	070251021050	10 x 2 x 0.5	0.44	1.4	17.1	292.9
	070251221050	12 x 2 x 0.5	0.44	1.4	18.8	345.5
	070251621050	16 x 2 x 0.5	0.44	1.6	21.9	451.5
	070252021050	20 x 2 x 0.5	0.44	1.7	24.7	557.4
	070252421050	24 x 2 x 0.5	0.44	1.8	27.3	663.8
	070250221075	2 x 2 x 0.75	0.44	1.1	8.7	92.4
	070250321075	3 x 2 x 0.75	0.44	1.1	10.4	127.6
	070250421075	4 x 2 x 0.75	0.44	1.2	11.8	161.9
	070250521075	5 x 2 x 0.75	0.44	1.2	13.1	196.1
	070250821075	8 x 2 x 0.75	0.44	1.4	16.4	296.8
	070251021075	10 x 2 x 0.75	0.44	1.4	18.4	364.9
	070251221075	12 x 2 x 0.75	0.44	1.5	20.2	431
	070251621075	16 x 2 x 0.75	0.44	1.6	23.5	563.9
	070252021075	20 x 2 x 0.75	0.44	1.7	26.5	699.6
	070252421075	24 x 2 x 0.75	0.44	1.8	29.3	833.1
	070250220001	2 x 2 x 1	0.44	1.1	9.1	105.9
	070250320001	3 x 2 x 1	0.44	1.2	10.9	147.9
	070250420001	4 x 2 x 1	0.44	1.2	12.4	188.4
	070250520001	5 x 2 x 1	0.44	1.3	13.7	228.9
	070250820001	8 x 2 x 1	0.44	1.4	17.2	348.8
	070251020001	10 x 2 x 1	0.44	1.5	19.3	429.4
	070251220001	12 x 2 x 1	0.44	1.5	21.2	508.8
	070251620001	16 x 2 x 1	0.44	1.7	24.7	667.6
	070252020001	20 x 2 x 1	0.44	1.8	27.8	828.6
	070252420001	24 x 2 x 1	0.44	1.9	30.7	986.8

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070220221050	2 x 2 x 0.5	0.44	1.1	8.1	76.7
	070220321050	3 x 2 x 0.5	0.44	1.1	9.7	104.4
	070220421050	4 x 2 x 0.5	0.44	1.2	11.0	131.8
	070220521050	5 x 2 x 0.5	0.44	1.2	12.2	159.0
	070220821050	8 x 2 x 0.5	0.44	1.3	15.3	238.4
	070221021050	10 x 2 x 0.5	0.44	1.4	17.1	291.6
	070221221050	12 x 2 x 0.5	0.44	1.4	18.8	344.0
	070221621050	16 x 2 x 0.5	0.44	1.6	21.9	449.5
	070222021050	20 x 2 x 0.5	0.44	1.7	24.7	555.0
	070222421050	24 x 2 x 0.5	0.44	1.8	27.3	660.8
	070220221075	2 x 2 x 0.75	0.44	1.1	8.7	92.4
	070220321075	3 x 2 x 0.75	0.44	1.1	10.4	127.6
	070220421075	4 x 2 x 0.75	0.44	1.2	11.8	162.0
	070220521075	5 x 2 x 0.75	0.44	1.2	13.1	196.2
	070220821075	8 x 2 x 0.75	0.44	1.4	16.4	296.9
	070221021075	10 x 2 x 0.75	0.44	1.4	18.4	365.0
	070221221075	12 x 2 x 0.75	0.44	1.5	20.2	431.2
	070221621075	16 x 2 x 0.75	0.44	1.6	23.5	565.3
	070222021075	20 x 2 x 0.75	0.44	1.7	26.5	699.9
	070222421075	24 x 2 x 0.75	0.44	1.8	29.3	833.5
	070220220001	2 x 2 x 1	0.44	1.1	9.3	108.5
	070220320001	3 x 2 x 1	0.44	1.2	11.0	151.0
	070220420001	4 x 2 x 1	0.44	1.2	12.6	193.1
	070220520001	5 x 2 x 1	0.44	1.3	14.0	234.6
	070220820001	8 x 2 x 1	0.44	1.4	17.5	357.5
	070221020001	10 x 2 x 1	0.44	1.5	19.6	440.1
	070221220001	12 x 2 x 1	0.44	1.5	21.5	521.4
	070221620001	16 x 2 x 1	0.44	1.7	25.0	684.0
	070222020001	20 x 2 x 1	0.44	1.8	28.2	848.9
	070222420001	24 x 2 x 1	0.44	1.9	31.2	1012.4
	070220221105	2 x 2 x 1.5	0.44	1.1	10.2	139.0
	070220321105	3 x 2 x 1.5	0.44	1.2	12.2	196.6
	070220421105	4 x 2 x 1.5	0.44	1.3	13.9	252.7
070220521105	5 x 2 x 1.5	0.44	1.3	15.4	308.7	
070220821105	8 x 2 x 1.5	0.44	1.5	19.4	473.9	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070221021105	10 x 2 x 1.5	0.44	1.6	21.7	585.5
	070221221105	12 x 2 x 1.5	0.44	1.6	23.8	695.5
	070221621105	16 x 2 x 1.5	0.44	1.8	27.7	914.4
	070222021105	20 x 2 x 1.5	0.44	1.9	31.2	1136.7
	070222421105	24 x 2 x 1.5	0.44	2.0	34.4	1357
	070220221205	2 x 2 x 2.5	0.53	1.2	11.9	198.7
	070220321205	3 x 2 x 2.5	0.53	1.3	14.3	283.3
	070220421205	4 x 2 x 2.5	0.53	1.4	16.3	367.6
	070220521205	5 x 2 x 2.5	0.53	1.4	18.2	451.1
	070220821205	8 x 2 x 2.5	0.53	1.6	22.8	698.8
	070221021205	10 x 2 x 2.5	0.53	1.7	25.5	865.5
	070221221205	12 x 2 x 2.5	0.53	1.8	28.0	1029.7
	070221621205	16 x 2 x 2.5	0.53	2.0	32.6	1358.9
	070222021205	20 x 2 x 2.5	0.53	2.1	36.6	1692.1
	070222421205	24 x 2 x 2.5	0.53	2.2	40.4	2022.3

RE-2X(St)Y - SINGLE & MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Crosslinked polyethylene XLPE

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl chloride PVC (Also available in halogen free construction on request.)

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-2X(St)Y nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V _{rms} (Core-Core)	Test Voltage V _{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	5000	150	1	2000	2000
0.5	5	16/0.2	39.0	25	5000	150	1	2000	2000
0.75	2	7/0.37	24.5	25	5000	150	1	2000	2000
0.75	5	24/0.2	26.0	25	5000	150	1	2000	2000
1	2	7/0.43	18.1	25	5000	150	1	2000	2000
1	5	32/0.2	19.5	25	5000	150	1	2000	2000
1.5	2	7/0.53	12.1	40	5000	150	1	2000	2000
2.5	2	7/0.67	7.41	60	5000	150	1	2000	2000

*For multi-pair maximum resistance shall be increased by 2%.

Cable Design Parameters

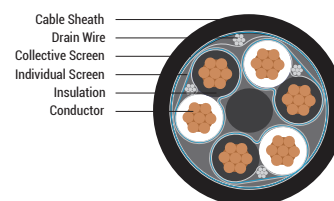
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070350121050	1 x 2 x 0.5	0.44	1.0	6.4	45.1
	070350221050	2 x 2 x 0.5	0.44	1.0	7.7	67.9
	070350321050	3 x 2 x 0.5	0.44	1.1	9.0	91.3
	070350421050	4 x 2 x 0.5	0.44	1.1	10.1	113.8
	070350521050	5 x 2 x 0.5	0.44	1.2	11.1	136.0
	070350821050	8 x 2 x 0.5	0.44	1.3	13.6	200.1
	070351021050	10 x 2 x 0.5	0.44	1.3	15.0	242.3
	070351221050	12 x 2 x 0.5	0.44	1.4	16.2	283.9
	070351621050	16 x 2 x 0.5	0.44	1.4	18.4	365.3
	070352021050	20 x 2 x 0.5	0.44	1.5	20.4	446.6
	070352421050	24 x 2 x 0.5	0.44	1.6	22.2	527.1
	070350121075	1 x 2 x 0.75	0.44	1.0	6.8	53.1
	070350221075	2 x 2 x 0.75	0.44	1.1	8.3	82.2
	070350321075	3 x 2 x 0.75	0.44	1.1	9.7	112.0
	070350421075	4 x 2 x 0.75	0.44	1.2	10.9	141.3
	070350521075	5 x 2 x 0.75	0.44	1.2	12.0	169.8
	070350821075	8 x 2 x 0.75	0.44	1.3	14.7	253.1
	070351021075	10 x 2 x 0.75	0.44	1.4	16.2	308.6
	070351221075	12 x 2 x 0.75	0.44	1.4	17.6	362.6
	070351621075	16 x 2 x 0.75	0.44	1.5	20.0	469.5
	070352021075	20 x 2 x 0.75	0.44	1.6	22.2	576.7
	070352421075	24 x 2 x 0.75	0.44	1.6	24.1	681.7
	070350120001	1 x 2 x 1	0.44	1.0	7.1	60.1
	070350220001	2 x 2 x 1	0.44	1.1	8.7	95.5
	070350320001	3 x 2 x 1	0.44	1.1	10.2	131.2
	070350420001	4 x 2 x 1	0.44	1.2	11.5	166.3
	070350520001	5 x 2 x 1	0.44	1.2	12.6	200.6
	070350820001	8 x 2 x 1	0.44	1.3	15.5	302.0
	070351020001	10 x 2 x 1	0.44	1.4	17.1	369.2
	070351220001	12 x 2 x 1	0.44	1.4	18.6	434.7
	070351620001	16 x 2 x 1	0.44	1.5	21.2	565.4
	070352020001	20 x 2 x 1	0.44	1.6	23.5	697.1
070352420001	24 x 2 x 1	0.44	1.7	25.5	825.0	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070320121050	1 x 2 x 0.5	0.44	1.0	6.4	44.9
	070320221050	2 x 2 x 0.5	0.44	1.0	7.7	67.6
	070320321050	3 x 2 x 0.5	0.44	1.1	9.0	90.8
	070320421050	4 x 2 x 0.5	0.44	1.1	10.1	113.2
	070320521050	5 x 2 x 0.5	0.44	1.2	11.1	135.3
	070320821050	8 x 2 x 0.5	0.44	1.3	13.6	199
	070321021050	10 x 2 x 0.5	0.44	1.3	15.0	240.9
	070321221050	12 x 2 x 0.5	0.44	1.4	16.2	282.3
	070321621050	16 x 2 x 0.5	0.44	1.4	18.4	363.2
	070322021050	20 x 2 x 0.5	0.44	1.5	20.4	443.9
	070322421050	24 x 2 x 0.5	0.44	1.6	22.2	523.9
	070320121075	1 x 2 x 0.75	0.44	1.0	6.8	53
	070320221075	2 x 2 x 0.75	0.44	1.1	8.3	82.2
	070320321075	3 x 2 x 0.75	0.44	1.1	9.7	112.4
	070320421075	4 x 2 x 0.75	0.44	1.2	10.9	141.2
	070320521075	5 x 2 x 0.75	0.44	1.2	12.0	169.7
	070320821075	8 x 2 x 0.75	0.44	1.3	14.7	253
	070321021075	10 x 2 x 0.75	0.44	1.4	16.3	308.4
	070321221075	12 x 2 x 0.75	0.44	1.4	17.6	362.4
	070321621075	16 x 2 x 0.75	0.44	1.5	20.1	469.2
	070322021075	20 x 2 x 0.75	0.44	1.6	22.2	576.3
	070322421075	24 x 2 x 0.75	0.44	1.6	24.2	681.2
	070320120001	1 x 2 x 1	0.44	1.0	7.2	61.1
	070320220001	2 x 2 x 1	0.44	1.1	8.8	97.2
	070320320001	3 x 2 x 1	0.44	1.1	10.4	134.2
	070320420001	4 x 2 x 1	0.44	1.2	11.7	170.1
	070320520001	5 x 2 x 1	0.44	1.2	12.9	205.2
	070320820001	8 x 2 x 1	0.44	1.3	15.8	308.9
	070321020001	10 x 2 x 1	0.44	1.4	17.4	377.7
	070321220001	12 x 2 x 1	0.44	1.5	19.0	445.5
	070321620001	16 x 2 x 1	0.44	1.6	21.6	579.4
	070322020001	20 x 2 x 1	0.44	1.6	23.9	712.9
	070322420001	24 x 2 x 1	0.44	1.7	26.0	845
070320121105	1 x 2 x 1.5	0.44	1.0	7.9	76.8	
070320221105	2 x 2 x 1.5	0.44	1.1	9.7	126.3	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070320321105	3 x 2 x 1.5	0.44	1.2	11.5	176.3
	070320421105	4 x 2 x 1.5	0.44	1.2	13.0	225.7
	070320521105	5 x 2 x 1.5	0.44	1.3	14.3	274.3
	070320821105	8 x 2 x 1.5	0.44	1.4	17.7	417
	070321021105	10 x 2 x 1.5	0.44	1.5	19.5	512.4
	070321221105	12 x 2 x 1.5	0.44	1.5	21.2	605.6
	070321621105	16 x 2 x 1.5	0.44	1.6	24.2	791
	070322021105	20 x 2 x 1.5	0.44	1.7	26.8	978.1
	070322421105	24 x 2 x 1.5	0.44	1.8	29.2	1162
	070320121205	1 x 2 x 2.5	0.53	1.1	9.3	106.4
	070320221205	2 x 2 x 2.5	0.53	1.2	11.5	180.6
	070320321205	3 x 2 x 2.5	0.53	1.3	13.6	256.2
	070320421205	4 x 2 x 2.5	0.53	1.3	15.5	330.7
	070320521205	5 x 2 x 2.5	0.53	1.4	17.1	404.3
	070320821205	8 x 2 x 2.5	0.53	1.5	21.1	621.6
	070321021205	10 x 2 x 2.5	0.53	1.6	23.4	766.7
	070321221205	12 x 2 x 2.5	0.53	1.7	25.5	909.9
	070321621205	16 x 2 x 2.5	0.53	1.8	29.1	1193.1
	070322021205	20 x 2 x 2.5	0.53	1.9	32.3	1479.8
	070322421205	24 x 2 x 2.5	0.53	2.1	35.2	1762.0

RE-2X(St)Y PiMF - MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Crosslinked polyethylene XLPE

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Individual Screen : Aluminium / PETP tape over tinned copper drain wire, plastic tape under and above screen

Assembly : Concentric layers

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl chloride PVC (Also available in halogen free construction on request.)

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-2X(St)Y PiMF nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.7	25	5000	150	1	2000	2000
0.5	5	16/0.2	39.8	25	5000	150	1	2000	2000
0.75	2	7/0.37	25	25	5000	150	1	2000	2000
0.75	5	24/0.2	26.5	25	5000	150	1	2000	2000
1	2	7/0.43	18.5	25	5000	150	1	2000	2000
1	5	32/0.2	19.9	25	5000	150	1	2000	2000
1.5	2	7/0.53	12.3	40	5000	150	1	2000	2000
2.5	2	7/0.67	7.6	60	5000	150	1	2000	2000

Cable Design Parameters

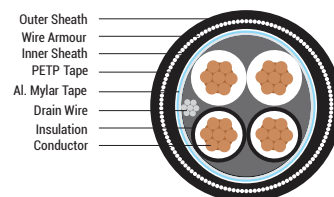
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070450221050	2 x 2 x 0.5	0.44	1.1	8.1	70.7
	070450321050	3 x 2 x 0.5	0.44	1.1	9.7	95.3
	070450421050	4 x 2 x 0.5	0.44	1.2	11.0	119.6
	070450521050	5 x 2 x 0.5	0.44	1.2	12.2	143.9
	070450821050	8 x 2 x 0.5	0.44	1.3	15.3	214.1
	070451021050	10 x 2 x 0.5	0.44	1.4	17.1	261.2
	070451221050	12 x 2 x 0.5	0.44	1.4	18.8	307.5
	070451621050	16 x 2 x 0.5	0.44	1.6	21.9	400.8
	070452021050	20 x 2 x 0.5	0.44	1.7	24.7	494.1
	070452421050	24 x 2 x 0.5	0.44	1.8	27.3	587.8
	070450221075	2 x 2 x 0.75	0.44	1.1	8.7	85.1
	070450321075	3 x 2 x 0.75	0.44	1.1	10.4	116.6
	070450421075	4 x 2 x 0.75	0.44	1.2	11.8	147.3
	070450521075	5 x 2 x 0.75	0.44	1.2	13.1	177.9
	070450821075	8 x 2 x 0.75	0.44	1.4	16.4	267.7
	070451021075	10 x 2 x 0.75	0.44	1.4	18.4	328.5
	070451221075	12 x 2 x 0.75	0.44	1.5	20.2	387.3
	070451621075	16 x 2 x 0.75	0.44	1.6	23.5	505.6
	070452021075	20 x 2 x 0.75	0.44	1.7	26.5	626.8
	070452421075	24 x 2 x 0.75	0.44	1.8	29.3	745.7
	070450220001	2 x 2 x 1	0.44	1.1	9.1	98.0
	070450320001	3 x 2 x 1	0.44	1.2	10.9	135.9
	070450420001	4 x 2 x 1	0.44	1.2	12.4	172.6
	070450520001	5 x 2 x 1	0.44	1.3	13.7	209.0
	070450820001	8 x 2 x 1	0.44	1.4	17.2	317.0
	070451020001	10 x 2 x 1	0.44	1.5	19.3	389.7
	070451220001	12 x 2 x 1	0.44	1.5	21.2	461.2
	070451620001	16 x 2 x 1	0.44	1.7	24.7	604.1
	070452020001	20 x 2 x 1	0.44	1.8	27.8	749.2
	070452420001	24 x 2 x 1	0.44	1.9	30.7	891.5

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070420221050	2 x 2 x 0.5	0.44	1.1	8.1	70.3
	070420321050	3 x 2 x 0.5	0.44	1.1	9.7	94.9
	070420421050	4 x 2 x 0.5	0.44	1.2	11.0	119.1
	070420521050	5 x 2 x 0.5	0.44	1.2	12.2	143.1
	070420821050	8 x 2 x 0.5	0.44	1.3	15.3	213.0
	070421021050	10 x 2 x 0.5	0.44	1.4	17.1	259.9
	070421221050	12 x 2 x 0.5	0.44	1.4	18.8	305.8
	070421621050	16 x 2 x 0.5	0.44	1.6	21.9	398.6
	070422021050	20 x 2 x 0.5	0.44	1.7	24.7	491.4
	070422421050	24 x 2 x 0.5	0.44	1.8	27.3	584.6
	070420221075	2 x 2 x 0.75	0.44	1.1	8.7	85.0
	070420321075	3 x 2 x 0.75	0.44	1.1	10.4	116.6
	070420421075	4 x 2 x 0.75	0.44	1.2	11.8	147.3
	070420521075	5 x 2 x 0.75	0.44	1.2	13.1	177.8
	070420821075	8 x 2 x 0.75	0.44	1.4	16.4	267.5
	070421021075	10 x 2 x 0.75	0.44	1.4	18.4	328.3
	070421221075	12 x 2 x 0.75	0.44	1.5	20.2	387.1
	070421621075	16 x 2 x 0.75	0.44	1.6	23.5	506.5
	070422021075	20 x 2 x 0.75	0.44	1.7	26.5	626.5
	070422421075	24 x 2 x 0.75	0.44	1.8	29.3	745.3
	070420220001	2 x 2 x 1	0.44	1.1	9.3	100.2
	070420320001	3 x 2 x 1	0.44	1.2	11.0	138.5
	070420420001	4 x 2 x 1	0.44	1.2	12.6	176.5
	070420520001	5 x 2 x 1	0.44	1.3	14.0	213.7
	070420820001	8 x 2 x 1	0.44	1.4	17.5	324.1
	070421020001	10 x 2 x 1	0.44	1.5	19.6	398.4
	070421220001	12 x 2 x 1	0.44	1.5	21.5	471.4
	070421620001	16 x 2 x 1	0.44	1.7	25.0	617.4
	070422020001	20 x 2 x 1	0.44	1.8	28.2	765.6
	070422420001	24 x 2 x 1	0.44	1.9	31.2	912.4
	070420221105	2 x 2 x 1.5	0.44	1.1	10.2	128.9
	070420321105	3 x 2 x 1.5	0.44	1.2	12.2	181.4
	070420421105	4 x 2 x 1.5	0.44	1.3	13.9	232.4
070420521105	5 x 2 x 1.5	0.44	1.3	15.4	283.3	
070420821105	8 x 2 x 1.5	0.44	1.5	19.4	433.2	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070421021105	10 x 2 x 1.5	0.44	1.6	21.7	534.7
	070421221105	12 x 2 x 1.5	0.44	1.6	23.8	634.5
	070421621105	16 x 2 x 1.5	0.44	1.8	27.7	833.2
	070422021105	20 x 2 x 1.5	0.44	1.9	31.2	1035.1
	070422421105	24 x 2 x 1.5	0.44	2.0	34.4	1235.1
	070420221205	2 x 2 x 2.5	0.53	1.2	11.9	184.0
	070420321205	3 x 2 x 2.5	0.53	1.3	14.3	261.2
	070420421205	4 x 2 x 2.5	0.53	1.4	16.3	338.1
	070420521205	5 x 2 x 2.5	0.53	1.4	18.2	414.3
	070420821205	8 x 2 x 2.5	0.53	1.6	22.8	639.9
	070421021205	10 x 2 x 2.5	0.53	1.7	25.5	791.8
	070421221205	12 x 2 x 2.5	0.53	1.8	28.0	941.4
	070421621205	16 x 2 x 2.5	0.53	2.0	32.6	1241.1
	070422021205	20 x 2 x 2.5	0.53	2.1	36.6	1544.8
	070422421205	24 x 2 x 2.5	0.53	2.2	40.4	1845.5

RE-Y(St)YSWAY - SINGLE & MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl chloride PVC

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-Y(St)YSWAY nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	20	250	1	2000	2000
0.5	5	16/0.2	39.0	25	20	250	1	2000	2000
0.75	2	7/0.37	24.5	25	20	250	1	2000	2000
0.75	5	24/0.2	26.0	25	20	250	1	2000	2000
1	2	7/0.43	18.1	25	20	250	1	2000	2000
1	5	32/0.2	19.5	25	20	250	1	2000	2000
1.5	2	7/0.53	12.1	40	20	250	1	2000	2000
2.5	2	7/0.67	7.41	60	20	250	1	2000	2000

*For multi-pair maximum resistance shall be increased by 2%.

Cable Design Parameters

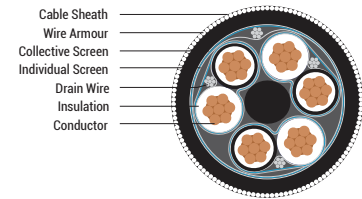
	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070550121050	1 x 2 x 0.5	0.44	1	6.4	0.9	1.4	11.1	212.7
	070550221050	2 x 2 x 0.5	0.44	1	7.6	0.9	1.5	12.4	266.4
	070550321050	3 x 2 x 0.5	0.44	1	8.9	0.9	1.5	13.7	320.1
	070550421050	4 x 2 x 0.5	0.44	1	9.9	0.9	1.5	14.7	368.6
	070550521050	5 x 2 x 0.5	0.44	1	10.8	0.9	1.6	15.7	413.8
	070550821050	8 x 2 x 0.5	0.44	1	13.1	0.9	1.6	18.1	537.2
	070551021050	10 x 2 x 0.5	0.44	1	14.4	0.9	1.7	19.5	613.5
	070551221050	12 x 2 x 0.5	0.44	1	15.5	1.25	1.7	21.4	786.1
	070551621050	16 x 2 x 0.5	0.44	1	17.6	1.25	1.8	23.6	936.9
	070552021050	20 x 2 x 0.5	0.44	1	19.4	1.25	1.8	25.5	1080.4
	070552421050	24 x 2 x 0.5	0.44	1	21.0	1.25	1.9	27.2	1217.3
	070550121075	1 x 2 x 0.75	0.44	1	6.8	0.9	1.4	11.5	230.0
	070550221075	2 x 2 x 0.75	0.44	1	8.2	0.9	1.5	12.9	293.3
	070550321075	3 x 2 x 0.75	0.44	1	9.5	0.9	1.5	14.3	356.6
	070550421075	4 x 2 x 0.75	0.44	1	10.6	0.9	1.5	15.5	414.1
	070550521075	5 x 2 x 0.75	0.44	1	11.6	0.9	1.6	16.6	468.0
	070550821075	8 x 2 x 0.75	0.44	1	14.1	0.9	1.6	19.2	616.4
	070551021075	10 x 2 x 0.75	0.44	1	15.5	1.25	1.7	21.4	809.1
	070551221075	12 x 2 x 0.75	0.44	1	16.8	1.25	1.7	22.8	905.3
	070551621075	16 x 2 x 0.75	0.44	1	19.0	1.25	1.8	25.1	1088.2
	070552021075	20 x 2 x 0.75	0.44	1	21.0	1.25	1.9	27.2	1263.5
	070552421075	24 x 2 x 0.75	0.44	1	22.8	1.25	1.9	29.1	1431.3
	070550120001	1 x 2 x 1	0.44	1	7.1	0.9	1.4	11.8	244.2
	070550220001	2 x 2 x 1	0.44	1	8.5	0.9	1.5	13.3	315.6
	070550320001	3 x 2 x 1	0.44	1	10.0	0.9	1.5	14.8	387.2
	070550420001	4 x 2 x 1	0.44	1	11.2	0.9	1.6	16.1	452.6
	070550520001	5 x 2 x 1	0.44	1	12.2	0.9	1.6	17.2	514.2
	070550820001	8 x 2 x 1	0.44	1	14.9	0.9	1.7	20.0	684.7
	070551020001	10 x 2 x 1	0.44	1	16.4	1.25	1.7	22.3	897.2
	070551220001	12 x 2 x 1	0.44	1	17.7	1.25	1.8	23.8	1008.1
070551620001	16 x 2 x 1	0.44	1	20.1	1.25	1.8	26.3	1219.5	
070552020001	20 x 2 x 1	0.44	1	22.3	1.25	1.9	28.5	1423.3	
070552420001	24 x 2 x 1	0.44	1	24.2	1.25	1.9	30.6	1618.8	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070520121050	1 x 2 x 0.5	0.44	1	6.4	0.9	1.4	11.1	212.5
	070520221050	2 x 2 x 0.5	0.44	1	7.6	0.9	1.5	12.4	266.1
	070520321050	3 x 2 x 0.5	0.44	1	8.9	0.9	1.5	13.7	319.7
	070520421050	4 x 2 x 0.5	0.44	1	9.9	0.9	1.5	14.7	368.1
	070520521050	5 x 2 x 0.5	0.44	1	10.8	0.9	1.6	15.7	413.1
	070520821050	8 x 2 x 0.5	0.44	1	13.1	0.9	1.6	18.1	536.2
	070521021050	10 x 2 x 0.5	0.44	1	14.4	0.9	1.7	19.5	612.2
	070521221050	12 x 2 x 0.5	0.44	1	15.5	1.25	1.7	21.4	784.6
	070521621050	16 x 2 x 0.5	0.44	1	17.6	1.25	1.8	23.6	934.9
	070522021050	20 x 2 x 0.5	0.44	1	19.4	1.25	1.8	25.5	1077.9
	070522421050	24 x 2 x 0.5	0.44	1	21.0	1.25	1.9	27.2	1214.3
	070520121075	1 x 2 x 0.75	0.44	1	6.8	0.9	1.4	11.5	230.4
	070520221075	2 x 2 x 0.75	0.44	1	8.2	0.9	1.5	12.9	293.7
	070520321075	3 x 2 x 0.75	0.44	1	9.5	0.9	1.5	14.3	357.1
	070520421075	4 x 2 x 0.75	0.44	1	10.6	0.9	1.5	15.5	414.8
	070520521075	5 x 2 x 0.75	0.44	1	11.6	0.9	1.6	16.6	468.8
	070520821075	8 x 2 x 0.75	0.44	1	14.1	0.9	1.6	19.2	617.4
	070521021075	10 x 2 x 0.75	0.44	1	15.6	1.25	1.7	21.5	810.5
	070521221075	12 x 2 x 0.75	0.44	1	16.8	1.25	1.7	22.8	906.9
	070521621075	16 x 2 x 0.75	0.44	1	19.1	1.25	1.8	25.2	1090.0
	070522021075	20 x 2 x 0.75	0.44	1	21.1	1.25	1.9	27.3	1265.6
	070522421075	24 x 2 x 0.75	0.44	1	22.9	1.25	1.9	29.2	1433.6
	070520120001	1 x 2 x 1	0.44	1	7.2	0.9	1.4	11.7	241.9
	070520220001	2 x 2 x 1	0.44	1	8.7	0.9	1.5	13.5	320.4
	070520320001	3 x 2 x 1	0.44	1	10.1	0.9	1.5	15.0	393.4
	070520420001	4 x 2 x 1	0.44	1	11.4	0.9	1.6	16.3	460.2
	070520520001	5 x 2 x 1	0.44	1	12.4	0.9	1.6	17.4	523.0
	070520820001	8 x 2 x 1	0.44	1	15.1	1.25	1.7	21.0	794.7
	070521020001	10 x 2 x 1	0.44	1	16.7	1.25	1.7	22.6	913.4
	070521220001	12 x 2 x 1	0.44	1	18.1	1.25	1.8	24.1	1026.4
	070521620001	16 x 2 x 1	0.44	1	20.5	1.25	1.8	26.7	1242.1
	070522020001	20 x 2 x 1	0.44	1	22.7	1.25	1.9	29.0	1449.9
070522420001	24 x 2 x 1	0.44	1	24.6	1.25	2.0	31.0	1649.4	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070520121105	1 x 2 x 1.5	0.44	1	7.9	0.9	1.5	12.6	278.7
	070520221105	2 x 2 x 1.5	0.44	1	9.5	0.9	1.5	14.4	369.8
	070520321105	3 x 2 x 1.5	0.44	1	11.2	0.9	1.6	16.1	461.2
	070520421105	4 x 2 x 1.5	0.44	1	12.6	0.9	1.6	17.6	545.4
	070520521105	5 x 2 x 1.5	0.44	1	13.8	0.9	1.6	18.9	625.2
	070520821105	8 x 2 x 1.5	0.44	1	16.9	1.25	1.7	22.8	956.4
	070521021105	10 x 2 x 1.5	0.44	1	18.6	1.25	1.8	24.7	1108.5
	070521221105	12 x 2 x 1.5	0.44	1	20.1	1.25	1.8	26.3	1253.9
	070521621105	16 x 2 x 1.5	0.44	1	22.9	1.25	1.9	29.2	1532.9
	070522021105	20 x 2 x 1.5	0.44	1	25.4	1.6	2.0	32.6	1964.5
	070522421105	24 x 2 x 1.5	0.44	1.2	28.0	1.6	2.1	35.3	2282.1
	070520121205	1 x 2 x 2.5	0.53	1	9.1	0.9	1.5	13.9	338.1
	070520221205	2 x 2 x 2.5	0.53	1	11.1	0.9	1.6	16.1	464.0
	070520321205	3 x 2 x 2.5	0.53	1	13.1	0.9	1.6	18.2	590.4
	070520421205	4 x 2 x 2.5	0.53	1	14.8	0.9	1.7	20.0	708.2
	070520521205	5 x 2 x 2.5	0.53	1	16.3	1.25	1.7	22.3	925.5
	070520821205	8 x 2 x 2.5	0.53	1	20.1	1.25	1.8	26.2	1265.4
	070521021205	10 x 2 x 2.5	0.53	1	22.2	1.25	1.9	28.4	1481.4
	070521221205	12 x 2 x 2.5	0.53	1	24.1	1.25	1.9	30.5	1688.8
	070521621205	16 x 2 x 2.5	0.53	1.2	27.9	1.6	2.1	35.2	2306.2
070522021205	20 x 2 x 2.5	0.53	1.2	30.8	1.6	2.2	38.3	2719.3	
070522421205	24 x 2 x 2.5	0.53	1.2	33.5	1.6	2.2	41.2	3117.3	

RE-Y(St)YSWAY PiMF - MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl chloride PVC

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Individual Screen : Aluminium / PETP tape over tinned copper drain wire, plastic tape under and above screen

Assembly : Concentric layers

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-Y(St)YSWAY PiMF nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	20	250	1	2000	2000
0.5	5	16/0.2	39.0	25	20	250	1	2000	2000
0.75	2	7/0.37	24.5	25	20	250	1	2000	2000
0.75	5	24/0.2	26.0	25	20	250	1	2000	2000
1	2	7/0.43	18.1	25	20	250	1	2000	2000
1	5	32/0.2	19.5	25	20	250	1	2000	2000
1.5	2	7/0.53	12.1	40	20	250	1	2000	2000
2.5	2	7/0.67	7.41	60	20	250	1	2000	2000

*For multi-pair maximum resistance shall be increased by 2%.

Cable Design Parameters

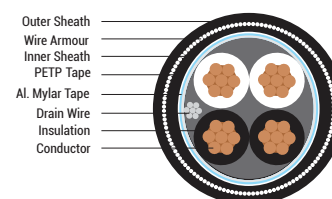
	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070650221050	2 x 2 x 0.5	0.44	1	8.0	0.9	1.5	12.8	277.9
	070650321050	3 x 2 x 0.5	0.44	1	9.5	0.9	1.5	14.3	337.6
	070650421050	4 x 2 x 0.5	0.44	1	10.7	0.9	1.5	15.6	392.2
	070650521050	5 x 2 x 0.5	0.44	1	11.8	0.9	1.6	16.8	443.6
	070650821050	8 x 2 x 0.5	0.44	1	14.7	0.9	1.7	19.8	585.9
	070651021050	10 x 2 x 0.5	0.44	1	16.4	1.25	1.7	22.3	780.5
	070651221050	12 x 2 x 0.5	0.44	1	17.9	1.25	1.8	24	875.9
	070651621050	16 x 2 x 0.5	0.44	1	20.8	1.25	1.9	27	1058.7
	070652021050	20 x 2 x 0.5	0.44	1	23.4	1.25	1.9	29.7	1235.1
	070652421050	24 x 2 x 0.5	0.44	1	25.8	1.6	2.0	33.1	1569.3
	070650221075	2 x 2 x 0.75	0.44	1	8.6	0.9	1.5	13.3	304.8
	070650321075	3 x 2 x 0.75	0.44	1	10.1	0.9	1.5	15	374.2
	070650421075	4 x 2 x 0.75	0.44	1	11.4	0.9	1.6	16.4	437.9
	070650521075	5 x 2 x 0.75	0.44	1	12.6	0.9	1.6	17.6	498.0
	070650821075	8 x 2 x 0.75	0.44	1	15.7	1.25	1.7	21.6	766.9
	070651021075	10 x 2 x 0.75	0.44	1	17.5	1.25	1.8	23.5	883.8
	070651221075	12 x 2 x 0.75	0.44	1	19.2	1.25	1.8	25.3	995.9
	070651621075	16 x 2 x 0.75	0.44	1	22.2	1.25	1.9	28.5	1211.3
	070652021075	20 x 2 x 0.75	0.44	1	25.0	1.25	2.0	31.5	1420.1
	070652421075	24 x 2 x 0.75	0.44	1.2	28.0	1.6	2.1	35.4	1840.1
	070650220001	2 x 2 x 1	0.44	1	8.9	0.9	1.5	13.7	327.3
	070650320001	3 x 2 x 1	0.44	1	10.6	0.9	1.5	15.5	404.9
	070650420001	4 x 2 x 1	0.44	1	12.0	0.9	1.6	16.9	476.5
	070650520001	5 x 2 x 1	0.44	1	13.2	0.9	1.6	18.3	544.4
	070650820001	8 x 2 x 1	0.44	1	16.5	1.25	1.7	22.4	840.3
	070651020001	10 x 2 x 1	0.44	1	18.4	1.25	1.8	24.4	972.4
	070651220001	12 x 2 x 1	0.44	1	20.1	1.25	1.8	26.3	1099.3
	070651620001	16 x 2 x 1	0.44	1	23.3	1.25	1.9	29.7	1343.6
	070652020001	20 x 2 x 1	0.44	1	26.3	1.6	2.0	33.5	1747.4
	070652420001	24 x 2 x 1	0.44	1.2	29.4	1.6	2.1	36.8	2039.0

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070620221050	2 x 2 x 0.5	0.44	1	8.0	0.9	1.5	12.8	277.6
	070620321050	3 x 2 x 0.5	0.44	1	9.5	0.9	1.5	14.3	337.2
	070620421050	4 x 2 x 0.5	0.44	1	10.7	0.9	1.5	15.6	391.7
	070620521050	5 x 2 x 0.5	0.44	1	11.8	0.9	1.6	16.8	442.9
	070620821050	8 x 2 x 0.5	0.44	1	14.7	0.9	1.7	19.8	584.9
	070621021050	10 x 2 x 0.5	0.44	1	16.4	1.25	1.7	22.3	779.2
	070621221050	12 x 2 x 0.5	0.44	1	17.9	1.25	1.8	24.0	874.4
	070621621050	16 x 2 x 0.5	0.44	1	20.8	1.25	1.9	27.0	1056.7
	070622021050	20 x 2 x 0.5	0.44	1	23.4	1.25	1.9	29.7	1232.6
	070622421050	24 x 2 x 0.5	0.44	1	25.8	1.6	2.0	33.1	1566.3
	070620221075	2 x 2 x 0.75	0.44	1	8.6	0.9	1.5	13.4	305.3
	070620321075	3 x 2 x 0.75	0.44	1	10.1	0.9	1.5	15.0	374.7
	070620421075	4 x 2 x 0.75	0.44	1	11.4	0.9	1.6	16.4	438.5
	070620521075	5 x 2 x 0.75	0.44	1	12.6	0.9	1.6	17.7	498.8
	070620821075	8 x 2 x 0.75	0.44	1	15.7	1.25	1.7	21.7	768.1
	070621021075	10 x 2 x 0.75	0.44	1	17.6	1.25	1.8	23.6	885.2
	070621221075	12 x 2 x 0.75	0.44	1	19.2	1.25	1.8	25.3	997.5
	070621621075	16 x 2 x 0.75	0.44	1	22.3	1.25	1.9	28.6	1213.2
	070622021075	20 x 2 x 0.75	0.44	1	25.1	1.6	2.0	32.3	1581.2
	070622421075	24 x 2 x 0.75	0.44	1.2	28.1	1.6	2.1	35.4	1842.9
	070620220001	2 x 2 x 1	0.44	1	9.1	0.9	1.5	13.9	332
	070620320001	3 x 2 x 1	0.44	1	10.7	0.9	1.6	15.6	411.1
	070620420001	4 x 2 x 1	0.44	1	12.2	0.9	1.6	17.1	484.1
	070620520001	5 x 2 x 1	0.44	1	13.4	0.9	1.6	18.5	553.2
	070620820001	8 x 2 x 1	0.44	1	16.7	1.25	1.7	22.7	854.2
	070621020001	10 x 2 x 1	0.44	1	18.7	1.25	1.8	24.8	988.7
	070621220001	12 x 2 x 1	0.44	1	20.5	1.25	1.8	26.6	1117.8
	070621620001	16 x 2 x 1	0.44	1	23.7	1.25	1.9	30.1	1366.6
	070622020001	20 x 2 x 1	0.44	1	26.7	1.6	2.0	33.9	1777.1
	070622420001	24 x 2 x 1	0.44	1.2	29.8	1.6	2.1	37.3	2073.4
	070620221105	2 x 2 x 1.5	0.44	1	9.9	0.9	1.5	14.8	381.6
	070620321105	3 x 2 x 1.5	0.44	1	11.8	0.9	1.6	16.7	479
070620421105	4 x 2 x 1.5	0.44	1	13.4	0.9	1.6	18.4	569.6	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070620521105	5 x 2 x 1.5	0.44	1	14.8	0.9	1.7	19.9	655.8
	070620821105	8 x 2 x 1.5	0.44	1	18.5	1.25	1.8	24.5	1016.7
	070621021105	10 x 2 x 1.5	0.44	1	20.6	1.25	1.8	26.8	1184.9
	070621221105	12 x 2 x 1.5	0.44	1	22.5	1.25	1.9	28.8	1346.7
	070621621105	16 x 2 x 1.5	0.44	1	26.1	1.6	2	33.4	1824.9
	070622021105	20 x 2 x 1.5	0.44	1.2	29.8	1.6	2.1	37.2	2195.6
	070622421105	24 x 2 x 1.5	0.44	1.2	32.8	1.6	2.2	40.4	2513.8
	070620221205	2 x 2 x 2.5	0.53	1	11.5	0.9	1.6	16.5	475.9
	070620321205	3 x 2 x 2.5	0.53	1	13.7	0.9	1.6	18.8	608.6
	070620421205	4 x 2 x 2.5	0.53	1	15.6	1.25	1.7	21.5	833.6
	070620521205	5 x 2 x 2.5	0.53	1	17.3	1.25	1.8	23.3	962.9
	070620821205	8 x 2 x 2.5	0.53	1	21.7	1.25	1.9	27.9	1327.1
	070621021205	10 x 2 x 2.5	0.53	1	24.2	1.25	1.9	30.6	1559.7
	070621221205	12 x 2 x 2.5	0.53	1	26.5	1.6	2	33.7	1951.8
	070621621205	16 x 2 x 2.5	0.53	1.2	31.1	1.6	2.2	38.6	2459.9
	070622021205	20 x 2 x 2.5	0.53	1.2	34.8	1.6	2.3	42.6	2915.1
	070622421205	24 x 2 x 2.5	0.53	1.2	38.3	2	2.4	47.1	3631.3

RE-2X(St)YSWAY - SINGLE & MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Crosslinked polyethylene XLPE

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC (Also available in halogen free construction on request.)

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-2X(St)YSWAY nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	5000	150	1	2000	2000
0.5	5	16/0.2	39.0	25	5000	150	1	2000	2000
0.75	2	7/0.37	24.5	25	5000	150	1	2000	2000
0.75	5	24/0.2	26.0	25	5000	150	1	2000	2000
1	2	7/0.43	18.1	25	5000	150	1	2000	2000
1	5	32/0.2	19.5	25	5000	150	1	2000	2000
1.5	2	7/0.53	12.1	40	5000	150	1	2000	2000
2.5	2	7/0.67	7.41	60	5000	150	1	2000	2000

Cable Design Parameters

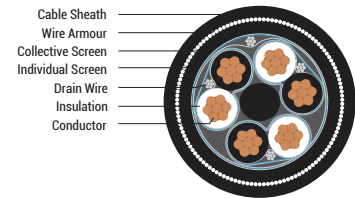
	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070750121050	1 x 2 x 0.5	0.44	1	6.4	0.9	1.4	11.1	209.5
	070750221050	2 x 2 x 0.5	0.44	1	7.6	0.9	1.5	12.4	260.1
	070750321050	3 x 2 x 0.5	0.44	1	8.9	0.9	1.5	13.7	310.6
	070750421050	4 x 2 x 0.5	0.44	1	9.9	0.9	1.5	14.7	356.0
	070750521050	5 x 2 x 0.5	0.44	1	10.8	0.9	1.6	15.7	398.0
	070750821050	8 x 2 x 0.5	0.44	1	13.1	0.9	1.6	18.1	511.8
	070751021050	10 x 2 x 0.5	0.44	1	14.4	0.9	1.7	19.5	581.8
	070751221050	12 x 2 x 0.5	0.44	1	15.5	1.25	1.7	21.4	748.1
	070751621050	16 x 2 x 0.5	0.44	1	17.6	1.25	1.8	23.6	886.2
	070752021050	20 x 2 x 0.5	0.44	1	19.4	1.25	1.8	25.5	1017.0
	070752421050	24 x 2 x 0.5	0.44	1	21	1.25	1.9	27.2	1141.2
	070750121075	1 x 2 x 0.75	0.44	1	6.8	0.9	1.4	11.5	226.4
	070750221075	2 x 2 x 0.75	0.44	1	8.2	0.9	1.5	12.9	286.0
	070750321075	3 x 2 x 0.75	0.44	1	9.5	0.9	1.5	14.3	345.6
	070750421075	4 x 2 x 0.75	0.44	1	10.6	0.9	1.5	15.5	399.6
	070750521075	5 x 2 x 0.75	0.44	1	11.6	0.9	1.6	16.6	449.8
	070750821075	8 x 2 x 0.75	0.44	1	14.1	0.9	1.6	19.2	587.3
	070751021075	10 x 2 x 0.75	0.44	1	15.5	1.25	1.7	21.4	772.7
	070751221075	12 x 2 x 0.75	0.44	1	16.8	1.25	1.7	22.8	861.6
	070751621075	16 x 2 x 0.75	0.44	1	19	1.25	1.8	25.1	1030.0
	070752021075	20 x 2 x 0.75	0.44	1	21	1.25	1.9	27.2	1190.7
	070752421075	24 x 2 x 0.75	0.44	1	22.8	1.25	1.9	29.1	1344.0
	070750120001	1 x 2 x 1	0.44	1	7.1	0.9	1.4	11.8	240.2
	070750220001	2 x 2 x 1	0.44	1	8.5	0.9	1.5	13.3	307.7
	070750320001	3 x 2 x 1	0.44	1	10	0.9	1.5	14.8	375.3
	070750420001	4 x 2 x 1	0.44	1	11.2	0.9	1.6	16.1	436.8
	070750520001	5 x 2 x 1	0.44	1	12.2	0.9	1.6	17.2	494.4
	070750820001	8 x 2 x 1	0.44	1	14.9	0.9	1.7	20.0	653.0
	070751020001	10 x 2 x 1	0.44	1	16.4	1.25	1.7	22.3	857.5
	070751220001	12 x 2 x 1	0.44	1	17.7	1.25	1.8	23.8	960.4
	070751620001	16 x 2 x 1	0.44	1	20.1	1.25	1.8	26.3	1156.0
	070752020001	20 x 2 x 1	0.44	1	22.3	1.25	1.9	28.5	1343.9
070752420001	24 x 2 x 1	0.44	1	24.2	1.25	1.9	30.6	1523.5	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070720121050	1 x 2 x 0.5	0.44	1	6.4	0.9	1.4	11.1	209.3
	070720221050	2 x 2 x 0.5	0.44	1	7.6	0.9	1.5	12.4	259.7
	070720321050	3 x 2 x 0.5	0.44	1	8.9	0.9	1.5	13.7	310.2
	070720421050	4 x 2 x 0.5	0.44	1	9.9	0.9	1.5	14.7	355.4
	070720521050	5 x 2 x 0.5	0.44	1	10.8	0.9	1.6	15.7	397.3
	070720821050	8 x 2 x 0.5	0.44	1	13.1	0.9	1.6	18.1	510.7
	070721021050	10 x 2 x 0.5	0.44	1	14.4	0.9	1.7	19.5	580.4
	070721221050	12 x 2 x 0.5	0.44	1	15.5	1.25	1.7	21.4	746.5
	070721621050	16 x 2 x 0.5	0.44	1	17.6	1.25	1.8	23.6	884.0
	070722021050	20 x 2 x 0.5	0.44	1	19.4	1.25	1.8	25.5	1014.3
	070722421050	24 x 2 x 0.5	0.44	1	21	1.25	1.9	27.2	1138
	070720121075	1 x 2 x 0.75	0.44	1	6.8	0.9	1.4	11.5	226.7
	070720221075	2 x 2 x 0.75	0.44	1	8.2	0.9	1.5	12.9	286.4
	070720321075	3 x 2 x 0.75	0.44	1	9.5	0.9	1.5	14.3	346.1
	070720421075	4 x 2 x 0.75	0.44	1	10.6	0.9	1.5	15.5	400.1
	070720521075	5 x 2 x 0.75	0.44	1	11.6	0.9	1.6	16.6	450.4
	070720821075	8 x 2 x 0.75	0.44	1	14.1	0.9	1.6	19.2	588.0
	070721021075	10 x 2 x 0.75	0.44	1	15.6	1.25	1.7	21.5	773.8
	070721221075	12 x 2 x 0.75	0.44	1	16.8	1.25	1.7	22.8	862.8
	070721621075	16 x 2 x 0.75	0.44	1	19.1	1.25	1.8	25.2	1031.2
	070722021075	20 x 2 x 0.75	0.44	1	21.1	1.25	1.9	27.3	1192.1
	070722421075	24 x 2 x 0.75	0.44	1	22.9	1.25	1.9	29.2	1345.5
	070720120001	1 x 2 x 1	0.44	1	7.2	0.9	1.4	11.7	237.9
	070720220001	2 x 2 x 1	0.44	1	8.7	0.9	1.5	13.5	312.5
	070720320001	3 x 2 x 1	0.44	1	10.1	0.9	1.5	15.0	381.6
	070720420001	4 x 2 x 1	0.44	1	11.4	0.9	1.6	16.3	444.5
	070720520001	5 x 2 x 1	0.44	1	12.4	0.9	1.6	17.4	503.3
	070720820001	8 x 2 x 1	0.44	1	15.1	1.25	1.7	21.0	763.3
	070721020001	10 x 2 x 1	0.44	1	16.7	1.25	1.7	22.6	874.1
	070721220001	12 x 2 x 1	0.44	1	18.1	1.25	1.8	24.1	979.3
070721620001	16 x 2 x 1	0.44	1	20.5	1.25	1.8	26.7	1179.3	
070722020001	20 x 2 x 1	0.44	1	22.7	1.25	1.9	29.0	1371.4	
070722420001	24 x 2 x 1	0.44	1	24.6	1.25	2.0	31.0	1555.1	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070720121105	1 x 2 x 1.5	0.44	1	7.9	0.9	1.5	12.6	273.9
	070720221105	2 x 2 x 1.5	0.44	1	9.5	0.9	1.5	14.4	360.3
	070720321105	3 x 2 x 1.5	0.44	1	11.2	0.9	1.6	16.1	446.8
	070720421105	4 x 2 x 1.5	0.44	1	12.6	0.9	1.6	17.6	526.3
	070720521105	5 x 2 x 1.5	0.44	1	13.8	0.9	1.6	18.9	601.2
	070720821105	8 x 2 x 1.5	0.44	1	16.9	1.25	1.7	22.8	918.1
	070721021105	10 x 2 x 1.5	0.44	1	18.6	1.25	1.8	24.7	1060.6
	070721221105	12 x 2 x 1.5	0.44	1	20.1	1.25	1.8	26.3	1196.4
	070721621105	16 x 2 x 1.5	0.44	1	22.9	1.25	1.9	29.2	1456.3
	070722021105	20 x 2 x 1.5	0.44	1	25.4	1.6	2.0	32.6	1868.7
	070722421105	24 x 2 x 1.5	0.44	1.2	28.0	1.6	2.1	35.3	2167.1
	070720121205	1 x 2 x 2.5	0.53	1	9.1	0.9	1.5	13.9	331.1
	070720221205	2 x 2 x 2.5	0.53	1	11.1	0.9	1.6	16.1	450.1
	070720321205	3 x 2 x 2.5	0.53	1	13.1	0.9	1.6	18.2	569.5
	070720421205	4 x 2 x 2.5	0.53	1	14.8	0.9	1.7	20.0	680.4
	070720521205	5 x 2 x 2.5	0.53	1	16.3	1.25	1.7	22.3	890.7
	070720821205	8 x 2 x 2.5	0.53	1	20.1	1.25	1.8	26.2	1209.8
	070721021205	10 x 2 x 2.5	0.53	1	22.2	1.25	1.9	28.4	1411.9
	070721221205	12 x 2 x 2.5	0.53	1	24.1	1.25	1.9	30.5	1605.5
	070721621205	16 x 2 x 2.5	0.53	1.2	27.9	1.6	2.1	35.2	2195.1
070722021205	20 x 2 x 2.5	0.53	1.2	30.8	1.6	2.2	38.3	2580.4	
070722421205	24 x 2 x 2.5	0.53	1.2	33.5	1.6	2.2	41.2	2950.5	

RE-2X(St)YSWAY PiMF - MULTI-PAIR

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Crosslinked polyethylene XLPE

Pairs : Twisted

Identification Pairs : Black & white, continuously numbered on white core (1, 2, 3...) for multi-element

Individual Screen : Aluminium / PETP tape over tinned copper drain wire, plastic tape under and above screen

Assembly : Concentric layers

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC (Also available in halogen free construction, on request.)

Colour : Black. Blue for intrinsically safe system.

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-2X(St)YSWAY PiMF nxmxa 500V EN50288-7 CE + 0001m

n - No. of pairs

m - Pairs

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V _{rms} (Core-Core)	Test Voltage V _{rms} (Core-Screen)
0.5	2	7/0.3	36.7	25	5000	150	1	2000	2000
0.5	5	16/0.2	39.8	25	5000	150	1	2000	2000
0.75	2	7/0.37	25.0	25	5000	150	1	2000	2000
0.75	5	24/0.2	26.5	25	5000	150	1	2000	2000
1	2	7/0.43	18.5	25	5000	150	1	2000	2000
1	5	32/0.2	19.9	25	5000	150	1	2000	2000
1.5	2	7/0.53	12.3	40	5000	150	1	2000	2000
2.5	2	7/0.67	7.6	60	5000	150	1	2000	2000

*For multi-pair maximum resistance shall be increased by 2%.

Cable Design Parameters

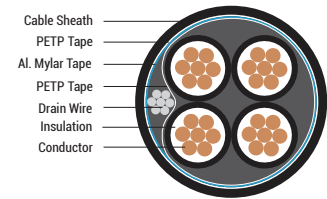
	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070850221050	2 x 2 x 0.5	0.44	1	8.0	0.9	1.5	12.8	271.6
	070850321050	3 x 2 x 0.5	0.44	1	9.5	0.9	1.5	14.3	328.1
	070850421050	4 x 2 x 0.5	0.44	1	10.7	0.9	1.5	15.6	379.6
	070850521050	5 x 2 x 0.5	0.44	1	11.8	0.9	1.6	16.8	427.7
	070850821050	8 x 2 x 0.5	0.44	1	14.7	0.9	1.7	19.8	560.6
	070851021050	10 x 2 x 0.5	0.44	1	16.4	1.25	1.7	22.3	748.8
	070851221050	12 x 2 x 0.5	0.44	1	17.9	1.25	1.8	24.0	837.9
	070851621050	16 x 2 x 0.5	0.44	1	20.8	1.25	1.9	27.0	1008.0
	070852021050	20 x 2 x 0.5	0.44	1	23.4	1.25	1.9	29.7	1171.7
	070852421050	24 x 2 x 0.5	0.44	1	25.8	1.6	2	33.1	1493.2
	070850221075	2 x 2 x 0.75	0.44	1	8.6	0.9	1.5	13.3	297.6
	070850321075	3 x 2 x 0.75	0.44	1	10.1	0.9	1.5	15.0	363.2
	070850421075	4 x 2 x 0.75	0.44	1	11.4	0.9	1.6	16.4	423.3
	070850521075	5 x 2 x 0.75	0.44	1	12.6	0.9	1.6	17.6	479.8
	070850821075	8 x 2 x 0.75	0.44	1	15.7	1.25	1.7	21.6	737.8
	070851021075	10 x 2 x 0.75	0.44	1	17.5	1.25	1.8	23.5	847.4
	070851221075	12 x 2 x 0.75	0.44	1	19.2	1.25	1.8	25.3	952.2
	070851621075	16 x 2 x 0.75	0.44	1	22.2	1.25	1.9	28.5	1153.1
	070852021075	20 x 2 x 0.75	0.44	1	25.0	1.25	2.0	31.5	1347.3
	070852421075	24 x 2 x 0.75	0.44	1.2	28.0	1.6	2.1	35.4	1752.7
	070850220001	2 x 2 x 1	0.44	1	8.9	0.9	1.5	13.7	319.3
	070850320001	3 x 2 x 1	0.44	1	10.6	0.9	1.5	15.5	393.0
	070850420001	4 x 2 x 1	0.44	1	12.0	0.9	1.6	16.9	460.6
	070850520001	5 x 2 x 1	0.44	1	13.2	0.9	1.6	18.3	524.5
	070850820001	8 x 2 x 1	0.44	1	16.5	1.25	1.7	22.4	808.5
	070851020001	10 x 2 x 1	0.44	1	18.4	1.25	1.8	24.4	932.7
	070851220001	12 x 2 x 1	0.44	1	20.1	1.25	1.8	26.3	1051.6
	070851620001	16 x 2 x 1	0.44	1	23.3	1.25	1.9	29.7	1280.1
	070852020001	20 x 2 x 1	0.44	1	26.3	1.6	2.0	33.5	1668.0
	070852420001	24 x 2 x 1	0.44	1.2	29.4	1.6	2.1	36.8	1943.7

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070820221050	2 x 2 x 0.5	0.44	1	8	0.9	1.5	12.8	271.3
	070820321050	3 x 2 x 0.5	0.44	1	9.5	0.9	1.5	14.3	327.7
	070820421050	4 x 2 x 0.5	0.44	1	10.7	0.9	1.5	15.6	379
	070820521050	5 x 2 x 0.5	0.44	1	11.8	0.9	1.6	16.8	427
	070820821050	8 x 2 x 0.5	0.44	1	14.7	0.9	1.7	19.8	559.5
	070821021050	10 x 2 x 0.5	0.44	1	16.4	1.25	1.7	22.3	747.4
	070821221050	12 x 2 x 0.5	0.44	1	17.9	1.25	1.8	24.0	836.3
	070821621050	16 x 2 x 0.5	0.44	1	20.8	1.25	1.9	27.0	1005.9
	070822021050	20 x 2 x 0.5	0.44	1	23.4	1.25	1.9	29.7	1169.1
	070822421050	24 x 2 x 0.5	0.44	1	25.8	1.6	2.0	33.1	1490.1
	070820221075	2 x 2 x 0.75	0.44	1	8.6	0.9	1.5	13.4	297.9
	070820321075	3 x 2 x 0.75	0.44	1	10.1	0.9	1.5	15.0	363.7
	070820421075	4 x 2 x 0.75	0.44	1	11.4	0.9	1.6	16.4	423.8
	070820521075	5 x 2 x 0.75	0.44	1	12.6	0.9	1.6	17.7	480.4
	070820821075	8 x 2 x 0.75	0.44	1	15.7	1.25	1.7	21.7	738.7
	070821021075	10 x 2 x 0.75	0.44	1	17.6	1.25	1.8	23.6	848.5
	070821221075	12 x 2 x 0.75	0.44	1	19.2	1.25	1.8	25.3	953.4
	070821621075	16 x 2 x 0.75	0.44	1	22.3	1.25	1.9	28.6	1154.4
	070822021075	20 x 2 x 0.75	0.44	1	25.1	1.6	2.0	32.3	1507.7
	070822421075	24 x 2 x 0.75	0.44	1.2	28.1	1.6	2.1	35.4	1754.7
	070820220001	2 x 2 x 1	0.44	1	9.1	0.9	1.5	13.9	324.2
	070820320001	3 x 2 x 1	0.44	1	10.7	0.9	1.6	15.6	399.3
	070820420001	4 x 2 x 1	0.44	1	12.2	0.9	1.6	17.1	468.4
	070820520001	5 x 2 x 1	0.44	1	13.4	0.9	1.6	18.5	533.5
	070820820001	8 x 2 x 1	0.44	1	16.7	1.25	1.7	22.7	822.8
	070821020001	10 x 2 x 1	0.44	1	18.7	1.25	1.8	24.8	949.4
	070821220001	12 x 2 x 1	0.44	1	20.5	1.25	1.8	26.6	1070.7
	070821620001	16 x 2 x 1	0.44	1	23.7	1.25	1.9	30.1	1303.7
	070822020001	20 x 2 x 1	0.44	1	26.7	1.6	2.0	33.9	1698.5
	070822420001	24 x 2 x 1	0.44	1.2	29.8	1.6	2.1	37.3	1979.1
	070820221105	2 x 2 x 1.5	0.44	1	9.9	0.9	1.5	14.8	372
	070820321105	3 x 2 x 1.5	0.44	1	11.8	0.9	1.6	16.7	464.7
070820421105	4 x 2 x 1.5	0.44	1	13.4	0.9	1.6	18.4	550.4	

	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070820521105	5 x 2 x 1.5	0.44	1	14.8	0.9	1.7	19.9	631.8
	070820821105	8 x 2 x 1.5	0.44	1	18.5	1.25	1.8	24.5	978.4
	070821021105	10 x 2 x 1.5	0.44	1	20.6	1.25	1.8	26.8	1136.9
	070821221105	12 x 2 x 1.5	0.44	1	22.5	1.25	1.9	28.8	1289.2
	070821621105	16 x 2 x 1.5	0.44	1	26.1	1.6	2.0	33.4	1748.2
	070822021105	20 x 2 x 1.5	0.44	1.2	29.8	1.6	2.1	37.2	2099.8
	070822421105	24 x 2 x 1.5	0.44	1.2	32.8	1.6	2.2	40.4	2398.8
	070820221205	2 x 2 x 2.5	0.53	1	11.5	0.9	1.6	16.5	462.0
	070820321205	3 x 2 x 2.5	0.53	1	13.7	0.9	1.6	18.8	587.8
	070820421205	4 x 2 x 2.5	0.53	1	15.6	1.25	1.7	21.5	805.8
	070820521205	5 x 2 x 2.5	0.53	1	17.3	1.25	1.8	23.3	928.2
	070820821205	8 x 2 x 2.5	0.53	1	21.7	1.25	1.9	27.9	1271.5
	070821021205	10 x 2 x 2.5	0.53	1	24.2	1.25	1.9	30.6	1490.3
	070821221205	12 x 2 x 2.5	0.53	1	26.5	1.6	2.0	33.7	1868.5
	070821621205	16 x 2 x 2.5	0.53	1.2	31.1	1.6	2.2	38.6	2348.7
	070822021205	20 x 2 x 2.5	0.53	1.2	34.8	1.6	2.3	42.6	2776.2
	070822421205	24 x 2 x 2.5	0.53	1.2	38.3	2.0	2.4	47.1	3464.6

RE-Y(St)Y - MULTICORE

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl chloride PVC

Colour Code : Black, continuously numbered in white

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-Y(St)Y cxa 500V EN50288-7 CE + 0001m

c - No. of cores

a - Cross sectional area

Electrical Properties

Cable Design Parameters

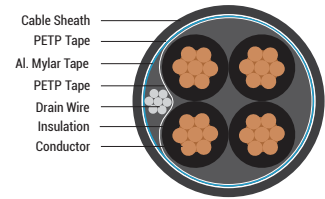
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	070950221050	2 x 0.5	0.44	1	6.2	47.1
	070950421050	4 x 0.5	0.44	1	7.1	70.7
	070950521050	5 x 0.5	0.44	1	7.7	83.6
	070950821050	8 x 0.5	0.44	1.1	9.4	121.8
	070951021050	10 x 0.5	0.44	1.1	10.7	148.8
	070951221050	12 x 0.5	0.44	1.2	11.1	169.7
	070951621050	16 x 0.5	0.44	1.2	12.3	215.5
	070952021050	20 x 0.5	0.44	1.3	13.7	263.8
	070952421050	24 x 0.5	0.44	1.3	15.2	322.4
	070950221075	2 x 0.75	0.44	1	6.6	55.4
	070950421075	4 x 0.75	0.44	1	7.6	85.7
	070950521075	5 x 0.75	0.44	1.1	8.3	102.0
	070950821075	8 x 0.75	0.44	1.1	10.2	150.5
	070951021075	10 x 0.75	0.44	1.2	11.6	184.8
	070951221075	12 x 0.75	0.44	1.2	11.9	212.1
	070951621075	16 x 0.75	0.44	1.2	13.3	295.4
	070952021075	20 x 0.75	0.44	1.3	14.9	333.2
	070952421075	24 x 0.75	0.44	1.4	16.5	408.7
	070950220001	2 x 1	0.44	1	6.9	62.7
	070950420001	4 x 1	0.44	1	8.0	99.1
	070950520001	5 x 1	0.44	1.1	8.8	118.6
	070950820001	8 x 1	0.44	1.1	10.7	176.5
	070951020001	10 x 1	0.44	1.2	12.2	217.4
	070951220001	12 x 1	0.44	1.2	12.6	250.5
070951620001	16 x 1	0.44	1.3	14.1	351.5	
070952020001	20 x 1	0.44	1.3	15.7	396.4	
070952420001	24 x 1	0.44	1.4	17.5	487.4	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070920221050	2 x 0.5	0.44	1	6.2	46.9
	070920421050	4 x 0.5	0.44	1	7.1	70.4
	070920521050	5 x 0.5	0.44	1	7.7	83.3
	070920821050	8 x 0.5	0.44	1.1	9.4	121.2
	070921021050	10 x 0.5	0.44	1.1	10.7	148.1
	070921221050	12 x 0.5	0.44	1.2	11.1	168.9
	070921621050	16 x 0.5	0.44	1.2	12.3	214.4
	070922021050	20 x 0.5	0.44	1.3	13.7	262.5
	070922421050	24 x 0.5	0.44	1.3	15.2	320.9
	070920221075	2 x 0.75	0.44	1	6.6	55.5
	070920421075	4 x 0.75	0.44	1	7.7	85.8
	070920521075	5 x 0.75	0.44	1.1	8.4	102.2
	070920821075	8 x 0.75	0.44	1.1	10.2	150.8
	070921021075	10 x 0.75	0.44	1.2	11.6	185.2
	070921221075	12 x 0.75	0.44	1.2	12.0	212.5
	070921621075	16 x 0.75	0.44	1.2	13.3	296
	070922021075	20 x 0.75	0.44	1.3	14.9	333.9
	070922421075	24 x 0.75	0.44	1.4	16.6	409.6
	070920220001	2 x 1	0.44	1	7.0	64.1
	070920420001	4 x 1	0.44	1.1	8.2	101.4
	070920520001	5 x 1	0.44	1.1	8.9	121.4
	070920820001	8 x 1	0.44	1.2	10.9	180.9
	070921020001	10 x 1	0.44	1.2	12.4	222.8
	070921220001	12 x 1	0.44	1.2	12.8	256.8
	070921620001	16 x 1	0.44	1.3	14.3	360.5
	070922020001	20 x 1	0.44	1.3	16.0	406.6
	070922420001	24 x 1	0.44	1.4	17.8	500
	070920221105	2 x 1.5	0.44	1	7.7	80.5
	070920421105	4 x 1.5	0.44	1.1	9.0	131.3
	070920521105	5 x 1.5	0.44	1.1	9.9	158.3
	070920821105	8 x 1.5	0.44	1.2	12.2	238.9
	070921021105	10 x 1.5	0.44	1.3	13.8	295.5
	070921221105	12 x 1.5	0.44	1.3	14.3	342.5
070921621105	16 x 1.5	0.44	1.3	16.0	442.6	
070922021105	20 x 1.5	0.44	1.4	17.9	547.6	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	070922421105	24 x 1.5	0.44	1.5	20.0	675.5
	070920221205	2 x 2.5	0.53	1.1	9.1	112.2
	070920421205	4 x 2.5	0.53	1.1	10.6	189.0
	070920521205	5 x 2.5	0.53	1.2	11.7	229.6
	070920821205	8 x 2.5	0.53	1.3	14.5	350.9
	070921021205	10 x 2.5	0.53	1.4	16.5	436.0
	070921221205	12 x 2.5	0.53	1.4	17.1	508.0
	070921621205	16 x 2.5	0.53	1.5	19.1	660.3
	070922021205	20 x 2.5	0.53	1.5	21.5	819.7
	070922421205	24 x 2.5	0.53	1.6	24.0	981.0

RE-2X(St)Y - MULTICORE

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Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Cross-linked polyethylene XLPE

Colour Code : Black, continuously numbered in white

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Cable Sheath : Polyvinyl Chloride PVC (Also available in halogen free construction on request.)

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 7.5 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request.

Marking : RR KABEL RE-2X(St)Y cxa 500V EN50288-7 CE + 0001m

c - No. of cores

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V _{rms} (Core-Core)	Test Voltage V _{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	5000	250	1	2000	2000
0.5	5	16/0.2	39.0	25	5000	250	1	2000	2000
0.75	2	7/0.37	24.5	25	5000	250	1	2000	2000
0.75	5	24/0.2	26.0	25	5000	250	1	2000	2000
1	2	7/0.43	18.1	25	5000	250	1	2000	2000
1	5	32/0.2	19.5	25	5000	250	1	2000	2000
1.5	2	7/0.53	12.1	40	5000	250	1	2000	2000
2.5	2	7/0.67	7.41	60	5000	250	1	2000	2000

Cable Design Parameters

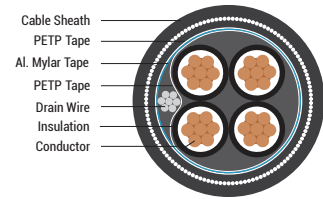
	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	071050221050	2 x 0.5	0.44	1.0	6.2	43.9
	071050421050	4 x 0.5	0.44	1.0	7.1	64.4
	071050521050	5 x 0.5	0.44	1.0	7.7	75.7
	071050821050	8 x 0.5	0.44	1.1	9.4	109.1
	071051021050	10 x 0.5	0.44	1.1	10.7	132.9
	071051221050	12 x 0.5	0.44	1.2	11.1	150.7
	071051621050	16 x 0.5	0.44	1.2	12.3	190.1
	071052021050	20 x 0.5	0.44	1.3	13.7	232.1
	071052421050	24 x 0.5	0.44	1.3	15.2	282.8
	071050221075	2 x 0.75	0.44	1.0	6.6	51.7
	071050421075	4 x 0.75	0.44	1.0	7.6	78.4
	071050521075	5 x 0.75	0.44	1.1	8.3	92.9
	071050821075	8 x 0.75	0.44	1.1	10.2	136.0
	071051021075	10 x 0.75	0.44	1.2	11.6	166.6
	071051221075	12 x 0.75	0.44	1.2	11.9	190.2
	071051621075	16 x 0.75	0.44	1.2	13.3	262.6
	071052021075	20 x 0.75	0.44	1.3	14.9	296.8
	071052421075	24 x 0.75	0.44	1.4	16.5	363.2
	071050220001	2 x 1	0.44	1.0	6.9	58.8
	071050420001	4 x 1	0.44	1.0	8.0	91.2
	071050520001	5 x 1	0.44	1.1	8.8	108.7
	071050820001	8 x 1	0.44	1.1	10.7	160.7
	071051020001	10 x 1	0.44	1.2	12.2	197.5
	071051220001	12 x 1	0.44	1.2	12.6	226.7
	071051620001	16 x 1	0.44	1.3	14.1	315.8
	071052020001	20 x 1	0.44	1.3	15.7	356.7
071052420001	24 x 1	0.44	1.4	17.5	437.7	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071020221050	2 x 0.5	0.44	1	6.2	43.7
	071020421050	4 x 0.5	0.44	1	7.1	64.1
	071020521050	5 x 0.5	0.44	1	7.7	75.3
	071020821050	8 x 0.5	0.44	1.1	9.4	108.5
	071021021050	10 x 0.5	0.44	1.1	10.7	132.2
	071021221050	12 x 0.5	0.44	1.2	11.1	149.9
	071021621050	16 x 0.5	0.44	1.2	12.3	189.0
	071022021050	20 x 0.5	0.44	1.3	13.7	230.7
	071022421050	24 x 0.5	0.44	1.3	15.2	281.1
	071020221075	2 x 0.75	0.44	1	6.6	51.8
	071020421075	4 x 0.75	0.44	1	7.7	78.5
	071020521075	5 x 0.75	0.44	1.1	8.4	93.0
	071020821075	8 x 0.75	0.44	1.1	10.2	136.1
	071021021075	10 x 0.75	0.44	1.2	11.6	166.7
	071021221075	12 x 0.75	0.44	1.2	12	190.4
	071021621075	16 x 0.75	0.44	1.2	13.3	262.8
	071022021075	20 x 0.75	0.44	1.3	14.9	297
	071022421075	24 x 0.75	0.44	1.4	16.6	363.5
	071020220001	2 x 1	0.44	1	7.0	59.9
	071020420001	4 x 1	0.44	1.1	8.2	93.0
	071020520001	5 x 1	0.44	1.1	8.9	111.0
	071020820001	8 x 1	0.44	1.2	10.9	164.2
	071021020001	10 x 1	0.44	1.2	12.4	202.0
	071021220001	12 x 1	0.44	1.2	12.8	231.8
	071021620001	16 x 1	0.44	1.3	14.3	323.0
	071022020001	20 x 1	0.44	1.3	16.0	364.9
	071022420001	24 x 1	0.44	1.4	17.8	447.9
	071020221105	2 x 1.5	0.44	1	7.7	75.4
	071020421105	4 x 1.5	0.44	1.1	9.0	121.1
	071020521105	5 x 1.5	0.44	1.1	9.9	145.6
	071020821105	8 x 1.5	0.44	1.2	12.2	218.6
	071021021105	10 x 1.5	0.44	1.3	13.8	270.1
	071021221105	12 x 1.5	0.44	1.3	14.3	312.0
071021621105	16 x 1.5	0.44	1.3	16.0	401.9	
071022021105	20 x 1.5	0.44	1.4	17.9	496.8	

	Part Number	No. of Pairs and Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071022421105	24 x 1.5	0.44	1.5	20.0	612
	071020221205	2 x 2.5	0.53	1.1	9.1	104.9
	071020421205	4 x 2.5	0.53	1.1	10.6	174.3
	071020521205	5 x 2.5	0.53	1.2	11.7	211.2
	071020821205	8 x 2.5	0.53	1.3	14.5	321.5
	071021021205	10 x 2.5	0.53	1.4	16.5	399.2
	071021221205	12 x 2.5	0.53	1.4	17.1	463.8
	071021621205	16 x 2.5	0.53	1.5	19.1	601.4
	071022021205	20 x 2.5	0.53	1.5	21.5	746.1
	071022421205	24 x 2.5	0.53	1.6	24.0	892.6

RE-Y(St)YSWAY - MULTICORE

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Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Polyvinyl chloride PVC

Colour Code : Black, continuously numbered in white

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +70°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request

Marking : RR KABEL RE-Y(St)YSWAY cxa 500V EN50288-7 CE + 0001m

c - No. of cores

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V_{rms} (Core-Core)	Test Voltage V_{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	20	150	1	2000	2000
0.5	5	16/0.2	39.0	25	20	150	1	2000	2000
0.75	2	7/0.37	24.5	25	20	150	1	2000	2000
0.75	5	24/0.2	26.0	25	20	150	1	2000	2000
1	2	7/0.43	18.1	25	20	150	1	2000	2000
1	5	32/0.2	19.5	25	20	150	1	2000	2000
1.5	2	7/0.53	12.1	40	20	150	1	2000	2000
2.5	2	7/0.67	7.41	60	20	150	1	2000	2000

Cable Design Parameters

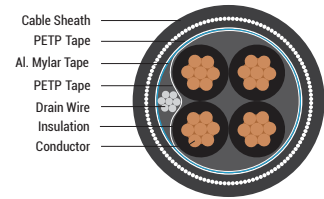
	Part Number	No. of Pairs & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	071150221050	2 x 0.5	0.44	1	6.2	0.9	1.4	10.8	206.9
	071150421050	4 x 0.5	0.44	1	7.1	0.9	1.4	11.8	250.4
	071150521050	5 x 0.5	0.44	1	7.7	0.9	1.5	12.4	276.4
	071150821050	8 x 0.5	0.44	1	9.2	0.9	1.5	14.1	349.6
	071151021050	10 x 0.5	0.44	1	10.4	0.9	1.5	15.3	402.1
	071151221050	12 x 0.5	0.44	1	10.7	0.9	1.6	15.6	430.4
	071151621050	16 x 0.5	0.44	1	11.9	0.9	1.6	16.8	501
	071152021050	20 x 0.5	0.44	1	13.2	0.9	1.6	18.2	578.1
	071152421050	24 x 0.5	0.44	1	14.6	0.9	1.7	19.7	667.1
	071150221075	2 x 0.75	0.44	1	6.6	0.9	1.4	11.3	224.2
	071150421075	4 x 0.75	0.44	1	7.6	0.9	1.5	12.3	276.2
	071150521075	5 x 0.75	0.44	1	8.2	0.9	1.5	13	306.9
	071150821075	8 x 0.75	0.44	1	9.9	0.9	1.5	14.8	393.6
	071151021075	10 x 0.75	0.44	1	11.2	0.9	1.6	16.1	455.7
	071151221075	12 x 0.75	0.44	1	11.6	0.9	1.6	16.5	491
	071151621075	16 x 0.75	0.44	1	12.8	0.9	1.6	17.8	601.4
	071152021075	20 x 0.75	0.44	1	14.3	0.9	1.6	19.4	670.5
	071152421075	24 x 0.75	0.44	1	15.8	1.25	1.7	21.7	880.8
	071150220001	2 x 1	0.44	1	6.9	0.9	1.4	11.6	238.3
	071150420001	4 x 1	0.44	1	7.9	0.9	1.5	12.7	297.7
	071150520001	5 x 1	0.44	1	8.6	0.9	1.5	13.4	332.5
	071150820001	8 x 1	0.44	1	10.5	0.9	1.5	15.3	431
	071151020001	10 x 1	0.44	1	11.8	0.9	1.6	16.8	501.4
	071151220001	12 x 1	0.44	1	12.2	0.9	1.6	17.2	543
	071151620001	16 x 1	0.44	1	13.5	0.9	1.6	18.6	672.8
	071152020001	20 x 1	0.44	1	15.1	1.25	1.7	20.9	848.1
	071152420001	24 x 1	0.44	1	16.7	1.25	1.7	22.7	984.2

	Part Number	No. of Cores & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071120221050	2 x 0.5	0.44	1	6.2	0.9	1.4	10.8	206.7
	071120421050	4 x 0.5	0.44	1	7.1	0.9	1.4	11.8	250.1
	071120521050	5 x 0.5	0.44	1	7.7	0.9	1.5	12.4	276.1
	071120821050	8 x 0.5	0.44	1	9.2	0.9	1.5	14.1	349.1
	071121021050	10 x 0.5	0.44	1	10.4	0.9	1.5	15.3	401.4
	071121221050	12 x 0.5	0.44	1	10.7	0.9	1.6	15.6	429.6
	071121621050	16 x 0.5	0.44	1	11.9	0.9	1.6	16.8	500.0
	071122021050	20 x 0.5	0.44	1	13.2	0.9	1.6	18.2	576.8
	071122421050	24 x 0.5	0.44	1	14.6	0.9	1.7	19.7	665.5
	071120221075	2 x 0.75	0.44	1	6.6	0.9	1.4	11.3	224.7
	071120421075	4 x 0.75	0.44	1	7.6	0.9	1.5	12.3	276.8
	071120521075	5 x 0.75	0.44	1	8.2	0.9	1.5	13	307.7
	071120821075	8 x 0.75	0.44	1	10.0	0.9	1.5	14.8	394.7
	071121021075	10 x 0.75	0.44	1	11.2	0.9	1.6	16.2	456.9
	071121221075	12 x 0.75	0.44	1	11.6	0.9	1.6	16.6	492.3
	071121621075	16 x 0.75	0.44	1	12.9	0.9	1.6	17.9	603.0
	071122021075	20 x 0.75	0.44	1	14.3	0.9	1.7	19.4	672.3
	071122421075	24 x 0.75	0.44	1	15.9	1.25	1.7	21.8	883.4
	071120220001	2 x 1	0.44	1	7.0	0.9	1.4	11.7	241.9
	071120420001	4 x 1	0.44	1	8.1	0.9	1.5	12.8	302.7
	071120520001	5 x 1	0.44	1	8.8	0.9	1.5	13.5	338.2
	071120820001	8 x 1	0.44	1	10.6	0.9	1.5	15.5	439.1
	071121020001	10 x 1	0.44	1	12.0	0.9	1.6	17.0	511.1
	071121220001	12 x 1	0.44	1	12.4	0.9	1.6	17.4	553.9
	071121620001	16 x 1	0.44	1	13.8	0.9	1.6	18.8	686.8
	071122020001	20 x 1	0.44	1	15.3	1.25	1.7	21.2	865.7
	071122420001	24 x 1	0.44	1.2	17.4	1.25	1.8	23.4	1034.6
	071120221105	2 x 1.5	0.44	1	7.7	0.9	1.5	12.4	273.1
	071120421105	4 x 1.5	0.44	1	8.8	0.9	1.5	13.6	350.3
	071120521105	5 x 1.5	0.44	1	9.6	0.9	1.5	14.5	394.9
	071120821105	8 x 1.5	0.44	1	11.8	0.9	1.6	16.7	522.1
	071121021105	10 x 1.5	0.44	1	13.3	0.9	1.6	18.4	612.5
071121221105	12 x 1.5	0.44	1	13.8	0.9	1.6	18.8	669.3	

	Part Number	No. of Cores & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071121621105	16 x 1.5	0.44	1	15.3	1.25	1.7	21.2	901.0
	071122021105	20 x 1.5	0.44	1.2	17.5	1.25	1.8	23.5	1084.5
	071122421105	24 x 1.5	0.44	1.2	19.4	1.25	1.8	25.5	1266.1
	071120221205	2 x 2.5	0.53	1	8.9	0.9	1.5	13.7	332.4
	071120421205	4 x 2.5	0.53	1	10.3	0.9	1.5	15.2	441.2
	071120521205	5 x 2.5	0.53	1	11.3	0.9	1.6	16.2	503.0
	071120821205	8 x 2.5	0.53	1	13.9	0.9	1.6	19.0	680.5
	071121021205	10 x 2.5	0.53	1	15.8	1.25	1.7	21.7	908.2
	071121221205	12 x 2.5	0.53	1	16.4	1.25	1.7	22.3	995.3
	071121621205	16 x 2.5	0.53	1.2	18.6	1.25	1.8	24.7	1229.3
	071122021205	20 x 2.5	0.53	1.2	20.8	1.25	1.9	27.0	1449.9
	071122421205	24 x 2.5	0.53	1.2	23.1	1.25	1.9	29.4	1675.5

RE-2X(St)YSWAY - MULTICORE

REACH | RoHS | CE



Standard

Adapted to EN 50288-7

Cable Construction

Conductor : Annealed copper wires according to BS EN 60228

Insulation : Cross-linked polyethylene XLPE

Colour Code : Black, continuously numbered in white

Wrapping : 1 layer of PETP tape

Collective Screen : Aluminium / PETP tape over tinned copper drain wire

Inner Sheath : Polyvinyl chloride PVC

Armour : Galvanised round steel wires

Cable Sheath : Polyvinyl chloride PVC (Also available in halogen free construction, on request.)

Colour : Black. Blue for intrinsically safe system

Technical Data

Flame Propagation : EN 60332-1-2

Operating Temperature Range : -30°C to +90°C

Bending Radius : 10 x cable diameter

Operating Voltage : 500V

*Also available in 300V variant on request

Marking : RR KABEL RE-2X(St)YSWAY cxa 500V EN 50288-7 CE + 0001m

c - No. of cores

a - Cross sectional area

Electrical Properties

Conductor Cross Section (Sq.mm)	Class of Conductor	No. of Strands/ Max. Strand Diameter (mm)	Max. DC Conductor Resistance* at 20°C (Ω/km)	Max. L/R Ratio (μH/Ω)	Min. Insulation Resistance (GΩ x cm)	Max. Mutual Capacitance (nF/km)	Max. Inductance (mH/km)	Test Voltage V _{rms} (Core-Core)	Test Voltage V _{rms} (Core-Screen)
0.5	2	7/0.3	36.0	25	5000	150	1	2000	2000
0.5	5	16/0.2	39.0	25	5000	150	1	2000	2000
0.75	2	7/0.37	24.5	25	5000	150	1	2000	2000
0.75	5	24/0.2	26.0	25	5000	150	1	2000	2000
1	2	7/0.43	18.1	25	5000	150	1	2000	2000
1	5	32/0.2	19.5	25	5000	150	1	2000	2000
1.5	2	7/0.53	12.1	40	5000	150	1	2000	2000
2.5	2	7/0.67	7.41	60	5000	150	1	2000	2000

Cable Design Parameters

	Part Number	No. of Cores & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 5 Conductor	071250221050	2 x 0.5	0.44	1	6.2	0.9	1.4	10.8	203.7
	071250421050	4 x 0.5	0.44	1	7.1	0.9	1.4	11.8	244
	071250521050	5 x 0.5	0.44	1	7.7	0.9	1.5	12.4	268.5
	071250821050	8 x 0.5	0.44	1	9.2	0.9	1.5	14.1	336.9
	071251021050	10 x 0.5	0.44	1	10.4	0.9	1.5	15.3	386.3
	071251221050	12 x 0.5	0.44	1	10.7	0.9	1.6	15.6	411.4
	071251621050	16 x 0.5	0.44	1	11.9	0.9	1.6	16.8	475.6
	071252021050	20 x 0.5	0.44	1	13.2	0.9	1.6	18.2	546.4
	071252421050	24 x 0.5	0.44	1	14.6	0.9	1.7	19.7	627.5
	071250221075	2 x 0.75	0.44	1	6.6	0.9	1.4	11.3	220.6
	071250421075	4 x 0.75	0.44	1	7.6	0.9	1.5	12.3	268.9
	071250521075	5 x 0.75	0.44	1	8.2	0.9	1.5	13.0	297.8
	071250821075	8 x 0.75	0.44	1	9.9	0.9	1.5	14.8	379.1
	071251021075	10 x 0.75	0.44	1	11.2	0.9	1.6	16.1	437.5
	071251221075	12 x 0.75	0.44	1	11.6	0.9	1.6	16.5	469.2
	071251621075	16 x 0.75	0.44	1	12.8	0.9	1.6	17.8	568.6
	071252021075	20 x 0.75	0.44	1	14.3	0.9	1.6	19.4	634.1
	071252421075	24 x 0.75	0.44	1	15.8	1.25	1.7	21.7	835.3
	071250220001	2 x 1	0.44	1	6.9	0.9	1.4	11.6	234.3
	071250420001	4 x 1	0.44	1	7.9	0.9	1.5	12.7	289.7
	071250520001	5 x 1	0.44	1	8.6	0.9	1.5	13.4	322.5
	071250820001	8 x 1	0.44	1	10.5	0.9	1.5	15.3	415.1
	071251020001	10 x 1	0.44	1	11.8	0.9	1.6	16.8	481.5
	071251220001	12 x 1	0.44	1	12.2	0.9	1.6	17.2	519.2
	071251620001	16 x 1	0.44	1	13.5	0.9	1.6	18.6	637.1
	071252020001	20 x 1	0.44	1	15.1	1.25	1.7	20.9	808.4
	071252420001	24 x 1	0.44	1	16.7	1.25	1.7	22.7	934.6

	Part Number	No. of Cores & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071220221050	2 x 0.5	0.44	1	6.2	0.9	1.4	10.8	203.5
	071220421050	4 x 0.5	0.44	1	7.1	0.9	1.4	11.8	243.7
	071220521050	5 x 0.5	0.44	1	7.7	0.9	1.5	12.4	268.1
	071220821050	8 x 0.5	0.44	1	9.2	0.9	1.5	14.1	336.3
	071221021050	10 x 0.5	0.44	1	10.4	0.9	1.5	15.3	385.5
	071221221050	12 x 0.5	0.44	1	10.7	0.9	1.6	15.6	410.6
	071221621050	16 x 0.5	0.44	1	11.9	0.9	1.6	16.8	474.5
	071222021050	20 x 0.5	0.44	1	13.2	0.9	1.6	18.2	545.0
	071222421050	24 x 0.5	0.44	1	14.6	0.9	1.7	19.7	625.8
	071220221075	2 x 0.75	0.44	1	6.6	0.9	1.4	11.3	221.1
	071220421075	4 x 0.75	0.44	1	7.6	0.9	1.5	12.3	269.5
	071220521075	5 x 0.75	0.44	1	8.2	0.9	1.5	13.0	298.4
	071220821075	8 x 0.75	0.44	1	10	0.9	1.5	14.8	379.9
	071221021075	10 x 0.75	0.44	1	11.2	0.9	1.6	16.2	438.5
	071221221075	12 x 0.75	0.44	1	11.6	0.9	1.6	16.6	470.2
	071221621075	16 x 0.75	0.44	1	12.9	0.9	1.6	17.9	569.8
	071222021075	20 x 0.75	0.44	1	14.3	0.9	1.7	19.4	635.5
	071222421075	24 x 0.75	0.44	1	15.9	1.25	1.7	21.8	837.3
	071220220001	2 x 1	0.44	1	7.0	0.9	1.4	11.7	237.7
	071220420001	4 x 1	0.44	1	8.1	0.9	1.5	12.8	294.3
	071220520001	5 x 1	0.44	1	8.8	0.9	1.5	13.5	327.8
	071220820001	8 x 1	0.44	1	10.6	0.9	1.5	15.5	422.5
	071221020001	10 x 1	0.44	1	12	0.9	1.6	17.0	490.3
	071221220001	12 x 1	0.44	1	12.4	0.9	1.6	17.4	528.9
	071221620001	16 x 1	0.44	1	13.8	0.9	1.6	18.8	649.3
	071222020001	20 x 1	0.44	1	15.3	1.25	1.7	21.2	824.0
	071222420001	24 x 1	0.44	1.2	17.4	1.25	1.8	23.4	982.5
	071220221105	2 x 1.5	0.44	1	7.7	0.9	1.5	12.4	268.0
	071220421105	4 x 1.5	0.44	1	8.8	0.9	1.5	13.6	340.2
	071220521105	5 x 1.5	0.44	1	9.6	0.9	1.5	14.5	382.2
	071220821105	8 x 1.5	0.44	1	11.8	0.9	1.6	16.7	501.8
	071221021105	10 x 1.5	0.44	1	13.3	0.9	1.6	18.4	587.1
071221221105	12 x 1.5	0.44	1	13.8	0.9	1.6	18.8	638.9	

	Part Number	No. of Cores & Nom. Cross Sectional Area (Sq. mm)	Min. Insulation Thickness (mm)	Nominal Inner Sheath Thickness (mm)	Approx. Dia. Over Inner Sheath (mm)	Nominal Dia. of Armour Wire (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
Class 2 Conductor	071221621105	16 x 1.5	0.44	1	15.3	1.25	1.7	21.2	860.4
	071222021105	20 x 1.5	0.44	1.2	17.5	1.25	1.8	23.5	1033.7
	071222421105	24 x 1.5	0.44	1.2	19.4	1.25	1.8	25.5	1202.6
	071220221205	2 x 2.5	0.53	1	8.9	0.9	1.5	13.7	325.0
	071220421205	4 x 2.5	0.53	1	10.3	0.9	1.5	15.2	426.5
	071220521205	5 x 2.5	0.53	1	11.3	0.9	1.6	16.2	484.6
	071220821205	8 x 2.5	0.53	1	13.9	0.9	1.6	19.0	651.1
	071221021205	10 x 2.5	0.53	1	15.8	1.25	1.7	21.7	871.3
	071221221205	12 x 2.5	0.53	1	16.4	1.25	1.7	22.3	951.1
	071221621205	16 x 2.5	0.53	1.2	18.6	1.25	1.8	24.7	1170.4
	071122021205	20 x 2.5	0.53	1.2	20.8	1.25	1.9	27.0	1376.2
	071122421205	24 x 2.5	0.53	1.2	23.1	1.25	1.9	29.4	1587.1

SECTION - VIII
SILICON CABLES



PRODUCTS

SiF/SiFF

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SiF - GL

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SiHF

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SiD

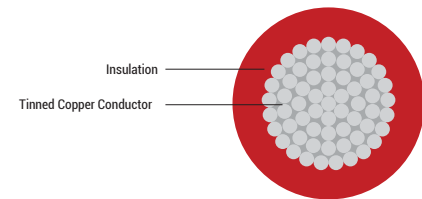
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SiHF - GLS

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SiD - GL

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Application

Silicone single core cables are used in high as well as extremely low temperature areas. They are used mainly in the steel producing industries, in aviation industries as well as in ship building, cement, glass and ceramic factories. These cables are halogen-free, especially suited for use in power stations.

Standards

Adapted to VDE 0250 part 1 and 502.

Technical Data

Voltage Rating : U_0 / U - 300 / 500V

Test Voltage : 2000V

Temperature Range : -50°C to +180°C (up to + 200°C for short time with adequate ventilation)

Minimum Bending Radius : Fixed installation: 6 x cable ϕ . One bend at end of core: 3 x cable ϕ

Cable Construction

Tinned copper conductor Cl. 5, to EN 60228.

Silicone core insulation.

Type SiFF : This variant is similar to SiF with high flexible copper strands.

*SiF and SiFF is also available with polyester yarn over the cable.

Properties

Advantages : High ignition or flash point.

Resistant to : High molecular oils, fats from vegetables and animals, alcohols, plasticisers and clopenes, diluted acids, dyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen and UV

Halogen - Free : According to IEC 60754-2

Behaviour in Fire : Flame propagation test according to EN 60332-1-2

Cable Design Parameters

Kindly complete the part numbers for SiF and SiFF by adding the suffix (in place of 'xx') for the colour required:

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 07 - white, 09 - brown, 10 - orange, 12 - grey.

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
SiF	08010101xx80	0.25	1.9	2.4	5.5
	08010102xx80	0.5	2.1	4.5	8.6
	08010103xx80	0.75	2.4	6.7	11.8
	08010104xx80	1.0	2.5	9.0	13.5
	08010105xx80	1.5	2.8	12.9	18.5
	08010106xx80	2.5	3.5	21.5	30.0

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
SiF	08010107xx80	4.0	4.2	34.1	47.3
	08010108xx80	6.0	5.2	51.2	71.1
	08010109xx80	10.0	7.0	87.1	119.4
	08010110xx80	16.0	8.4	145.1	187.7
	08010111xx80	25.0	9.9	225.8	289.6
	08010112xx80	35.0	11	317.9	398.3
	08010113xx80	50.0	12.5	456.2	559.7
	08010114xx80	70.0	14.5	644.6	765.8
SiFF	08020101xx80	0.25	1.9	2.5	6
	08020102xx80	0.5	2.1	4.9	8
	08020103xx80	0.75	2.5	7.3	12
	08020104xx80	1.0	2.7	9.8	15
	08020105xx80	1.5	3.0	14.7	21
	08020106xx80	2.5	3.8	24.5	35
	08020107xx80	4.0	4.6	39.2	54
	08020108xx80	6.0	5.7	53.9	78
	08020109xx80	10.0	7.6	89.8	133

*For the variants with polyester yarn braid i.e., SiF-PYB & SiFF-PYB, the insulated core colour shall be white.

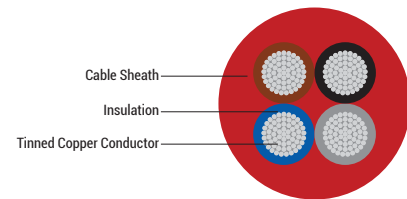
Kindly complete the part numbers for these cables by adding the suffix (in place of 'p') for the colour of polyester yarn required:

01 - green, 02 - red, 03 - blue, 04 - yellow, 05 - white, 06 - black.

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
SiF-PYB	08010101078p	0.25	2.3	2.4	5.5
	08010102078p	0.5	2.5	4.5	8.6
	08010103078p	0.75	2.8	6.7	11.8
	08010104078p	1.0	2.9	9	13.5
	08010105078p	1.5	3.2	12.9	18.5
	08010106078p	2.5	3.9	21.5	30
	08010107078p	4.0	4.6	34.1	47.3
	08010108078p	6.0	5.6	51.2	71.1
	08010109078p	10.0	7.4	87.1	119.4
	08010110078p	16.0	8.8	145.1	187.7
	08010111078p	25.0	10.2	225.8	289.6
	08010112078p	35.0	11.4	317.9	398.3
	08010113078p	50.0	12.8	456.2	559.7
	08010114078p	70.0	14.9	644.6	765.8

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
SFF-PYB	08020101078p	0.25	2.3	2.5	6
	08020102078p	0.5	2.5	4.9	8
	08020103078p	0.75	2.9	7.3	12
	08020104078p	1.0	3.1	9.8	15
	08020105078p	1.5	3.4	14.7	21
	08020106078p	2.5	4.2	24.5	35
	08020107078p	4.0	5.0	39.2	54
	08020108078p	6.0	6.1	53.9	78
	08020109078p	10.0	8.0	89.8	133

*For multi-pair maximum resistance shall be increased by 2%.



Application

These are silicone multicore cables for use at the areas where extreme temperature changes. Silicone cables are halogen - free cables and are especially suited for installation in power stations. They have also found their use in the steel producing industries, aviation industry, ship building as well as in ceramic, glass and cement factories. Due to elastical characteristic of core insulation, these are used as flexible connection cable.

Standards

Adapted to DIN VDE 0250 part 1 and part 816.

Technical Data

Voltage Rating : $U_0 / U - 300 / 500V$

Test Voltage : 2000V

Temperature Range : -50°C to +180°C (up to + 220°C for short time)

Breakdown Voltage : Min. 5000V

Insulation Resistance : Min. 200 MΩ x km

Minimum Bending Radius : Flexing 20 x cable ø. Fixed installation 4 x cable ø

Cable Construction

Tinned copper conductor to Cl. 5, EN 60228.

Silicone core insulation.

Core identification to DIN VDE 0293 - 308 colour coded or black cores with continuous white numbers.

For 2 - cores brown, blue.

For 3 - cores and above cable provided without protective conductor.

For 6 - cores and above all black cores with number coding.

Cores stranded in layers with optimal lay - length.

Outer jacket of Silicone.

Jacket colour - red brown

Properties

Advantages: The dielectric strength hardly changes even at high temperatures.

The cable has high ignition or flash points.

In case of fire, it forms an insulating layer of SiO₂

Resistant to : High molecular oils, fats from vegetables and animals, alcohols, plasticisers and clopenes, diluted acids, dyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen and UV.

Halogen - Free : According to IEC 60754 - 2.

Behaviour in Fire : Flame propagation test according to EN 60332 - 1 - 2.

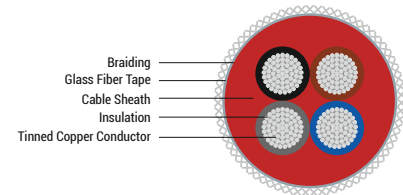
For laying as a fixed installation only in open or ventilated pipe systems as well as in ducts. Otherwise the mechanical properties of Silicone are reduced by the enclosed air at temperatures exceeding 90°C.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
080300201050	2 x 0.5	5.6	8.2	37.8
080300311050	3 x 0.5	5.9	12.2	45.1
080300411050	4 x 0.5	6.5	16.3	55.2
080300511050	5 x 0.5	7.1	20.4	66.6
080300611050	6 x 0.5	7.7	24.5	79.2
080300711050	7 x 0.5	7.9	28.5	85.8
080300811050	8 x 0.5	8.8	32.6	104.8
080301011050	10 x 0.5	10.2	40.8	137.1
080301211050	12 x 0.5	10.5	48.9	151.0
080301611050	16 x 0.5	11.7	65.2	189.8
080301811050	18 x 0.5	12.3	73.4	211.6
080302511050	25 x 0.5	14.7	101.9	299.9
080300201075	2 x 0.75	6.2	12.2	48.2
080300311075	3 x 0.75	6.8	18.3	60.7
080300411075	4 x 0.75	7.4	24.5	74.3
080300511075	5 x 0.75	8.2	30.6	92.4
080300611075	6 x 0.75	9.1	36.7	112.6
080300711075	7 x 0.75	9.1	42.8	117.9
080300811075	8 x 0.75	10.2	48.9	143.8
080301011075	10 x 0.75	11.5	61.1	182.7
080301111075	12 x 0.75	11.9	73.4	202.2
080301611075	16 x 0.75	13.2	97.8	255.6
080301811075	18 x 0.75	13.9	110.0	285.6
080300200001	2 x 1	6.7	16.3	58.1
080300310001	3 x 1	7.1	24.5	70.4
080300410001	4 x 1	7.7	32.6	86.7
080300510001	5 x 1	8.6	40.8	107.9
080300610001	6 x 1	9.6	48.9	131.8
080300710001	7 x 1	9.6	57.1	138.9
080300810001	8 x 1	10.7	65.2	169.0
080301010001	10 x 1	12.1	81.5	215.0
080301210001	12 x 1	12.6	97.8	239.1
080301610001	16 x 1	14.0	130.4	303.6
080301810001	18 x 1	14.7	146.7	339.5

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
080300201105	2 x 1.5	8.2	23.9	86.5
080300311105	3 x 1.5	8.7	35.8	105.0
080300411105	4 x 1.5	9.7	47.8	133.5
080300511105	5 x 1.5	10.6	59.7	161.0
080300611105	6 x 1.5	11.5	71.6	191.9
080300711105	7 x 1.5	11.7	83.6	206.0
080300811105	8 x 1.5	13.0	95.5	247.9
080301011105	10 x 1.5	14.8	119.4	317.6
080301211105	12 x 1.5	15.3	143.3	353.7
080301411105	14 x 1.5	16.1	167.1	399.5
080300201205	2 x 2.5	9.3	39.8	119.1
080300311205	3 x 2.5	9.9	59.7	147.6
080300411205	4 x 2.5	10.9	79.6	184.6
080300511205	5 x 2.5	11.9	99.5	225.3
080300611205	6 x 2.5	13.6	119.4	283.8
080300711205	7 x 2.5	13.6	139.3	301.0
080300811205	8 x 2.5	15.4	159.2	368.8
080300200004	2 x 4	10.6	63.3	164.8
080300310004	3 x 4	12.0	94.9	223.4
080300410004	4 x 4	13.4	126.6	284.5
080300510004	5 x 4	14.6	158.2	346.0
08030020000	2 x 6	12.4	94.9	232.7
6080300310006	3 x 6	13.2	142.4	293.7
080300410006	4 x 6	14.7	189.8	375.7

For current ratings refer table no. 12-1 & voltage drop refer table no. 12-2.



Application

These are silicone multicore cables with galvanized steel braiding for robust application.

These cables are used in the areas having large band of extreme temperatures and can be used in the areas with increased mechanical stress.

They are especially used in steel production industries, cement industries, glass industries, aviation industries, ship buildings, etc.

Standards

Adapted to DIN VDE 0250 part 1 and part 816.

Technical Data

Voltage Rating : $U_0 / U - 300 / 500V$

Test Voltage : 2000V

Temperature Range : -50°C to +180°C (up to + 220°C for short time)

Temperature Limit at the Conductor : In operation +180°C

Insulation Resistance : Min. 200 MΩ x km

Minimum Bending Radius : Flexing 10 x cable ϕ . Fixed Installation 5 x cable ϕ

Cable Construction

Tinned copper conductor to Cl. 5, EN 60228.

Silicone core insulation.

Core identification to DIN VDE 0293 - 308 colour coded or black cores with continuous white numbers.

For 2 - cores brown, blue.

For 3 - cores and above cable provided without protective conductor.

For 6 - cores and above all black cores with number coding.

Cores stranded in layers with optimal lay - length.

Outer jacket of Silicone.

Jacket colour - red brown.

Glass fibre tape over the jacket.

Galvanised steel wire outer braiding.

Properties

Galvanised steel braid over the sheath protects against the external mechanical damages. The cable has better durability in harsh environments and applications compared to the conventional silicone cables.

Advantages : Hardly changes of dielectric strength and the insulation resistance also at high temperatures, high ignition or flash point, in case of fire, forms an insulating layer of SiO₂.

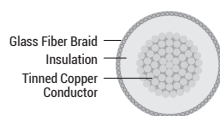
Resistant to : High molecular oils, fats from vegetables and animals, alcohols, plasticisers and clopenes, diluted acids, dyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen and UV.

Halogen - Free : According to IEC 60754 - 2.

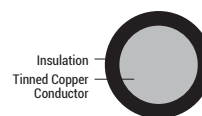
Behavior in Fire : Flame propagation test according to EN 60332 - 1 - 2.

Cable Design Parameters

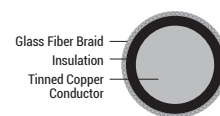
Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
080400201075	2 x 0.75	7.6	13	94
080400311075	3 x 0.75	8.0	19.6	102
080400411075	4 x 0.75	8.6	26.1	121
080400511075	5 x 0.75	9.3	32.6	134
080400711075	7 x 0.75	10.3	45.6	159
080400200001	2 x 1	7.8	17.4	103
080400310001	3 x 1	8.2	26.1	112
080400410001	4 x 1	8.9	34.8	131
080400510001	5 x 1	9.6	43.5	148
080400710001	7 x 1	10.6	60.8	180
080400201105	2 x 1.5	8.7	25.5	124
080400311105	3 x 1.5	9.2	38.2	142
080400411105	4 x 1.5	9.9	50.9	162
080400511105	5 x 1.5	10.7	63.7	189
080400711105	7 x 1.5	11.9	89.1	229
080401211105	12 x 1.5	15.3	152.8	355
080400201205	2 x 2.5	10.0	42.4	167
080400311205	3 x 2.5	10.6	63.7	191
080400411205	4 x 2.5	11.5	84.9	224
080400511205	5 x 2.5	12.5	106.1	260
080400711205	7 x 2.5	13.9	148.5	321
080400200004	2 x 4	11.8	67.5	234
080400300004	3 x 4	12.5	101.2	269
080400400004	4 x 4	14.0	135	329
080400500004	5 x 4	15.1	168.7	385
080400200006	2 x 6	14.2	101.2	324
080400300006	3 x 6	15.0	151.8	376



SiF-GL



SiD



SiD-GL

Application

SiF-GL are single core silicon cables with fiber glass braid for use in high as well as extremely low temperature areas. They are used mainly in the steel producing industries, in aviation industries as well as in ship building, cement, glass and ceramic factories. SiD/SiD-GL is employed in control cabinet manufacturing, electric motor industry, lighting technology, heating equipment, air conditioning systems.

Standards

Adapted to VDE 0250 part 1 and 502.

Technical Data

Voltage Rating : $U_0 / U - 300 / 500V$

Test Voltage : 2000V

Temperature Range : $-50^{\circ}C$ to $+180^{\circ}C$ (up to $+200^{\circ}C$ for short time with adequate ventilation)

Minimum Bending Radius : Fixed installation : $6 \times$ cable \varnothing . One bend at end of core $3 \times$ cable \varnothing

Cable Construction

Type SiF-GL :

Tinned copper conductor to EN 60228 Cl. 5.

Silicone core insulation.

Glass - fibre braiding.

Type SiD :

Solid tinned copper conductor with Silicone insulated.

Type SiD-GL :

This variant is similar to SiD with an additional glass - fibre braiding.

Properties

Advantages : High ignition or flash point.

Resistant to : High molecular oils, fats from vegetables and animals, alcohols, plasticisers and diluted acids, dyes and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen and UV.

Halogen - Free : According to IEC 60754-2.

Behavior in Fire : Flame propagation test according to EN 60332 - 1 - 2.



SiD



SiD-GL

Cable Design Parameters

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
SiF-PYB	80501010180	0.25	2.4	2.4	6
	80501020180	0.50	2.6	4.5	9
	80501030180	0.75	2.9	6.7	12
	80501040180	1.0	3.0	9.0	14
	80501050180	1.5	3.3	12.9	20
	80501060180	2.5	3.9	21.5	31
	80501070180	4.0	4.7	34.1	48
	80501080180	6.0	5.7	51.2	73
	80501090180	10.0	7.5	87.1	126
	80501100180	16.0	8.9	145.1	199
	80501110180	25.0	10.8	225.8	305
	80501120180	35.0	12.1	317.9	415
	80501130180	50.0	14.1	456.2	587
	SiD	80601010180	0.2	1.7	2.0
80601020180		0.28	1.8	2.8	5.4
80601030180		0.5	2.0	5.0	8.1
80601040180		0.75	2.1	7.4	10.6
80601050180		1.0	2.3	9.9	13.6
80601060180		1.5	2.5	14.9	18.9
80601070180		2.5	3.2	24.8	31.3
80601080180		4.0	3.9	39.6	49.0
80601090180		6.0	4.4	59.4	70.3
SiD-GL		80701010180	0.5	2.4	5.0
	80701020180	0.75	2.5	7.4	14
	80701030180	1.0	2.7	9.9	17
	80701040180	1.5	2.9	14.9	22
	80701050180	2.5	3.6	24.8	35
	80701060180	4.0	4.3	39.6	53
	80701070180	6.0	4.8	59.4	74

SECTION - IX
AUTO CABLES



PRODUCTS

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PVC Battery Cable

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PVC Battery Cable

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Elastomeric Battery Cable

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FLY

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FLYY

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Copper Earthing Braids

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PVC Ignition Cable

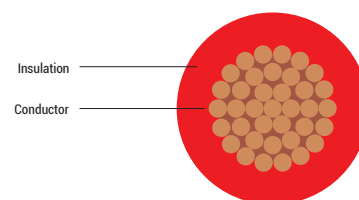
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FLYK

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FLRY n x (Twisted Cables)

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SXL - Special Purpose Cross-Linked Polyolefin Insulated Cable

Application

These are extra thick walled insulated cables used in automotive electric circuits of motorcycles and off-road vehicles.

Standard

In accordance to SAE J1128

Temperature Range (3000 Hrs)

-40°C to +125°C

Cable Construction

Soft annealed electrolytic copper ASTM B3

Cross-linked polyethylene (PE) with heat resistant properties according to SAE J1128

Packing

Available in 100 mtrs. coil. Longer length available in spools or wooden drums.

Special Properties

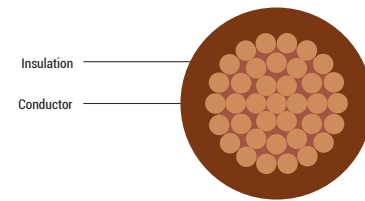
High temperature resistant and flame retardant

Provides higher reliability in heat resistance than conventional general wires due to emission bridging

Cable Design Parameters

SAE Conductor Size No.	No. of Strands	Max. Strand Diameter mm	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Approx. Overall Diameter mm
22*	7	0.26	0.78	0.74	2.3
20	7	0.32	0.96	0.74	2.5
20	19	0.19	0.95	0.74	2.5
18	16	0.26	1.22	0.76	2.7
18	19	0.23	1.12	0.76	2.7
16	19	0.29	1.45	0.81	3.1
14	19	0.36	1.80	0.89	3.6
12	19	0.45	2.25	0.94	4.2
10	19	0.58	2.98	1.04	5.0
10	104	0.25	2.90	1.04	5.0
8	19	0.72	3.60	1.09	5.9
8	50	0.45	3.67	1.09	5.9
6*	37	0.72	5.10	1.09	7.3
6*	133	0.36	4.80	1.09	7.0

*Not as per SAE J1128



GXL - General Purpose Cross-Linked Polyolefin Insulated Cable

Application

These are standard wall insulated cables for general purpose application in automotive electric circuits of motorcycles and off-road vehicles.

Standard

In accordance to SAE J1128

Temperature Range (3000 Hrs)

-40°C to +125°C

Cable Construction

Soft annealed electrolytic copper ASTM B3

Cross-linked polyethylene (PE) with heat resistant properties according to SAE J1128

Packing

Available in 100 mtrs. coil. Longer length available in spools or wooden drums.

Special Properties

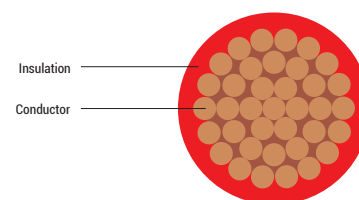
High temperature resistant and flame retardant

Provides higher reliability in heat resistance than conventional general wires due to emission bridging

Cable Design Parameters

SAE Conductor Size No.	No. of Strands	Max. Strand Diameter mm	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Approx. Overall Diameter mm
22*	7	0.26	0.78	0.58	2.0
20	7	0.32	0.96	0.58	2.2
20	19	0.19	0.95	0.58	2.2
18	16	0.26	1.22	0.58	2.4
18	19	0.23	1.12	0.58	2.4
16	19	0.29	1.45	0.58	2.7
14	19	0.36	1.80	0.58	3.0
12	19	0.45	2.25	0.66	3.6
10	19	0.58	2.98	0.79	4.5
10	104	0.25	2.90	0.79	4.5
8	19	0.72	3.60	0.94	5.6
8	50	0.45	3.67	0.94	5.6
6*	37	0.72	5.10	1.09	7.3
6*	133	0.36	4.80	1.09	7.0

*Not as per SAE J1128



TXL - Thin Wall Cross-Linked Polyolefin Insulated Cable

Application

These are extra thin walled insulated cables used for automotive lightings, signals and instrument panel circuits.

Standard

In accordance to SAE J1128

Temperature Range (3000 Hrs)

-40°C to +125°C

Cable Construction

Soft annealed electrolytic copper ASTM B3

Cross-linked polyethylene (PE) with heat resistant properties according to SAE J1128

Packing

Available in 100 mtrs. coil. Longer length available in spools or wooden drums.

Special Properties

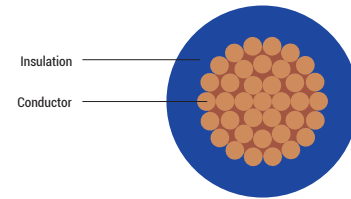
High temperature resistant and flame retardant

Provides higher reliability in heat resistance than conventional general wires due to emission bridging

Cable Design Parameters

SAE Conductor Size No.	No. of Strands	Max. Strand Diameter mm	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Approx. Overall Diameter mm
22	22	0.26	0.78	0.4	1.6
20	20	0.32	0.96	0.4	1.8
20	20	0.19	0.95	0.4	1.8
18	18	0.26	1.22	0.4	2.0
18	18	0.23	1.12	0.4	2.0
16	16	0.29	1.45	0.4	2.3
14	14	0.36	1.80	0.4	2.6
12	12	0.45	2.25	0.46	3.2
10	10	0.58	2.98	0.51	4.0
10	10	0.25	2.90	0.51	4.0
8	8	0.72	3.60	0.56	4.8
8	8	0.45	3.67	0.56	4.8
6*	6*	0.72	5.10	0.70	6.5
6*	6*	0.36	4.80	0.70	6.2

*Not as per SAE J1128



AV - Standard wall PVC insulation

Application

These are standard wall auto cables for ideal use in automotives by harness manufacturers.

Standard

In accordance to JASO D 611, JASO D 618, JIS C 3406

Temperature Range (3000 Hrs)

-40°C to +80°C

Cable Construction

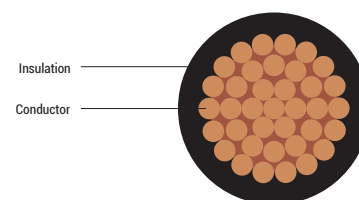
Soft annealed electrolytic copper Cu-ETP1 according to D 609-90, bare conductor construction according to JASO D 611 PVC insulation, material accordingly to JASO D 611

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.5	7	0.32	1.0	32.7	0.6	2.4	-0.2	10.0
0.85	11	0.32	1.2	20.8	0.6	2.6	-0.2	13.0
1.25	16	0.32	1.5	14.3	0.6	2.9	-0.2	17.0
2	26	0.32	1.9	8.81	0.6	3.4	-0.3	26.0
3	41	0.32	2.4	5.59	0.7	4.1	-0.3	40.0
5	65	0.32	3.0	3.52	0.8	4.9	-0.3	62.0
8	50	0.45	3.7	2.32	0.9	5.8	-0.3	92.0
10	63	0.45	4.5	1.84	1.0	6.9	-0.4	120.0
15	84	0.45	4.8	1.38	1.1	7.4	-0.4	160.0
0.5f*	20	0.18	1.0	36.7	0.6	2.4	-0.2	9.0
0.85f*	30	0.18	1.2	24.4	0.6	2.6	-0.2	12.0
1.25f*	50	0.18	1.5	14.7	0.6	2.9	-0.2	18.0
2f*	37	0.26	1.8	9.5	0.6	3.4	-0.4	25.0
3f*	61	0.26	2.4	5.76	0.7	4.1	-0.3	40.0



AVS - Thin Wall PVC Insulation

Application

These are thin wall auto cables ideal for use in automotives.

Standard

JASO D 611, JASO D 618

Temperature Range (3000 Hrs)

-40°C to +80°C

Cable Construction

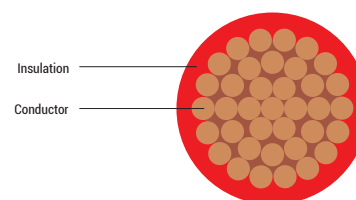
Soft annealed electrolytic copper Cu-ETP1 according to D 609-90, bare conductor construction according to JASO D 611 PVC insulation, material accordingly to JASO D 611

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Standard Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.3	7	0.26	0.8	50.2	0.50	1.9	-0.1	6
0.5	7	0.32	1.0	32.7	0.50	2.1	-0.1	8
0.85	11	0.32	1.2	20.8	0.50	2.3	-0.1	12
1.25	16	0.32	1.5	14.3	0.50	2.6	-0.1	16
2	26	0.32	1.9	8.81	0.50	3.1	-0.2	25
3	41	0.32	2.4	5.59	0.60	3.8	-0.2	39
5	65	0.32	3.0	3.52	0.70	4.6	-0.2	60
0.3f*	15	0.18	0.8	48.9	0.50	1.9	-0.1	6
0.5f*	20	0.18	1.0	36.7	0.50	2.1	-0.1	8
0.75f*	30	0.18	1.2	24.4	0.50	2.3	-0.1	11
1.25f*	50	0.18	1.5	14.7	0.50	2.6	-0.1	17
2f*	37	0.26	1.8	9.5	0.50	3.1	-0.4	24



AVSS - Ultra Thin Wall PVC Insulation

Application

These are ultra thin wall auto cables ideal for use in automotives.

Standard

JASO D 611, JASO D 618

Temperature Range (3000 Hrs)

-40°C to +80°C

Cable Construction

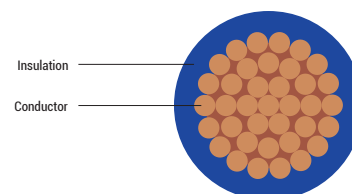
Soft annealed electrolytic copper Cu-ETP1 according to JIS C 3102, bare conductor construction according to JASO D 611 PVC, insulation material accordingly to JASO D 611

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.3	7	0.26	0.8	50.2	0.30	1.5	-0.1	5.0
0.5	7	0.32	1.0	32.7	0.30	1.7	-0.1	7.0
0.85	19	0.24	1.2	21.7	0.30	1.9	-0.1	10.0
1.25	19	0.29	1.5	14.9	0.30	2.2	-0.1	14.0
0.3f*	19	0.16	0.8	48.9	0.30	1.5	-0.1	5.0
0.5f*	19	0.19	1.0	34.6	0.30	1.7	-0.1	7.0
0.75f*	19	0.23	1.2	23.6	0.30	1.9	-0.1	10.0
1.25f*	37	0.21	1.5	14.6	0.30	2.2	-0.1	14.0
2f*	37	0.26	1.8	9.5	0.40	2.7	-0.1	22.0



Application

These are standard wall auto cables ideal for use in motor wirings of fans and sensor applications in automobiles.

Standard

Based on ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare conductor construction according to ISO 6722-1
Soft PVC insulation with properties according to ISO 6722-1, Class B

Special Properties

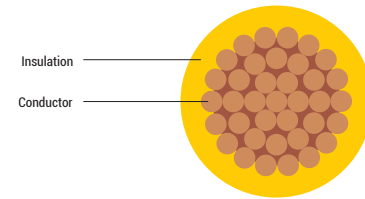
Conductor with cross-section > 6 mm² are also suitable as battery cable

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Overall Diameter (mm)	
						Min.	Max.
0.5	16	0.21	0.21	37.1	0.6	2.0	2.3
0.75	24	0.21	0.21	24.7	0.6	2.0	2.5
1	32	0.21	0.21	18.5	0.6	2.4	2.7
1.5	30	0.26	0.26	12.7	0.6	2.7	3.0
2	40	0.26	0.26	9.42	0.6	2.9	3.3
2.5	50	0.26	0.26	7.6	0.7	3.3	3.6
3	60	0.26	0.26	6.15	0.7	3.5	4.1
4	56	0.31	0.31	4.71	0.8	4.0	4.4
6	84	0.31	0.31	3.14	0.8	4.6	5.0
10	80	0.41	0.41	1.82	1.0	6.0	6.5
16	126	0.41	0.41	1.16	1.0	7.0	8.3
25	196	0.41	0.41	0.743	1.3	8.7	10.4
35	276	0.41	0.41	0.527	1.3	10.0	11.6
50	400	0.41	0.41	0.368	1.5	11.9	13.5
70	560	0.41	0.41	0.259	1.5	14.0	15.5
95	740	0.41	0.41	0.196	1.6	15.4	18.0
120	960	0.41	0.41	0.153	1.6	18.7	19.7



Application

These are auto cables ideal for use in automotives with hot pressure resistance

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +125°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare conductor construction according to ISO 6722-1
Soft PVC insulation with properties according to ISO 6722-1, Class C

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

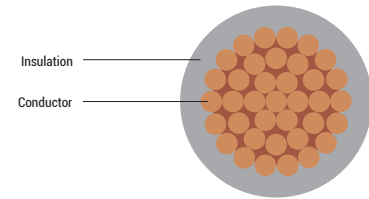
Special Properties

Hot pressure resistance test at 120°C. Suitable for applications inside the engine compartment.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.5	16	0.21	1.0	37.1	0.6	2.3	-0.3	8.0
0.75	24	0.21	1.2	24.7	0.6	2.5	-0.3	11.0
1	32	0.21	1.35	18.5	0.6	2.7	-0.3	14.0
1.25*	16	0.33	1.7	14.9	0.6	2.95	-0.55	14.0
1.5	30	0.26	1.7	12.7	0.6	3.0	-0.3	19.0
2	28	0.31	2.0	9.42	0.6	3.3	-0.3	25.0
2.5	50	0.26	2.2	7.6	0.7	3.6	-0.3	31.0
3	60	0.26	2.4	6.0	0.7	4.1	-0.3	37.0
4	56	0.31	2.75	4.71	0.8	4.4	-0.4	47.0
5	65	0.33	3.1	3.94	0.8	4.9	-0.4	58.0
6	84	0.31	3.3	3.14	0.8	5.0	-0.4	68.0
8*	50	0.46	4.3	2.38	0.8	5.9	-0.9	88.0
10	80	0.41	4.5	1.82	1.0	6.5	-0.5	111.0
12**	96	0.41	5.4	1.52	1.0	7.4	-0.8	142.0
16	126	0.41	6.3	1.16	1.0	8.3	-0.6	179.0
20**	152	0.41	6.9	0.955	1.1	9.1	-1.0	218.0
25	196	0.41	7.8	0.743	1.3	10.4	-1.0	278.0

*Sizes from JIS C3406 **Not as per ISO 6722



Application

These are standard wall auto cables with cold resistant properties and increased flexibility

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-50°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare conductor construction according to ISO 6722-1
Soft PVC insulation cold-resistant

Packing

Available in 100 mtrs. coils. Longer length available in spools.

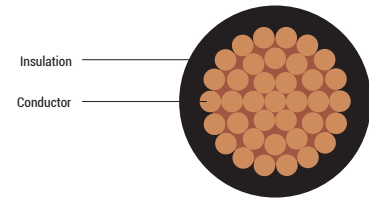
Special Properties

Cold bending test acc. to ISO 6722-1 at -50°C

Short-term and long term ageing according to ISO 6722-1, Class B.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.5	28	0.16	1.1	37.7	0.6	2.3	-0.3	9.0
0.75	42	0.16	1.3	25.1	0.6	2.5	-0.3	12.0
1.0	57	0.16	1.5	18.8	0.6	2.7	-0.3	15.0
1.5	84	0.16	1.8	12.7	0.6	3	-0.3	20.0
2.5	140	0.16	2.3	7.54	0.7	3.6	-0.4	32.0



Application

These are thin wall auto cables with cold resistant properties

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-50°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare conductor construction according to ISO 6722-1
Soft PVC insulation cold-resistant

Special Properties

Cold bending test acc. to ISO 6722-1 at -50°C.

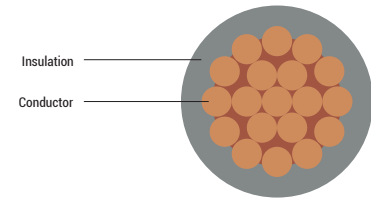
Short-term and long term ageing according to ISO 6722-1, Class B

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.5	16	0.21	1.0	37.1	0.28	1.6	-0.2	6.0
1.0	32	0.21	1.4	18.5	0.30	2.1	-0.2	12.0
1.5	30	0.26	1.7	12.7	0.30	2.4	-0.3	16.0
2.5	50	0.26	2.1	7.6	0.35	3.0	-0.3	30.0



Application

These are thin walled cables ideal for use in automotives where its reduced insulation thickness and higher temperature withstanding properties serves its application in complex wiring harnesses.

Standard

In accordance with ISO 6722

Voltage Rating

60 V D.C.; 25 V A.C. (Suitable for 12 Volts and 24 Volts systems)

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP according to DIN EN 13602.
 Conductor construction according to ISO 6722 (Concentric conductor, Type A)
 PVC insulation, class B to ISO 6722

Properties

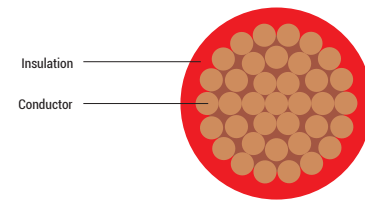
The lead free, PVC polymer, offers excellent resistance to petrol, chemicals, and abrasion, and in addition is suitable for both low and high temperature applications. Flame retardant to EN 60332-1-2

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Nom. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Min. Insulation Thickness (mm)	Max. Overall Diameter (mm)
				Plain Copper	Tinned Copper		
0.22	7	0.21	0.7	84.8	86.5	0.2	1.2
0.35	7	0.26	0.8	54.4	55.5	0.2	1.3
0.5	19	0.19	1.0	37.5	38.2	0.22	1.6
0.75	19	0.23	1.2	24.7	25.4	0.24	1.9
1	19	0.26	1.35	18.5	19.1	0.24	2.1
1.25	19	0.30	1.5	14.9	15.9	0.24	2.3
1.5	19	0.32	1.7	12.7	13	0.24	2.4
2	19	0.37	2.0	9.42	9.69	0.28	2.8
2.5	19	0.41	2.2	7.6	7.82	0.28	3.0



Application

These are thin walled cables ideal for use in automotives where its reduced insulation thickness and higher temperature withstanding properties serves its application in complex wiring harnesses.

Standard

In accordance with ISO 6722

Voltage Rating

60 V D.C.; 25 V A.C. (Suitable for 12 Volts and 24 Volts systems)

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP according to DIN EN 13602.
Conductor construction according to ISO 6722 PVC insulation, class B to ISO 6722

Properties

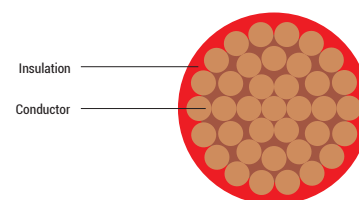
The lead free, PVC polymer, offers excellent resistance to petrol, chemicals, and abrasion, and in addition is suitable for both low and high temperature applications. Flame retardant to EN 60332-1-2

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Min. Insulation Thickness (mm)	Max. Overall Diameter (mm)
				Plain Copper	Tinned Copper		
0.35	12	0.21	0.9	54.4	55.5	0.2	1.4
0.5	16	0.21	1.0	37.5	38.2	0.22	1.6
0.75	24	0.21	1.2	24.7	25.4	0.24	1.9
1	32	0.21	1.35	18.5	19.1	0.24	2.1
1.25	16	0.33	1.5	14.9	15.9	0.24	2.3
1.5	30	0.26	1.7	12.7	13	0.24	2.4
2	30	0.31	2.0	9.42	9.69	0.28	2.8
2.5	50	0.26	2.2	7.6	7.82	0.28	3.0
3	45	0.31	2.4	6.15	6.36	0.28	3.4
4	56	0.31	2.75	4.71	4.85	0.32	3.7
5	65	0.33	3.1	3.94	4.02	0.32	4.2
6	84	0.31	3.3	3.14	3.23	0.32	4.3
8	50	0.46	3.8	2.38	2.52	0.32	5.0
10	80	0.41	4.5	1.82	1.85	0.48	6.0
12	96	0.41	5.2	1.52	1.6	0.48	6.5
16	18	0.41	5.5	1.16	1.18	0.52	7.2
20	152	0.41	5.8	0.955	0.999	0.52	7.8
25	196	0.41	7.8	0.743	0.757	0.52	8.7



Application

These are ultra thin wall auto cables ideal for use in automotives.

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare or tinned.

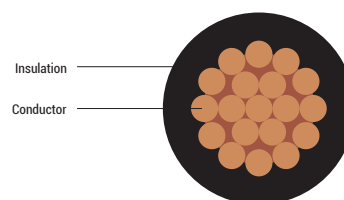
Soft PVC insulation cold-resistant according to ISO 6722-1, Class B

Packing

Packing available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Overall Diameter		Approx. Weight (Kg/Km)
						Max.	Tolerance	
0.35	7	0.27	0.8	52	0.16	1.2	-0.1	4.0
0.5	19	0.19	1	37.1	0.16	1.4	-0.1	6.0
0.75	19	0.24	1.2	24.7	0.16	1.6	-0.15	8.0
1.0	19	0.27	1.4	18.5	0.16	1.75	-0.15	10.0
1.25	19	0.30	1.5	14.9	0.16	2.0	-0.2	13.0
1.5	19	0.33	1.7	12.7	0.16	2.1	-0.2	15.0
2.0	19	0.37	1.9	9.42	0.20	2.4	-0.2	20.0
2.5	37	0.30	2.2	7.6	0.20	2.7	-0.2	25.0



FLRYW with thin wall PVC insulation (Type A / Type B, hot pressure resistant)

Application

These are thin wall auto cables with hot pressure resistant properties

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +125°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare or tinned construction acc. to ISO 6722-1
Special PVC insulation with properties according to ISO 6722-1, Class C

Special Properties

Heat resistant cable. Suitable for applications inside the engine compartment.

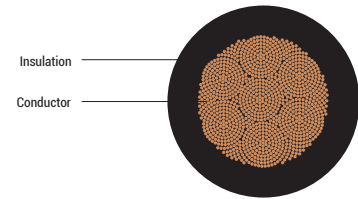
Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20oC (Ω/km) (Bare/Tinned)		Min. Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
							Max.	Tolerance	
FLRYW - TYPE A									
0.35	7	0.26	0.8	54.4	55.5	0.20	1.3	-0.1	5.0
0.5	19	0.19	1.0	37.5	38.2	0.22	1.6	-0.2	7.0
0.75	19	0.23	1.2	24.7	25.4	0.24	1.9	-0.2	9.0
1.0	19	0.26	1.35	18.5	19.1	0.24	2.1	-0.2	11.0
1.25	19	0.30	1.5	14.9	15.9	0.24	2.3	-0.2	12.0
1.5	19	0.32	1.7	12.7	13.0	0.24	2.4	-0.2	16.0
2.0	19	0.37	2.0	9.42	9.69	0.28	2.8	-0.3	22.0
FLRYW - TYPE B									
0.35	12	0.21	0.9	54.4	55.5	0.20	1.4	-0.2	5.0
0.5	16	0.21	1.0	37.5	38.2	0.22	1.6	-0.2	7.0
0.75	24	0.21	1.2	24.7	25.4	0.24	1.9	-0.2	9.0
1.0	32	0.21	1.35	18.5	19.1	0.24	2.1	-0.2	11.0
1.25*	16	0.33	1.5	14.9	15.9	0.24	2.3	-0.2	12.0
1.5	30	0.26	1.7	12.7	13.0	0.24	2.4	-0.2	16.0

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20oC (Ω/km) (Bare/Tinned)		Min. Insulation Thickness (mm)	Overall Diameter (mm)		Approx. Weight (Kg/Km)
							Max.	Tolerance	
FLRYW - TYPE B									
2	30	0.31	2.0	9.42	9.69	0.28	2.8	-0.3	22.0
2.5	50	0.26	2.2	7.6	7.82	0.28	3.0	-0.3	26.0
3	45	0.31	2.4	6.15	6.36	0.28	3.4	-0.3	33.0
4	56	0.31	2.75	4.71	4.85	0.32	3.7	-0.3	42.0
5	65	0.33	3.1	3.94	4.02	0.32	4.2	-0.3	50.0
6	84	0.31	3.3	3.14	3.23	0.32	4.3	-0.3	61.0
8	50	0.46	3.8	2.38	2.52	0.32	5.0	-0.4	82.0
10	80	0.41	4.5	1.82	1.85	0.48	6.0	-0.4	108.0
12	96	0.41	5.2	1.52	1.6	0.48	6.5	-0.7	120.0
16	18	0.41	5.5	1.16	1.18	0.52	7.2	-0.5	170.0
20	152	0.41	5.8	0.955	0.999	0.52	7.8	-0.8	192.0
25	196	0.41	7.8	0.743	0.757	0.52	8.7	-0.8	265.0



FL11Y with TPE-U insulation

Application

These are automotive cables for starting and charging application in motorcycles and other motor vehicles. The cable design makes it suitable for harsh environment and robust applications.

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +110°C

Cable Construction

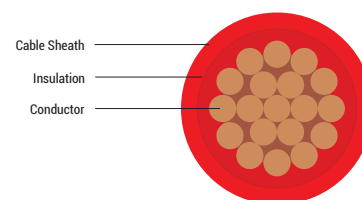
Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare construction acc. To ISO 6722-1
TPE-U (Thermoplastic polyurathane elastomer) according to ISO 6722-1, Class B

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Overall Diameter		Approx. Weight (Kg/Km)
						Max.	Tolerance	
6	84	0.31	3.3	3.14	0.80	5.0	-0.4	66.0
10	80	0.41	4.5	1.82	1.00	6.5	-0.5	109.0
16	126	0.41	6.3	1.16	1.00	8.3	-0.6	176.0
25	196	0.41	7.8	0.743	1.30	10.4	-0.7	273.0
35	276	0.41	9.0	0.527	1.30	11.6	-0.6	355.0
50	396	0.41	10.5	0.368	1.50	13.5	-2.0	511.0
70	360	0.51	12.5	0.259	1.50	15.5	-2.0	705.0
95	475	0.51	14.8	0.196	1.60	18.0	-2.0	905.0
120	608	0.51	16.5	0.153	1.60	19.7	-2.0	1170.0



Application

These cables are ideal for use in automotive applications where higher current carrying capacity and mechanical strength are required.

Standard

Adapted to ISO 6722

Voltage Rating

60 V D.C., 25 V A.C. (Suitable for 12 Volts and 24 Volts systems)

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP according to DIN EN 13602.

Conductor construction according to ISO 6722

PVC insulation, class B to ISO 6722

PVC sheath, class B to ISO 6722

Properties

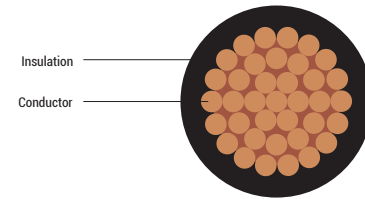
The special cable construction, offers higher mechanical strength without compromising with the cable flexibility. The cable is suitable for rugged applications across the extreme temperature range.

Packing

Available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Nominal Core Diameter (mm)	Sheath Thickness (mm)	Overall Diameter	
								Max.	Max.
0.5	16	0.21	1.0	37.1	0.6	2.1	0.4	2.7	3.1
0.75	24	0.21	1.2	24.7	0.6	2.3	0.4	3.0	3.3
1.0	32	0.21	1.35	18.5	0.6	2.5	0.4	3.2	3.6
1.5	30	0.26	1.7	12.7	0.6	2.8	0.5	3.7	4.1
2.0	40	0.26	2.0	9.42	0.6	3.0	0.5	3.9	4.3
2.5	50	0.26	2.2	7.6	0.7	3.5	0.5	4.3	4.8



Application

These are TPE-E insulated low tension automotive cables used in motor vehicles for lightings, signals and instrument panel circuits operating across wide range of extreme temperature.

Standard

In accordance to ISO 6722-1 class D

Temperature Range (3000 Hrs)

-40°C to +150°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602 ,bare conductor construction acc. To ISO 6722-1 Tinned copper available on request. TPE-E (Thermoplastic Elastomer)

Special Properties

These are polyester based elastomeric cables which offer consistent performance across the entire operating temperature range. Tear and abrasion resistant. High peak temperature resistance. Good resistant to chemical and weather conditions. High impact strength.

Packing

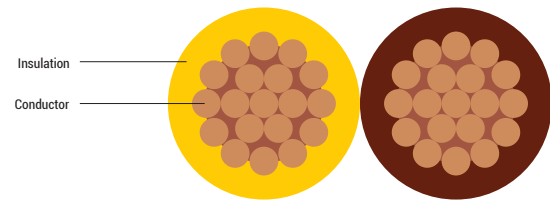
Packing available in 100 mtrs. Longer length available in spools.

Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Overall Diameter	
						Max.	Max.
FLR13Y - TYPE A							
0.22	7	0.21	0.7	84.8	0.20	1.1	1.2
0.35	7	0.26	0.8	54.4	0.20	1.2	1.3
0.5	19	0.19	1.0	37.5	0.22	1.4	1.6
0.75	19	0.23	1.2	24.7	0.24	1.7	1.9
1	19	0.26	1.35	18.5	0.24	1.9	2.1
1.5	19	0.32	1.7	12.7	0.24	2.2	2.4
2	19	0.37	2.0	9.42	0.28	2.5	2.8
2.5	19	0.41	2.2	7.6	0.28	2.7	3.0
FLR13Y - TYPE B							
0.35	12	0.21	0.9	54.4	0.20	1.2	1.4
0.5	16	0.21	1.0	37.5	0.22	1.4	1.6
0.75	24	0.21	1.2	24.7	0.24	1.7	1.9
1	32	0.21	1.35	18.5	0.24	1.9	2.1
1.5	30	0.26	1.7	12.7	0.24	2.2	2.4
2	30	0.31	2.0	9.42	0.28	2.5	2.8
2.5	50	0.26	2.2	7.60	0.28	3.7	3.0
4	56	0.31	2.75	4.71	0.32	3.4	3.7
6	84	0.31	3.3	3.14	0.32	4.0	4.3

FLRY n x (TWISTED CABLES)

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Application

These are unsheathed twisted wires used in automobiles

Standard

In accordance to ISO 6722-1

Temperature Range (3000 Hrs)

-40°C to +105°C

Cable Construction

Soft annealed electrolytic copper Cu-ETP1 according to DIN EN 13602, bare or tinned copper construction acc. to ISO 6722-1 PVC with properties according to according to ISO 6722-1, Class B

Special Properties

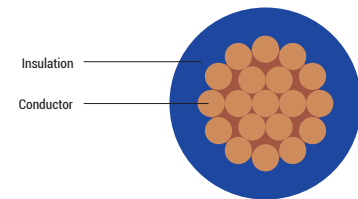
Higher heat resistance. Tinned copper conductor. Other lay lengths available on request.

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Cable Design Parameters

No. of Cores x Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Min. Insulation Thickness (mm)	Core Diameter (Max.) (mm)	Lay Length (Nom.) (mm)	Outer Diameter (Max.) (mm)	Approx. Weight (Kg/Km)
2x0.35	7	0.26	0.8	52.0	0.20	1.3	16	2.6	9.0
2x0.35	7	0.26	0.8	52.0	0.20	1.3	20	2.6	9.0
2x0.35	7	0.26	0.8	52.0	0.20	1.3	30	2.6	9.0
2x0.5	19	0.19	1.0	37.1	0.22	1.6	15	3.2	13.0
2x0.5	19	0.19	1.0	37.1	0.22	1.6	30	3.2	13.0
2x0.5	16	0.21	1.0	37.1	0.22	1.6	20	3.2	13.0
2x0.5	16	0.21	1.0	37.1	0.22	1.6	30	3.2	13.0
3x0.5	19	0.19	1.0	37.1	0.22	1.6	30	3.5	20.0
3x0.5	16	0.21	1.0	37.1	0.22	1.6	40	3.5	20.0
2x0.75	24	0.23	1.2	24.7	0.24	1.9	30	3.8	18.0
2x0.75	19	0.21	1.2	24.7	0.24	1.9	30	3.8	18.0
3x0.75	19	0.23	1.2	24.7	0.24	1.9	30	4.1	27.0
2x1	19	0.26	1.35	18.5	0.24	2.1	30	4.2	22.0
2x1	32	0.21	1.35	18.5	0.24	2.1	30	4.2	22.0
3x1	32	0.21	1.35	18.5	0.24	2.1	25	4.5	33.0
4x1	19	0.26	1.35	18.5	0.24	2.1	30	5.1	44.0
2x1.5	19	0.32	1.7	12.7	0.24	2.4	30	4.8	32.0
2x2.5	50	0.26	2.2	7.8	0.28	3.0	30	6.0	52.0
5x2.5	50	0.26	2.2	7.8	0.28	3.0	50	8.1	130.0
6x2.5	50	0.26	2.2	7.8	0.28	3.0	55	9.0	156.0



Application

These are power train cables for automobiles. These are used in wire harness of low-tension engine compartment circuits for automobiles.

Max. Operating Temperature

150°C

Cable Construction

Bare or annealed tinned copper
TPE-E (Thermoplastic Elastomer)

Packing

Available in 100 mtrs. Longer length available in spools.

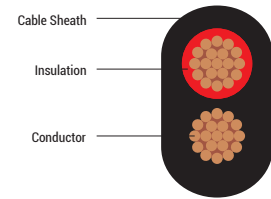
Cable Design Parameters

Nom. Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Max. Conductor Diameter (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	Nominal Insulation Thickness (mm)	Overall Diameter (mm)	
						Min.	Max.
0.35	7	0.26	0.9	52.0	0.25	1.2	1.4
0.50	19	0.20	1.0	37.1	0.30	1.4	1.6
0.75	19	0.24	1.20	24.7	0.35	1.7	1.9
1.0	19	0.26	1.35	18.5	0.38	1.9	2.1
1.5	30	0.26	1.7	12.7	0.35	2.2	2.4
2.5	50	0.26	2.2	7.6	0.40	2.7	3.0
4.0	56	0.31	2.75	4.7	0.45	3.4	3.7
6.0	84	0.31	3.3	3.1	0.50	4.0	4.3

*Note : Tinned copper conductor can be provided on request.

THIN WALL MULTICORE CABLES

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Application

These are multicore cables used in automobile.

Standard

In accordance to ISO 6722-1

Cable Construction

Electrolytic plain annealed copper according to ISO 6722-1

PVC with properties according to according to ISO 6722-1, Class B (105°C). PVC Sheathed 105°C.

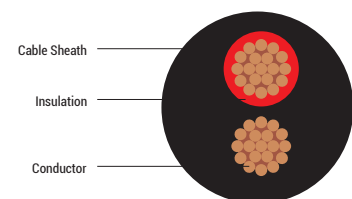
Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Thin Wall 2 Core Auto Cables (Flat Twins)

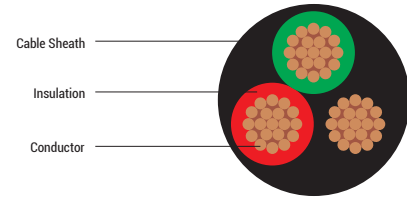
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
2x0.5	16	0.20	2.7 x 4.6	Black	Black, Red
2x0.75	24	0.20	3.1 x 4.9		
2x1.0	32	0.20	3.0 x 5.0		
2x1.5	21	0.30	3.5 x 5.8		
2x2.0	28	0.30	3.9 x 6.5		
2x2.5	35	0.30	3.9 x 6.7		
2x3.0	44	0.30	4.3 x 7.5		
2x4.5	65	0.30	5.6 x 9.4		

Thin Wall 2 Core Auto Cables (Round Twins)



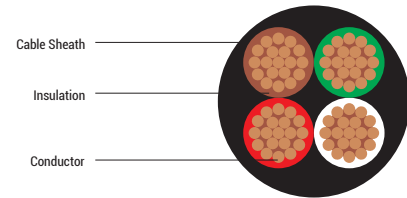
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
2x0.5	16	0.20	5.2	Black	Black, Red
2x0.75	24	0.20	5.3		
2x1.0	32	0.20	5		
2x1.5	21	0.30	6.4		
2x2.0	28	0.30	6.8		
2x2.5	35	0.30	6.7		

Thin Wall 3 Core Auto Cables



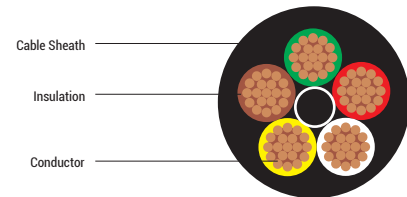
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
3x0.75	24	0.20	5.7	Black	Black, Red, Green
3x1.0	32	0.20	5.5		
3x1.5	21	0.30	5.9		
3x2.0	28	0.30	7.3		

Thin Wall 3 Core Auto Cables



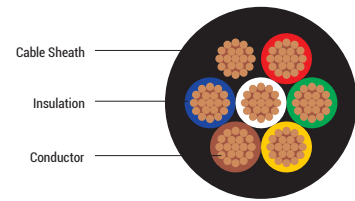
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
4x0.75	24	0.20	5.9	Black	Brown, Green, Red, White
4x1.0	32	0.20	5.8		
4x1.5	21	0.30	7.6		

Thin Wall 5 Core Auto Cables



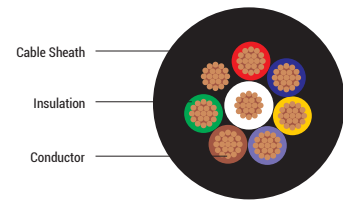
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
5x0.75	24	0.20	5.9	Black	Brown, Green, Red, White, Yellow
5x1.0	32	0.20	5.8		
4x1.0 + 1x2.0	21	0.30	7.6		
	28	0.30			

Thin Wall 7 Core Auto Cables



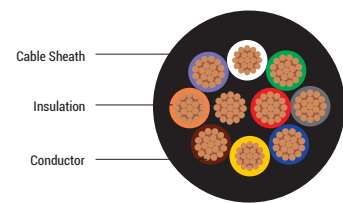
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
7x0.5	16	0.20	6	Black	Black, Red, Green, Yellow, Brown, White, Blue
7x0.75	24	0.20	6.8		
7x1.0	32	0.20	7.4		
4x1.0 + 1x2.0	28	0.30	8.3		
4x1.0 + 1x2.0	21	0.30	10.1		
	35	0.30		Grey	

Thin Wall 8 Core Auto Cables



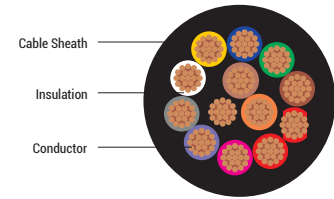
No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
7x1.0 + 1x2.0	32	0.20	8.8	Black	Black, Red, Blue, Yellow, Purple, Brown, White, Green
	28	0.320			

Thin Wall 10 Core Auto Cables



No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
9x1.0 + 1x2.0	32	0.20	10.90	Black	Black, Red, Green, Grey, Blue, Yellow, Brown, Orange, Purple, White
	28	0.320			

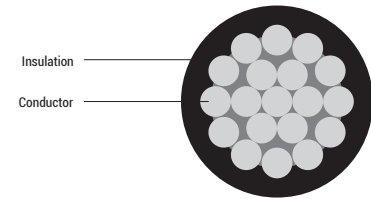
Thin Wall 13 Core Auto Cables



No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
12x1.5 + 1x2.5	21	0.30	12.30	Black	Yellow, Blue, Green, Brown, Red/Black, Black, Red, Pink, Purple, Grey, White, Light Brown, Orange
	35	0.30			
8x1.5 + 5x2.5	30	0.25	13.30	Black	Black, Red, Green, Grey, Blue, Yellow, Brown, Orange, Purple, White
	50	0.25			

TINNED COPPER CABLES

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Application

Tin plated single and multi core cable for starting, charging and instrument panel circuits in automobiles.

Standards

In accordance to ISO 6722-1

Cable Construction

Electrolytic annealed tinned copper as per ISO 6722-1

PVC with properties according to according to ISO 6722-1, Class B (105°C)

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.

Single Core Cable

Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter mm	Outer Diameter (max.) (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)
1.0	32	0.20	2.1	19.1
1.5	21	0.30	2.4	13.0
2.5	35	0.30	3.0	7.82
4.0	56	0.30	3.7	4.85
6.0	84	0.30	4.3	3.23
10.0	80	0.40	6.0	1.85

Tinned Copper 2 Core Cables (Flat Twins)

Standards

In accordance to ISO 6722-1

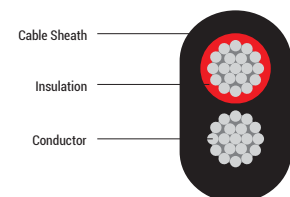
Cable Construction

PVC with properties according to according to ISO 6722-1, Class B (105°C)

PVC Sheathed 105°C

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums.



No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
2 x 1.5	21	0.30	3.5 x 5.8	White/ Black	Red, Black
2 x 2.5	35	0.30	3.9 x 6.7		

Tinned Copper 2 Core Cables (Round Twins)

Standards

In accordance to ISO 6722-1

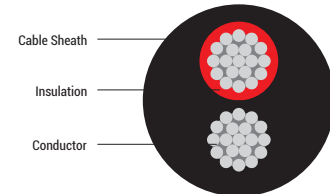
Cable Construction

PVC with properties according to according to ISO 6722-1, Class B (105°C)

PVC Sheathed 105°C

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums



No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
2 x 1.5	21	0.30	6.4	Black	Black, Red
2 x 2.5	35	0.30	6.7		

Tinned Copper 3 Core Cables

Standards

In accordance to ISO 6722-1

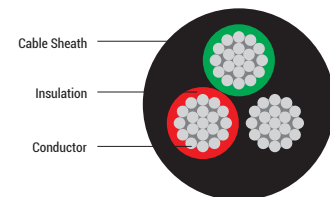
Cable Construction

PVC with properties according to according to ISO 6722-1, Class B (105°C)

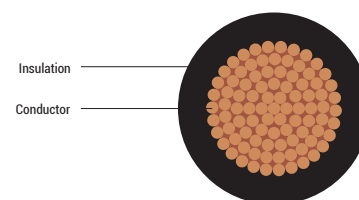
PVC Sheathed 105°C

Packing

Available in 100 mtrs. Longer length available in spools or wooden drums



No. of Cores X Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Conductor (mm)	Max. Overall Diameter (mm)	Sheath Colour	Core Colour
2 x 1.5	21	0.30	5.9	White / Black	Black, Red, Green
2 x 2.5	35	0.30	7.4		



Voltage Rating

Max. 200V

Test Voltage

1000 Volts

Temperature Range

-30°C to +70°C

Cable Construction

Annealed Bare copper strands

For PVC battery cable - Cl. 5 to EN 60228

For Flexible PVC battery cable - Cl. 6 to EN 60228

PVC insulation over bunched conductor

Packing

Available in wooden drums.

Cable Design Parameters

Standard Battery Cable

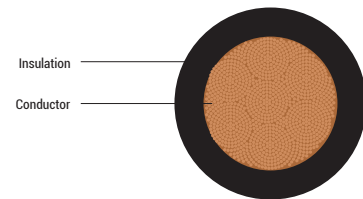
Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter mm	Outer Diameter (max.) (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)
25	196	0.40	9.7	0.780
35	276	0.40	12.2	0.554
50	396	0.40	13.3	0.386
70	360	0.50	14.6	0.272

Flexible Battery Cable

Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter mm	Outer Diameter (max.) (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)
16	512	0.20	8.3	1.21
25	800	0.20	10.1	0.780
35	1120	0.20	11.8	0.554
50	705	0.30	13.3	0.386
70	990	0.30	15.5	0.272
95	1340	0.30	17.9	0.206
120	1690	0.30	19.7	0.161

ELASTOMERIC BATTERY CABLE

REACH | RoHS | CE



Standard

Adapted to BS 6862

Voltage Rating

Max. 200V

Test Voltage

1000 Volts

Temperature Range (3000 Hrs)

-40°C to + 90°C

Cable Construction

Bare copper strands as per EN 60228, class 6

Packing

Available in wooden drums.

Conductor Bunch Variants

Normal flex and Super flex

Special Elastomeric Insulation

Thermoplastic Elastomer Vulcanizate

Special Properties

Acid Resistance Test: In sulphuric acid of specific gravity 1.28 at a temperature of 160°C to 210°C and check the cable after 60 hrs.

No effect on insulation. Insulation free from deformation and shrinkage

Chemical Resistance: Resistant to ozone, acids, solvents, detergents, vaseline and oils.

Cable Design Parameters

Super Flex

Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter mm	Outer Diameter (max.) (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)
25	784	0.20	11.1	0.78
35	1176	0.20	12.8	0.554
50	1568	0.20	14.0	0.386
70	2205	0.20	16.0	0.272
95	2989	0.20	18.0	0.206
120	3850	0.20	20.3	0.161

Normal Flex

Nominal Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter mm	Outer Diameter (max.) (mm)	Max. DC Conductor Resistance at 20°C (Ω/km)
25	816	0.20	11.1	0.78
35	1144	0.20	12.8	0.554
50	1662	0.20	14.0	0.386
70	2346	0.20	16.0	0.272
95	3050	0.20	18.0	0.206



Application

Tubular braids are used for covering and shielding. They protect the cables and electrical conductors against interferences and to realize a safe data transfer.

Material

Annealed electrolytic grade copper wire. Wire Dia - 0.16 to 0.3 mm

Test Voltage

3000 V

Surface

Plain copper or Tinned

Packing

In rings or spools or wooden drums.

Tubular Braids

Cross-Section (mm ²)	No. of Strands	Max. Strand Diameter (mm)	Outer Diameter (max.) (mm)	Thickness (mm)
7.90	36 X 7	0.2	8.5	25
10.20	36 X 9	0.2	10	27
12.45	36 X 11	0.2	12	29
35.80	36 X 14	0.3	25	70
51.10	48 X 15	0.3	25	90

Tinned Copper Earthing Braids

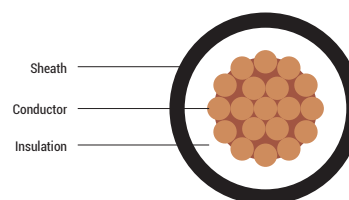


Cross-Section (mm ²)	No. of Strands	Strand Diameter (mm)	Width (mm)
19	16 X 16	0.3	7.20
37	16 X 32	0.3	11.1

We can also produce special designs in diameters and constructions according to customer requirement.

PVC IGNITION CABLE

REACH | RoHS | CE | CPR Compliant



Application

Ignition Cable transfers high voltage energy from distributors/coils to spark plugs.

Standard

Adapted to BS 6862 Part-1 & IS 2465

Max. Operating Temperature

70°C

Cable Construction

Annealed Bare Copper, cl. 2

PVC Core insulation

PVC Sheath

Sheath colour - black

Packing

Available in 100 mtrs. coils. Longer length available in spools or wooden drums.

Properties

* Flame retardant to EN 60332-1-2

Cable Design Parameters

Nom. Cross-Section (mm ²)	Max. Strand Diameter (mm)	Total Radial Thickness of Covering (mm)	Nom. Cable Diameter (mm)	Approx Weight (kg/km)
1.5	0.31	2.8	7.0	62.5

SECTION - X
FIRE AND SECURITY CABLES



PRODUCTS

Fire Alarm Cables

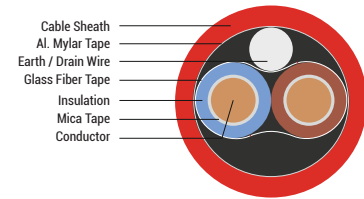
Page No.: 286 - 289

Fire Survival Cables

Page No.: 290 - 292

Single Core Fire Resistant

Page No.: 293



Application

These cables are used in high rise buildings, commercial complexes, schools and educational institutions, hospitals, etc. for the connection with security systems like smoke detectors, emergency lightings, exit signboards and fire command center. These cables are used where the fire safety is utmost important.

Standard

BS 7629-1, BS EN 50200.

Technical Data

Voltage Rating : 300/500V

Temperature Range : -30°C to + 70°C (The cable should not be flexed when either the ambient or cable temperature is below 0°C)

Minimum Bending Radius : 6D

Cable Type - 1

FFX200 05mSOZ1-R - CU/MGT/SR/OSCR/LSZH 300/500V Class 2.

Cable Construction

Plain annealed copper conductor to BS EN 60228, class 2.

Primary insulation of glass mica fire resistant tape.

Secondary insulation of high performance silicone rubber.

EI 2 to BS 7655 Section 1.1.

Core colours :

2 Core : blue, brown.

3 Core : blue, brown, black.

4 Core : blue, brown, black, grey.

Glass fiber tape.

Earth/Drain wire of annealed tinned copper to BS EN 60228.

Electrostatic screen of aluminium fire barrier.

Sheath type LTS3 to BS 7655 section 6.1.

Properties

Low smoke zero halogen (LSZH), flame retardant.

Fire Performance Tests

BS 7629 - 1, 300 / 500 V fire resistant electric cables with non corrosive gases and low emission of smoke when affected by fire. Category STANDARD 30 & STANDARD 60 when tested in accordance with BS EN 50200-Method of test for resistance to fire of unprotected small cables for use in emergency circuits.

Also meets category ENHANCED 120 when tested in accordance with BS EN 50200 and the 120 min survival time when tested in accordance with BS 8434-2.

Meets requirement for fire resistant cables as described in clause 26 2e of BS 5839-1.

Range Details

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	No. of Strands/ Strand Diameter (mm)	Nominal Overall Diameter (mm)
100100201105	2 x 1.5	7/0.53	10.0
100100201205	2 x 2.5	7/0.67	11.5
100100301105	3 x 1.5	7/0.53	10.8
100100301205	3 x 2.5	7/0.67	12.3
100100401105	4 x 1.5	7/0.53	12.0
100100401205	4 x 2.5	7/0.67	13.5

Electrical Properties

Part Number	No. of Cores & Nominal Cross Section Area (Sq. mm)	Max. Conductor Resistance at 20°C (Ω/km)	Current Rating (A)		Voltage Drop DC or Single Phase AC (mV/A/m)
			DC or Single Phase AC enclosed	DC or Single Phase AC Clipped	
100100201105	2 x 1.5	12.1	17.5	20.0	29
100100201205	2 x 2.5	7.41	24.0	27.0	18
100100301105	3 x 1.5	12.1	17.5	20.0	29
100100301205	3 x 2.5	7.41	24.0	27.0	18
100100401105	4 x 1.5	12.1	17.5	20.0	29
100100401205	4 x 2.5	7.41	24.0	27.0	18

Cable Type - 2

FFX200 05SOZ1-U - CU/SR/OSCR/LSZH 300/500V Class 1.

Technical Data

Plain annealed copper conductor to BS EN 60228, class 1.

Insulation of high performance ceramified silicone rubber.

EI 2 to BS 7655 Section 1.1.

Core colours:

2 Core : blue, brown.

3 Core : blue, brown, black.

4 Core : blue, brown, black, grey.

Glass fiber tape.

Earth/Drain wire of annealed tinned copper to BS EN 60228.

Electrostatic screen of aluminium fire barrier.

Sheath Type LTS3 to BS 7655 section 6.1.

Properties

Low smoke zero halogen (LSZH), flame retardant.

Fire Performance Tests

BS 7629 - 1, 300 / 500 V fire resistant electric cables with non corrosive gases and low emission of smoke when affected by fire.

Category STANDARD 60 when tested in accordance with BS EN 50200-Method of test for resistance to fire of unprotected small cables for use in emergency circuits.

In addition, it shall meet the 30 min survival time when tested in accordance with BS EN 50200, Annex E.

Meets requirement for the fire resistant cables as described in clause 26 2d of BS 5839-1

Cable Design Parameters

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	No. of Strands/ Strand Diameter (mm)	Nominal Overall Diameter (mm)
100200200001	2 x 1	1/1.13	7.5
100200201105	2 x 1.5	1/1.38	8.5
100200201205	2 x 2.5	1/1.78	9.9
100200301105	3 x 1.5	1/1.38	9.1
100200301205	3 x 2.5	1/1.78	10.7
100200401105	4 x 1.5	1/1.38	10.1
100200401205	4 x 2.5	1/1.78	11.6

Electrical Properties

Part Number	No. of Cores & Nominal Cross Section Area (Sq. mm)	Max. Conductor Resistance at 20°C (Ω/km)	Current Rating (A)		Voltage Drop DC or Single Phase AC (mV/A/m)
			DC or Single Phase AC enclosed	DC or Single Phase AC Clipped	
100200200001	2 x 1	18.1	13.1	15.5	44
100200201105	2 x 1.5	12.1	17.5	20.0	29
100200201205	2 x 2.5	7.41	24	27.0	18
100200301105	3 x 1.5	12.1	17.5	20.0	29
100200301205	3 x 2.5	7.41	24.0	27.0	18
100200401105	4 x 1.5	12.1	17.5	20.0	29
100200401205	4 x 2.5	7.41	24.0	27.0	18

Cable Type - 3

FFX200 05mZOZ1-R - Cu/MGT/LS0H /OSCR/LSZH 300/500V Class 2

Technical Data

Plain annealed copper conductor to BS EN 60228, class 2.

Primary insulation of glass mica fire resistant tape Secondary insulation to BS EN 50363-5, Type EI 5, Low smoke zero halogen (LSZH) cross-linkable flame retardant insulation.

Core colours:

2 Core : Blue, Brown.

3 Core : Blue, Brown, Black.

4 Core : Blue, Brown, Black, Grey.

Glass fiber tape.

Earth/Drain wire of annealed tinned copper to BS EN 60228.

Electrostatic screen of aluminium fire barrier.

Sheath Type LTS3 to BS 7655 section 6.1.

Properties

Low smoke zero halogen (LSZH), flame retardant.

Fire Performance Tests

BS 7629 - 1, 300 / 500 V fire resistant electric cables with non corrosive gases and low emission of smoke when affected by fire. Category STANDARD 60 when tested in accordance with BS EN 50200-Method of test for resistance to fire of unprotected small cables for use in emergency circuits.

In addition, it shall meet the 30 min survival time when tested in accordance with BS EN 50200, Annex E.

Meets requirement for the fire resistant cables as described in clause 26 2d of BS 5839-1

Part Number	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	No. of Strands/ Strand Diameter (mm)	Nominal Overall Diameter (mm)
100300201105	2 x 1.5	7/0.53	10.0
100300201205	2 x 2.5	7/0.67	11.5
100300301105	3 x 1.5	7/0.53	10.8
100300301205	3 x 2.5	7/0.67	12.3
100300401105	4 x 1.5	7/0.53	12.0
100300401205	4 x 2.5	7/0.67	13.5

Electrical Properties

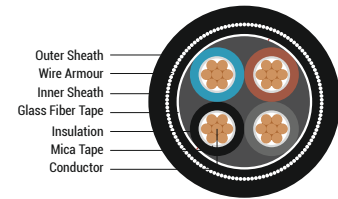
Part Number	No. of Cores & Nominal Cross Section Area (Sq. mm)	Max. Conductor Resistance at 20°C (Ω/km)	Current Rating (A)		Voltage Drop DC or Single Phase AC (mV/A/m)
			DC or Single Phase AC enclosed	DC or Single Phase AC Clipped	
100300201105	2 x 1.5	12.1	17.5	20.0	29
100300201205	2 x 2.5	7.41	24.0	27.0	18
100300301105	3 x 1.5	12.1	17.5	20.0	29
100300301205	3 x 2.5	7.41	24.0	27.0	18
100300401105	4 x 1.5	12.1	17.5	20.0	29
100300401205	4 x 2.5	7.41	24.0	27.0	18

Code Designations

FFX – Fire Alarm Cable, 200 – 300/500 V Multicore (Type), 05 – 300/500 V (Voltage), mS – Mica Tape + Silicon Rubber, mZ – Mica Tape + Thermosetting LSOH, S – Silicon Rubber, O – Overall Aluminium screen, Z1 –LSZH, U – Solid conductor to EN 60228 class 1, R – Stranded conductor to EN 60228 class 2

FIRE SURVIVAL CABLE

REACH | RoHS | CE



Application

These cables offer the advantages of an armoured 600/1000V rated, low smoke zero halogen (LSZH) cable with circuit integrity. They are intended for use in installations where vital circuits are required to continue operation in the event of the outbreak of fire. It is particularly suited for use in public buildings and constructions (such as hospitals, theatres, shopping developments, tunnels, mass transit railways, oil & petrochemical plants, power stations and computer installations) where the danger to life, equipment and structures may be greatly increased in the event of a power failure due to fire.

Standard

BS 7846

Technical Data

Voltage Rating : 600 / 1000V

Operating Temperature : -40°C to + 90°C

(The cable should not be flexed when either the ambient or cable temperature is below 0°C)

Minimum Bending Radius : 12 x overall diameter of cable

Cable Construction

Construction : Plain annealed stranded copper conductors.

Conductor : For sizes up to and including 16mm² are offered in circular . Shaped conductors are offered from 25 mm² and onwards.

Insulation : Mica (fire - resistant) tapes, covered by an extruded layer of cross - linked polyethylene.

Bedding : An extruded layer of thermoplastic low smoke zero halogen (LSZH) compound.

Armour : Single layer of galvanized steel wires.

Sheath : Thermoplastic low smoke zero halogen (LSZH) compound.

Cable Technical Data

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Nominal Armour Wire Diameter (mm)	Approx. Diameter Under Armour (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)	Max. DC Conductor Resistance at 20°C (Ω/km)	Max. AC Conductor Resistance at 90°C (Ω/km)	Reactance at 50Hz (Ω/km)	AC Impedance at 90°C (Ω/km)	Max. Arm. Resistance at 20°C (Ω/km)
2 Core	100300201105	1.5*	0.6	0.9	8.5	13.0	415	12.1	15.428	0.104	15.428	10.7
	100300201205	2.5*	0.7	0.9	10	14.5	495	7.41	9.448	0.101	9.448	8.8
	100300200004	4*	0.7	0.9	11	15.5	575	4.61	5.878	0.099	5.878	7.9
	100300200006	6*	1	0.9	12.5	17.0	658	3.08	3.927	0.094	3.928	7.0
	100300200010	10*	1	0.9	14.0	19.0	828	1.83	2.333	0.093	2.335	6.0
	100300200016	16	1	1.25	16.0	21.5	1005	1.15	1.466	0.088	1.469	3.8
	100300200025	25	1	1.25	15.5	21.2	1105	0.727	0.927	0.082	0.93	3.7
	100300200035	35	1	1.6	17.5	24.0	1555	0.524	0.668	0.077	0.673	2.5
	100300200050	50	1	1.6	20.0	26.5	1855	0.387	0.494	0.076	0.5	2.3
	100300200070	70	1.1	1.6	23.0	30.0	2455	0.268	0.342	0.075	0.349	2.0
	100300200095	95	1.1	2.0	26.0	34.0	3345	0.193	0.247	0.074	0.258	1.4
	100300200120	120	1.2	2.0	29.0	37.0	3898	0.153	0.196	0.072	0.209	1.3
	100300200150	150	1.4	2.0	32.0	40.0	4645	0.124	0.16	0.073	0.176	1.2
	100300200185	185	1.6	2.5	36.0	45.5	5945	0.0991	0.128	0.073	0.148	0.82
	100300200240	240	1.7	2.5	40.0	50.0	7345	0.0754	0.099	0.072	0.122	0.73
	100300200300	300	1.8	2.5	44.0	54.5	8695	0.0601	0.08	0.072	0.107	0.67
100300200400	400	2	2.5	49.5	60.0	10745	0.047	0.064	0.071	0.096	0.59	
3 Core	100300301105	1.5*	0.6	0.9	9.0	13.5	423	12.1	15.428	0.104	15.428	10.2
	100300301205	2.5*	0.7	0.9	10.5	15.0	544	7.41	9.448	0.101	9.448	8.2
	100300300004	4*	0.7	0.9	11.5	16.5	644	4.61	5.878	0.099	5.878	7.5
	100300300006	6*	0.7	0.9	13.0	17.5	738	3.08	3.927	0.094	3.925	6.6
	100300300010	10*	0.7	1.25	15.0	20.5	1085	1.83	2.333	0.093	2.335	4.0
	100300300016	16	0.7	1.25	17.0	22.5	1313	1.15	1.466	0.088	1.469	3.6
	100300300025	25	0.9	1.6	20.0	26.5	1803	0.727	0.927	0.082	0.93	2.5
	100300300035	35	0.9	1.6	22.0	29.0	2202	0.524	0.668	0.077	0.673	2.3
	100300300050	50	1	1.6	22.5	29.5	2453	0.387	0.494	0.076	0.5	2.0
	100300300070	70	1.1	1.6	26.0	33.0	3202	0.268	0.342	0.075	0.349	1.8
	100300300095	95	1.1	2.0	30.0	38.0	4455	0.193	0.247	0.074	0.258	1.3
	100300300120	120	1.2	2.0	33.0	41.5	5305	0.153	0.196	0.072	0.209	1.2
	100300300150	150	1.4	2.5	37.0	46.5	6705	0.124	0.16	0.073	0.176	0.78
	100300300185	185	1.6	2.5	41.0	51.0	8052	0.0991	0.128	0.073	0.148	0.71
	100300300240	240	1.7	2.5	46.0	56.0	9953	0.0754	0.099	0.072	0.122	0.63
	100300300300	300	1.8	2.5	51.0	61.0	12053	0.0601	0.08	0.072	0.107	0.58
100300300400	400	2.0	2.5	57.0	67.5	14803	0.047	0.064	0.071	0.096	0.52	

Cable Technical Data

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Nominal Armour Wire Diameter (mm)	Approx. Diameter Under Armour (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)	Max. DC Conductor Resistance at 20°C (Ω/km)	Max. AC Conductor Resistance at 90°C (Ω/km)	Reactance at 50Hz (Ω/km)	AC Impedance at 90°C (Ω/km)	Max. Arm. Resistance at 20°C (Ω/km)
4 Core	100300401105	1.5*	0.6	0.9	10	14.8	522	12.1	15.428	0.104	15.428	9.5
	100300401205	2.5*	0.7	0.9	11.5	16.0	618	7.41	9.448	0.101	9.448	7.7
	100300400004	4*	0.7	0.9	13	17.8	725	4.61	5.878	0.099	5.878	6.8
	100300400006	6*	0.7	1.25	14.5	20.0	985	3.08	3.927	0.094	3.925	4.3
	100300400010	10*	0.7	1.25	16.5	22.0	1255	1.83	2.333	0.093	2.335	3.7
	100300400016	16	0.7	1.25	19	24.5	1635	1.15	1.466	0.088	1.469	3.2
	100300400025	25	0.9	1.6	22	28.5	2145	0.727	0.927	0.082	0.930	2.3
	100300400035	35	0.9	1.6	24.5	31.5	2645	0.524	0.668	0.077	0.673	2
	100300400050	50	1.0	1.6	26	33.2	3103	0.387	0.494	0.076	0.500	1.8
	100300400070	70	1.1	2.0	30.5	39.2	4405	0.268	0.342	0.075	0.349	1.2
	100300400095	95	1.1	2.0	34.5	43.2	5653	0.193	0.247	0.074	0.258	1.1
	100300400120	120	1.2	2.5	38.5	48.6	7252	0.153	0.196	0.072	0.209	0.76
	100300400150	150	1.4	2.5	42.5	53.0	8553	0.124	0.16	0.073	0.176	0.68
	100300400185	185	1.6	2.5	47.5	58.0	10304	0.0991	0.128	0.073	0.148	0.61
	100300400240	240	1.7	2.5	53.5	64.5	12895	0.0754	0.099	0.072	0.122	0.54
	100300400300	300	1.8	2.5	59.0	70.3	15545	0.0601	0.08	0.072	0.107	0.49
	100300400400	400	2.0	3.15	66.5	79.8	20245	0.047	0.064	0.071	0.096	0.35

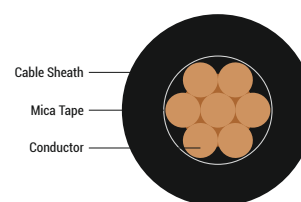
Note :

* Class 2 stranded circular (non compacted) conductor.

For current ratings refer table no. 15-1 & voltage drop refer table no. 15-2.

SINGLE CORE FIRE RESISTANT

REACH | RoHS | CE



Application

These cables are designed for installations in trunking and conduits where a fire situation may pose a major hazard. Circuit integrity is maintained and to achieve optimum performance such cables should be installed in metal conduits.

Standard

Adapted to EN 50525-3-41

Technical Data

Voltage rating : 450 / 750 V

Operating temperature : -200C to + 900C (the cable should not be flexed when the temperature is below 00C)

Minimum Bending Radius : 8 x Overall diameter

Cable Construction

Conductors : Stranded plain annealed copper conductor to BS EN 60228, class 2.

Insulation : Mica (fire resistant) tape covered by an extruded layer of cross - linked low smoke zero halogen (LS0H), insulating compound

*Sheathed version also available. Details available on request.

Properties

Circuit Integrity for installation in metal conduits : BS 6387 categories C, W & Z (when applied to a single cable)

Exceeds IEC 60331 - 3 hours at 750°C - when the test temperature was increased to 950°C, equivalent to BS 6387 category C

Acid Gas Emission : IEC 60754-1, BS EN 50267-2-1

Smoke Emission : IEC 61034, BS EN 50268

Flame Propagation : EN 60332-1, EN 60332-3, BS EN 50265, BS EN 50266

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required :

01 - green, 02 - black, 03 - red, 04 - blue, 05 - yellow, 06 - green / yellow, 09 - brown, 12 - grey.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Max. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
10040101xx60	1.5	0.7	3.8	32
10040102xx60	2.5	0.8	4.5	43
10040103xx60	4	0.8	5	55
10040104xx60	6	0.8	5.5	85
10040105xx60	10	1	7	146
10040106xx60	16	1	8	198
10040107xx60	25	1.2	9.7	320
10040108xx60	35	1.2	10.8	410
10040109xx60	50	1.4	13.3	549
10040110xx60	70	1.4	15.1	770
10040111xx60	95	1.6	17.5	1140
10040112xx60	120	1.6	19.2	1425
10040113xx60	150	1.8	21.2	1720
10040114xx60	185	2	23.6	2155

SECTION - XI
POWER CABLES



PRODUCTS

AYY/YY - 1 Core

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YY/YFY/YWY - 1.5 Sq. mm

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**A2XFY/2XFY
A2XWY/2XWY- 3 Core**

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AYY/YY - 2 Core

Page No.: 298 - 299

YY/YFY/YWY - 2.5 Sq. mm

Page No.: 318 - 319

**A2XFY/2XFY
A2XWY/2XWY- 3.5 Core**

Page No.: 328

AYY/YY - 3 Core

Page No.: 300 - 301

A2XY/2XY- 1 Core

Page No.: 320

**A2XFY/2XFY
A2XWY/2XWY- 4 Core**

Page No.: 329

AYY/YY - 3.5 Core

Page No.: 302 - 303

A2XY/2XY- 2 Core

Page No.: 321

**2XY/2XFY
2XWY- 1.5 Sq. mm**

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AYY/YY - 4 Core

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A2XY/2XY- 3 Core

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**2XY/2XFY
2XWY- 2.5 Sq. mm**

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AYFaY/YFaY - AYWaY/YWaY

Page No.: 306 - 307

A2XY/2XY- 3.5 Core

Page No.: 323

AYFY/YFY - AYWY/YWY - 2 Core

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A2XY/2XY - 4 Core

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NYN

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AYFY/YFY - AYWY/YWY - 3 Core

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**A2XFaY/2XFaY
A2XWaY/2XWaY**

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Power Cable - BS 5467

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AYFY/YFY - AYWY/YWY - 3.5 Core

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**A2XFY/2XFY
A2XWY/2XWY- 2 Core**

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EXVB

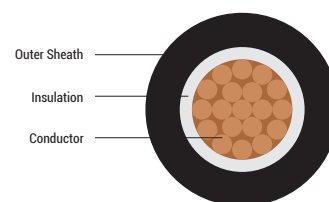
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AYFY/YFY - AYWY/YWY - 4 Core

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EAXVB

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Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

1 cores AL / CU conductor, PVC insulated, unarmoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl.1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl.1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm & above stranded round or stranded compact Cl. 2 as per IS 8130

Insulation : PVC Type - A, as per IS 5831. (Option : HR PVC Type - C, as per IS 5831)

Core Color : Red or yellow or blue or black or natural

Outer Sheath : PVC Type ST-1 as per IS 5831. (Option : PVC Type - ST 2 as per IS 5831 / FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

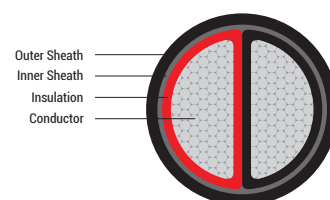
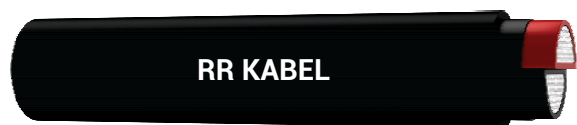
Sheath Type - PVC Type ST-1 / FR / FRLS; PVC Type ST-2 / FR / FRLS.

Colour from above technical details.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approx Overall Diameter (mm)	Approx. Net Wt. of Cable (Kg / Km)	
		AL	CU				AL Cable AYY	CU Cable YY
110100100016	16	6	6	1.0	1.8	11	160	260
110100100025	25	6	6	1.2	1.8	13	210	365
110100100035	35	6	6	1.2	1.8	14	250	460
110100100050	50	6	6	1.4	1.8	16	300	610
110100100070	70	12	12	1.4	1.8	17	400	830
110100100095	95	15	15	1.6	1.8	19	500	1100
110100100120	120	15	18	1.6	2.0	21	600	1350
110100100150	150	15	18	1.8	2.0	23	750	1680
110100100185	185	30	30	2.0	2.0	25	900	2050
110100100240	240	30	34	2.2	2.0	28	1100	2600
110100100300	300	30	34	2.4	2.0	30	1350	3200
110100100400	400	53	53	2.6	2.2	35	1700	4200
110100100500	500	53	53	3.0	2.2	38	2150	5250
110100100630	630	53	53	3.4	2.4	43	2750	6650
110100100800	800	53	53	3.4	2.4	48	3300	8250
110100101000	1000	53	53	3.4	2.6	52	4100	10300

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110100100016	16	1.91	1.15	2.29	1.38	0.11	1.01	66	65	64	85	83	82	1.22	1.84
110100100025	25	1.2	0.727	1.44	0.87	0.105	1.05	86	84	84	110	110	110	1.9	2.88
110100100035	35	0.868	0.524	1.04	0.63	0.1	1.22	100	100	105	130	125	130	2.66	4.03
110100100050	50	0.641	0.387	0.769	0.464	0.098	1.22	120	115	130	155	150	165	3.8	5.75
110100100070	70	0.443	0.268	0.532	0.322	0.091	1.43	140	135	155	190	175	205	5.32	8.05
110100100095	95	0.32	0.193	0.384	0.232	0.088	1.47	175	155	190	220	200	245	7.22	10.9
110100100120	120	0.253	0.153	0.304	0.184	0.086	1.62	195	170	220	250	220	280	9.12	13.8
110100100150	150	0.206	0.124	0.247	0.1488	0.085	1.62	220	190	250	280	245	320	11.14	17.3
110100100185	185	0.164	0.0991	0.197	0.1189	0.084	1.62	240	210	290	305	260	370	14.1	21.3
110100100240	240	0.125	0.0754	0.151	0.0912	0.082	1.72	270	225	335	345	285	425	18.2	27.3
110100100300	300	0.1	0.0601	0.122	0.0733	0.08	1.74	295	245	380	375	310	475	22.8	34.5
110100100400	400	0.0778	0.047	0.0961	0.058	0.08	1.81	325	275	435	400	335	550	30.4	46
110100100500	500	0.0605	0.0366	0.0759	0.0459	0.079	1.86	345	295	480	425	355	590	38	57.5
110100100630	630	0.0469	0.0283	0.061	0.0368	0.077	1.87	390	320	550	470	375	660	47.9	72.5
110100100800	800	0.0367	0.0221	0.0503	0.0303	0.077	1.98	450	380	610	530	425	725	60.8	92
110100101000	1000	0.0291	0.0176	0.0422	0.0255	0.076	2.2	500	415	680	590	740	870	76	115



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

2 cores AL / CU conductor, PVC insulated, unarmoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact round or Compact shape conductor Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded round Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded round or stranded compact conductor Cl. 2 as per IS 8130

Above 10 Sq. mm conductor are stranded round or compact round or compacted shaped Cl. 2 as per IS 8130

Insulation : PVC Type - A, as per IS 5831.(Option : HR PVC Type - C, as per IS 5831)

Core Color : Red, black

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type - ST - 2 as per IS 5831 / FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

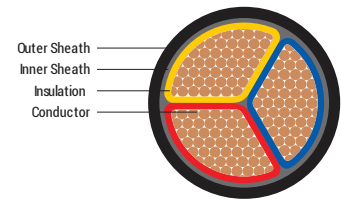
Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx Overall Diameter (mm)	Approx. Net Wt. of Cable (Kg / Km)	
		AL	CU					AL Cable AYY	CU Cable YY
110200200004	4	-	1/7	1.0	0.3	1.8	14	240	290
110200200006	6	1	1/7	1.0	0.3	1.8	17	300	370
110200200010	10	1	6.0	1.0	0.3	1.8	18	400	520
110200200016	16	6	6.0	1.0	0.3	1.8	17	430	630
110200200025	25	6	6.0	1.2	0.3	2.0	19	450	750
110200200035	35	6	6.0	1.2	0.3	2.0	21	550	980
110200200050	50	6	6.0	1.4	0.3	2.0	24	700	1300
110200200070	70	12	12.0	1.4	0.3	2.0	26	850	1700
110200200095	95	15	15.0	1.6	0.4	2.2	30	1150	2300
110200200120	120	15	18.0	1.6	0.4	2.2	32	1300	2800
110200200150	150	15	18.0	1.8	0.4	2.4	34	1600	3450
110200200185	185	30	30.0	2.0	0.5	2.4	38	2000	4300
110200200240	240	30	34.0	2.2	0.5	2.6	42	2500	5500
110200200300	300	30	34.0	2.4	0.6	2.8	46	3000	6700
110200200400	400	53	53.0	2.6	0.7	3.2	52	3800	8750
110200200500	500	53	53.0	3.0	0.7	3.4	54	4800	11000
110200200630	630	53	53.0	3.4	0.7	3.8	65	6000	13800

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110200200004	4	–	4.61	–	5.53	0.098	0.23	34	28	30	44	37	39	0.304	0.46
110200200006	6	4.61	3.08	5.53	3.7	0.096	0.28	43	37	40	55	47	50	0.456	0.69
110200200010	10	3.08	1.83	3.7	2.2	0.091	0.34	57	48	53	74	61	67	0.76	1.15
110200200016	16	1.91	1.15	2.29	1.38	0.085	0.4	78	61	70	94	78	85	1.22	1.84
110200200025	25	1.2	0.727	1.44	0.87	0.083	0.42	95	80	99	120	100	125	1.9	2.88
110200200035	35	0.868	0.524	1.04	0.63	0.082	0.48	116	94	117	145	120	155	2.66	4.03
110200200050	50	0.641	0.387	0.769	0.464	0.082	0.49	140	110	140	170	145	190	3.8	5.75
110200200070	70	0.443	0.268	0.532	0.322	0.076	0.56	170	140	176	210	175	235	5.32	8.05
110200200095	95	0.32	0.193	0.384	0.232	0.076	0.58	200	165	221	250	210	290	7.22	10.9
110200200120	120	0.253	0.153	0.304	0.184	0.075	0.63	225	185	258	285	240	330	9.12	13.8
110200200150	150	0.206	0.124	0.247	0.1488	0.074	0.63	255	210	294	315	270	375	11.4	17.3
110200200185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	285	235	339	355	300	435	14.1	21.28
110200200240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	325	270	402	410	350	510	18.2	27.6
110200200300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	370	305	461	460	390	590	22.8	34.5
110200200400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	435	350	542	520	440	670	30.4	46
110200200500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	481	405	624	580	480	750	38	57.5
110200200630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	537	470	723	680	575	875	47.9	72.55

AYY/YY-3 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3 cores AL / CU conductor, PVC insulated, unarmoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130.

Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : PVC Type - A, as per IS 5831.(Option : HR PVC Type - C, as per IS 5831)

Core Color : Red, yellow, blue

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type - ST - 2 as per IS 5831, FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

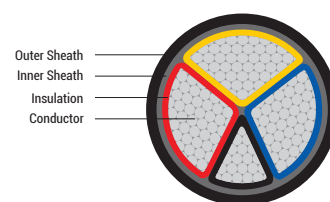
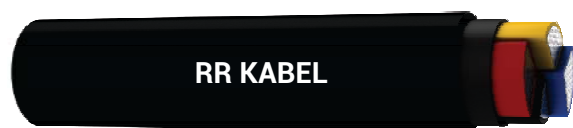
Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx Overall Diameter (mm)	Approx. Net Wt. of Cable (Kg / Km)	
		AL	CU					AL Cable AYY	CU Cable YY
110300300004	4	-	1/7	1.0	0.3	1.8	16	280	330
110300300006	6	1	1/7	1.0	0.3	1.8	18	350	460
110300300010	10	1	6	1.0	0.3	1.8	19	430	640
110300300016	16	6	6	1.0	0.3	1.8	19	450	720
110300300025	25	6	6	1.2	0.3	2.0	22	610	1070
110300300035	35	6	6	1.2	0.3	2.0	24	730	1390
110300300050	50	6	6	1.4	0.3	2.0	27	930	1860
110300300070	70	12	12	1.4	0.4	2.2	30	1190	2490
110300300095	95	15	15	1.6	0.4	2.2	34	1590	3340
110300300120	120	15	18	1.6	0.4	2.2	37	1890	4090
110300300150	150	15	18	1.8	0.5	2.4	40	2290	5090
110300300185	185	30	30	2.0	0.5	2.6	44	2740	6190
110300300240	240	30	34	2.2	0.6	2.8	50	3490	7940
110300300300	300	30	34	2.4	0.6	3.0	55	4290	9890
110300300400	400	53	53	2.6	0.7	3.4	62	5430	12790
110300300500	500	53	53	3.0	0.7	3.6	69	6900	16190
110300300630	630	53	53	3.4	0.7	4.0	77	8690	20390

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110200200004	4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.46
110200200006	6	4.61	3.08	5.53	3.7	0.096	0.28	35	30	30	45	38	39	0.456	0.69
110200200010	10	3.08	1.83	3.7	2.2	0.091	0.34	46	39	40	60	50	52	0.76	1.15
110200200016	16	1.91	1.15	2.29	1.38	0.085	0.4	60	50	51	77	64	66	1.22	1.84
110200200025	25	1.2	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.9	2.88
110200200035	35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
110200200050	50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.8	5.75
110200200070	70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
110200200095	95	0.32	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.9
110200200120	120	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.8
110200200150	150	0.206	0.124	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.4	17.3
110200200185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.1	21.3
110200200240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.2	27.6
110200200300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.8	34.5
110200200400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	335	290	375	425	360	435	30.4	46
110200200500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	370	320	425	470	390	520	38	57.5
110200200630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	405	350	480	555	470	675	47.9	72.5

AYY/YY-3.5 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3.5 cores AL / CU conductor, PVC insulated, unarmoured cables as per IS 1554 Part-1.

Conductor : AL / CU stranded compact shaped conductor as per Cl. 2, IS 8130

Insulation : PVC Type - A as per IS 5831. (Option : HR PVC Type - C, as per IS 5831)

Phase Core Color : Red, yellow, blue

Neutral Core Color : Black

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831 / FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised :

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

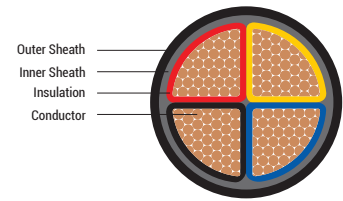
Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx Overall Diameter (mm)	Approx. Net Wt. of Cable (Kg / Km)	
		AL	CU					AL Cable AYY	CU Cable YY
110401010211	3 x 25 + 16	6/6	6/6	1.2/1.0	0.3	2.0	24	680	1250
110401020211	3 x 35 + 16	6/6	6/6	1.2/1.0	0.3	2.0	26	830	1585
110401030211	3 x 50 + 25	6/6	6/6	1.4/1.2	0.3	2.0	29	1030	2080
110401040211	3 x 70 + 35	12/6	12/6	1.4/1.2	0.4	2.2	32	1380	2880
110401050211	3 x 95 + 50	15/6	15/6	1.6/1.4	0.4	2.2	36	1785	3885
110401060211	3 x 120 + 70	15/12	18/12	1.6/1.4	0.5	2.4	40	2190	4830
110401070211	3 x 150 + 70	15/12	18/12	1.8/1.4	0.5	2.4	44	2580	5780
110401080211	3 x 185 + 95	30/15	30/15	2.0/1.6	0.5	2.6	48	3185	7180
110401090211	3 x 240 + 120	30/15	34/18	2.2/1.6	0.6	3.0	54	4085	9280
110401100211	3 x 300 + 150	30/15	34/18	2.4/1.8	0.6	3.2	62	4980	11480
110401110211	3 x 400 + 185	53/30	53/30	2.6/2.0	0.7	3.4	68	6280	14985
110401120211	3 x 500 + 240	53/30	53/34	3.0/2.2	0.7	3.8	77	7985	18480
110401130211	3 x 630 + 300	53/30	53/34	3.4/2.4	0.7	4.0	87	9980	23485

Electrical Parameters

Part Number	Size Cores x Sq. mm + Neutral (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
							With AL Cond.			With CU Cond.				
		AL	CU	AL	CU		Ground	Duct	Air	Ground	Duct	Air	AL	CU
110401010211	3 x 25 + 16	1.2	0.727	1.44	0.87	0.083	76	63	70	99	81	90	1.9	2.88
110401020211	3 x 35 + 16	0.868	0.524	1.04	0.63	0.082	92	77	86	120	99	110	2.66	4.03
110401030211	3 x 50 + 25	0.641	0.387	0.769	0.464	0.082	110	95	105	145	125	135	3.8	5.75
110401040211	3 x 70 + 35	0.443	0.268	0.532	0.3	0.076	135	115	130	175	150	165	5.32	8.05
110401050211	3 x 95 + 50	0.32	0.193	0.384	0.2	0.076	165	140	155	210	175	200	7.22	10.9
110401060211	3 x 120 + 70	0.253	0.153	0.304	0.2	0.075	185	155	180	240	195	230	9.12	13.8
110401070211	3 x 150 + 70	0.206	0.124	0.247	0.1	0.074	210	175	205	270	225	265	11.4	17.3
110401080211	3 x 185 + 95	0.164	0.0991	0.197	0.1	0.074	235	200	240	300	255	305	14.1	21.3
110401090211	3 x 240 + 120	0.125	0.0754	0.151	0.1	0.073	275	235	280	345	295	355	18.2	27.6
110401100211	3 x 300 + 150	0.1	0.0601	0.122	0.1	0.073	305	260	315	385	335	400	22.8	34.5
110401110211	3 x 400 + 185	0.0778	0.047	0.0961	0.1	0.072	335	290	375	425	360	435	30.4	46
110401120211	3 x 500 + 240	0.0605	0.0366	0.0759	0.5	0.072	370	320	425	470	390	520	38	57.5
110401130211	3 x 630 + 300	0.0469	0.0283	0.061	0.0	0.072	405	350	480	555	470	675	47.9	72.5



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

4 cores AL / CU conductor, PVC insulated, unarmoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : PVC Type - A, as per IS 5831. (Option : HR PVC Type - C, as per IS 5831)

Core Color : Red, yellow, blue, black

Inner Sheath : PVC/PVC tape as per IS 1554 (P-1)

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type - ST - 2 as per IS 5831, FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

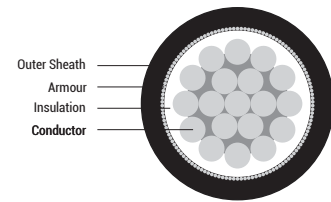
Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx Overall Diameter (mm)	Approx. Net Wt. of Cable (Kg / Km)	
		AL	CU					AL Cable AYY	CU Cable YY
110500400004	4	–	1/7	1.0	0.3	1.8	16	290	390
110500400006	6	1	1/7	1.0	0.3	1.8	18	380	530
110500400010	10	1	6	1.0	0.3	1.8	20	530	770
110500400016	16	6	6	1.0	0.3	2.0	23	550	940
110500400025	25	6	6	1.2	0.3	2.0	26	740	1350
110500400035	35	6	6	1.2	0.3	2.0	30	925	1785
110500400050	50	6	6	1.4	0.4	2.2	34	1230	2480
110500400070	70	12	12	1.4	0.4	2.2	38	1540	3285
110500400095	95	15	15	1.6	0.4	2.4	43	2030	4385
110500400120	120	15	18	1.6	0.5	2.4	46	2385	5360
110500400150	150	15	18	1.8	0.5	2.6	51	2925	6650
110500400185	185	30	30	2.0	0.6	2.8	55	3630	8230
110500400240	240	30	34	2.2	0.6	3.0	60	4580	10530
110500400300	300	30	34	2.4	0.7	3.4	66	5480	12950
110500400400	400	53	53	2.6	0.7	3.6	73	6780	16700
110500400500	500	53	53	3.0	0.7	4.0	82	8580	20980
110500400630	630	53	53	3.4	0.7	4.0	92	10980	25980

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110200200004	4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.46
110200200006	6	4.61	3.08	5.53	3.7	0.096	0.28	35	30	30	45	38	39	0.456	0.69
110200200010	10	3.08	1.83	3.7	2.2	0.091	0.34	46	39	40	60	50	52	0.76	1.15
110200200016	16	1.91	1.15	2.29	1.38	0.085	0.4	60	50	51	77	64	66	1.22	1.84
110200200025	25	1.2	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.9	2.88
110200200035	35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
110200200050	50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.8	5.75
110200200070	70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
110200200095	95	0.32	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.9
110200200120	120	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.8
110200200150	150	0.206	0.124	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.4	17.3
110200200185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.1	21.3
110200200240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.2	27.6
110200200300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.8	34.5
110200200400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	335	290	375	425	360	435	30.4	46
110200200500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	370	320	425	470	390	520	38	57.5
110200200630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	405	350	480	555	470	675	47.9	72.5



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

1 cores AL / CU conductor, PVC insulated, aluminum steel strip / wire armoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm & above stranded round or stranded compact Cl. 2 as per IS 8130

Insulation : PVC Type - A, as per IS 5831.(Option : HR PVC Type - C, as per IS 5831)

Core Color : Red or yellow or blue or black or natural

Armouring : Single armouring of aluminum wire or aluminum strip as per IS 1554 P - 1

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831 / FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR /FRLS.

Colour from above technical detail.

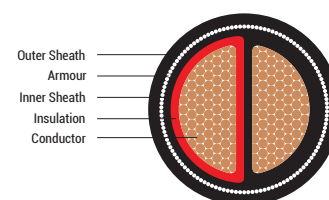
Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thickness of Insulation (mm)	Armouring with Flat AL Strip (AYFaY/YFaY)					Armouring with Round Wire (AYWaY/YWaY)				
		AL	CU		Nominal Thick. of Arm. Strip (mm)	Minimum Thick. of Out. Sheath (mm)	Approx. Overall Dia. (mm)	Approx Net Wt of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thick. of Out. Sheath (mm)	Approx. Overall Dia. (mm)	Approx Net Wt of Cable (kg/km)	
								AL Cable AYFaY	CU Cable YFaY				AL Cable AYWaY	CU Cable YWaY
110600100016	16	6	6	1.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	14	250	350
110600100025	25	6	6	1.5	N/A	N/A	N/A	N/A	N/A	1.4	1.24	15	300	450
110600100035	35	6	6	1.5	N/A	N/A	N/A	N/A	N/A	1.4	1.24	16	350	560
110600100050	50	6	6	1.7	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	450	750
110600100070	70	12	12	1.7	N/A	N/A	N/A	N/A	N/A	1.4	1.40	20	550	980
110600100095	95	15	15	1.9	0.8	1.40	21	650	1230	1.6	1.40	22	700	1300
110600100120	120	15	18	1.9	0.8	1.40	23	750	1500	1.6	1.40	24	800	1550
110600100150	150	15	18	2.1	0.8	1.40	24	900	1830	1.6	1.40	26	950	1880
110600100185	185	30	30	2.3	0.8	1.40	27	1050	2200	1.6	1.40	29	1100	2250
110600100240	240	30	34	2.5	0.8	1.40	30	1300	2800	1.6	1.56	32	1400	2900
110600100300	300	30	34	2.7	0.8	1.56	32	1600	3450	1.6	1.56	33	1650	3500
110600100400	400	53	53	3.0	0.8	1.56	37	1950	4400	2.0	1.56	39	2100	4580
110600100500	500	53	53	3.4	0.8	1.56	40	2400	5500	2.0	1.72	42	2700	5800
110600100630	630	53	53	3.9	0.8	1.72	45	3100	7000	2.0	1.88	48	3300	7200
110600100800	800	53	53	3.9	0.8	1.88	49	3700	8650	2.0	1.88	52	4000	8950
110600101000	1000	53	53	3.9	0.8	2.04	55	4600	10800	2.5	2.04	59	4900	11000

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110600100016	16	1.91	1.15	2.29	1.38	0.128	0.81	66	65	64	85	83	82	1.22	1.84
110600100025	25	1.2	0.727	1.44	0.87	0.12	0.87	86	84	84	110	110	110	1.9	2.88
110600100035	35	0.868	0.524	1.04	0.63	0.114	1	100	100	105	130	125	130	2.66	4.03
110600100050	50	0.641	0.387	0.769	0.464	0.11	1.03	120	115	130	155	150	165	3.8	5.75
110600100070	70	0.443	0.268	0.532	0.322	0.103	1.21	140	135	155	190	175	205	5.32	8.05
110600100095	95	0.32	0.193	0.384	0.232	0.101	1.27	175	155	190	220	200	245	7.22	10.9
110600100120	120	0.253	0.153	0.304	0.184	0.096	1.42	195	170	220	250	220	280	9.12	13.8
110600100150	150	0.206	0.124	0.247	0.1488	0.094	1.42	220	190	250	280	245	320	11.4	17.3
110600100185	185	0.164	0.0991	0.197	0.1189	0.092	1.44	240	210	290	305	260	370	14.1	21.3
110600100240	240	0.125	0.0754	0.151	0.0912	0.09	1.53	270	225	335	345	285	425	18.2	27.6
110600100300	300	0.1	0.0601	0.122	0.0733	0.088	1.56	295	245	380	375	310	475	22.8	34.5
110600100400	400	0.0778	0.047	0.0961	0.058	0.088	1.59	325	275	435	400	335	550	30.4	46
110600100500	500	0.0605	0.0366	0.076	0.0459	0.087	1.67	345	295	480	425	355	590	38	57.5
110600100630	630	0.0469	0.0283	0.061	0.0368	0.086	1.67	390	320	550	470	375	660	47.88	72.5
110600100800	800	0.0367	0.0221	0.0503	0.0303	0.083	1.75	450	380	610	530	423	725	60.8	92
110600101000	1000	0.0291	0.0176	0.0422	0.0255	0.082	1.94	500	414	680	590	471	870	76	115

AYFY/YFY-AYWY/YWY-2 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

2 cores AL / CU conductor, PVC insulated, galvanised steel strip / wire armoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact round or compact shape conductor Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded round Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded round or stranded compact conductor Cl. 2 as per IS 8130

Above 10 Sq. mm conductor are stranded round or compact round or compacted shaped Cl. 2 as per IS 8130.

Insulation : PVC Type - A, as per IS 5831. (Option : HR PVC Type - C, as per IS 5831)

Core Color : Red, black

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Armouring : Single armouring of G.I. Wire or G.I. Strip as per IS 3975

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831 / FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

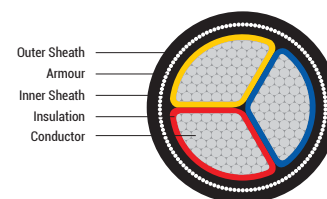
Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thick. of Insulation (mm)	Minimum Thick. of Inner Sheath (mm)	Armouring with Flat Strip (AYFY/YFY)					Armouring with Round Wire (AYWY/YWY)				
		AL	CU			Nominal Thickness of Arm. Strip (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
									AL Cable AYFY	CU Cable YFY				AL Cable AYWY	CU Cable YWY
110700200004	4	-	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	600	650
110700200006	6	1	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	19	660	730
110700200010	10	1	6	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	20	750	870
110700200016	16	6	6	1.0	0.3	0.8	1.40	18	580	780	1.6	1.40	20	750	950
110700200025	25	6	6	1.2	0.3	0.8	1.40	20	700	1000	1.6	1.40	22	900	1200
110700200035	35	6	6	1.2	0.3	0.8	1.40	22	800	1230	1.6	1.40	23	1030	1450
110700200050	50	6	6	1.4	0.4	0.8	1.40	25	1000	1620	1.6	1.56	26	1300	1900
110700200070	70	12	12	1.4	0.4	0.8	1.56	27	1200	2050	1.6	1.56	29	1500	2350
110700200095	95	15	15	1.6	0.4	0.8	1.56	30	1550	2720	2.0	1.56	33	2050	3200
110700200120	120	15	18	1.6	0.5	0.8	1.56	32	1800	3290	2.0	1.72	35	2400	3900
110700200150	150	15	18	1.8	0.5	0.8	1.72	35	2100	3970	2.0	1.72	37	2760	4600
110700200185	185	30	30	2.0	0.6	0.8	1.88	38	2500	4800	2.0	1.88	41	3200	5500
110700200240	240	30	34	2.2	0.6	0.8	2.04	43	3100	6080	2.5	2.04	47	4200	7200
110700200300	300	30	34	2.4	0.7	0.8	2.20	48	3700	7400	2.5	2.20	50	5000	8700
110700200400	400	53	53	2.6	0.7	0.8	2.36	53	4500	9450	3.2	2.52	58	6600	11500
110700200500	500	53	53	3.0	0.7	0.8	2.68	56	5600	11800	3.2	2.84	64	8000	14000
110700200630	630	53	53	3.4	0.7	0.8	2.84	66	6900	14700	4.0	3.00	72	11000	18800

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110700200004	4	–	4.61	–	5.53	0.098	0.23	32	27	27	41	35	35	0.304	0.46
110700200006	6	4.61	3.08	5.53	3.7	0.096	0.28	40	34	35	50	44	45	0.456	0.69
110700200010	10	3.08	1.83	3.7	2.2	0.091	0.34	55	45	47	70	58	60	0.76	1.15
110700200016	16	1.91	1.15	2.29	1.38	0.085	0.4	70	58	59	90	75	78	1.22	1.84
110700200025	25	1.2	0.727	1.44	0.87	0.083	0.42	90	76	78	115	97	105	1.9	2.88
110700200035	35	0.868	0.524	1.04	0.63	0.082	0.48	110	92	99	140	120	125	2.66	4.03
110700200050	50	0.641	0.387	0.769	0.464	0.082	0.49	135	115	125	165	145	155	3.8	5.75
110700200070	70	0.443	0.268	0.532	0.322	0.076	0.56	160	140	150	205	180	195	5.32	8.05
110700200095	95	0.32	0.193	0.384	0.232	0.076	0.58	190	170	185	240	215	230	7.22	10.9
110700200120	120	0.253	0.153	0.304	0.184	0.075	0.63	210	190	210	275	235	265	9.12	13.8
110700200150	150	0.206	0.124	0.247	0.1488	0.074	0.63	240	210	240	310	270	305	11.4	17.3
110700200185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	275	240	275	350	300	350	14.1	21.3
110700200240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	320	275	325	405	345	410	18.2	27.6
110700200300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	355	305	365	450	385	465	22.8	34.5
110700200400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	385	345	420	490	485	530	30.4	46
110700200500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	425	380	475	540	460	605	38	57.5
110700200630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	465	415	540	640	550	785	47.9	72.5

AYFY/YFY-AYWY/YWY-3 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3 cores AL / CU conductor, PVC insulated, galvanised steel strip / wire armoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded class-2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : PVC Type - A as per IS 5831. (Option : PVC Type - C as per IS 5831)

Core Color : Red, yellow, blue

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST-1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831, FR Type, FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

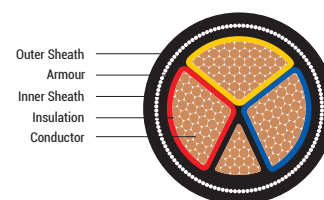
Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thick. of Insulation (mm)	Minimum Thick. of Inner Sheath (mm)	Armouring with Flat Strip (AYFY/YFY)					Armouring with Round Wire (AYWY/YWY)				
		AL	CU			Nominal Thickness of Arm. Strip (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
									AL Cable AYFY	CU Cable YFY				AL Cable AYWY	CU Cable YWY
110800300004	4	-	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	570	620
110800300006	6	1	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	19	670	780
110800300010	10	1	6	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.40	21	870	1080
110800300016	16	6	6	1.0	0.3	0.8	1.40	20	690	990	1.6	1.40	21	920	1230
110800300025	25	6	6	1.2	0.3	0.8	1.40	23	890	1340	1.6	1.40	23	1070	1520
110800300035	35	6	6	1.2	0.3	0.8	1.40	24	990	1640	1.6	1.56	26	1280	1930
110800300050	50	6	6	1.4	0.4	0.8	1.56	27	1300	2220	1.6	1.56	29	1580	2510
110800300070	70	12	12	1.4	0.4	0.8	1.56	31	1590	2900	2.0	1.56	33	2130	3430
110800300095	95	15	15	1.6	0.4	0.8	1.56	35	1990	3740	2.0	1.72	37	2630	4380
110800300120	120	15	18	1.6	0.5	0.8	1.72	37	2390	4620	2.0	1.88	39	2980	5180
110800300150	150	15	18	1.8	0.5	0.8	1.88	41	2790	5600	2.0	2.04	43	3530	6280
110800300185	185	30	30	2.0	0.6	0.8	1.88	46	3400	6830	2.5	2.20	49	4590	7980
110800300240	240	30	34	2.2	0.6	0.8	2.20	51	4200	8640	2.5	2.36	54	5580	9980
110800300300	300	30	34	2.4	0.7	0.8	2.36	56	5040	10620	2.5	2.68	59	6580	11980
110800300400	400	53	53	2.6	0.7	0.8	2.68	63	6290	13730	3.2	2.84	68	8690	15990
110800300500	500	53	53	3.0	0.7	0.8	3.00	70	7790	17090	3.2	3.00	75	10980	19980
110800300630	630	53	53	3.4	0.7	0.8	3.00	78	9690	21410	4.0	3.00	84	15990	25480

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
		AL	CU	AL	CU			With AL Cond.			With CU Cond.			AL	CU
								Ground	Duct	Air	Ground	Duct	Air		
110200200004	4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.46
110200200006	6	4.61	3.08	5.53	3.7	0.096	0.28	35	30	30	45	38	39	0.456	0.69
110200200010	10	3.08	1.83	3.7	2.2	0.091	0.34	46	39	40	60	50	52	0.76	1.15
110200200016	16	1.91	1.15	2.29	1.38	0.085	0.4	60	50	51	77	64	66	1.22	1.84
110200200025	25	1.2	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.9	2.88
110200200035	35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
110200200050	50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.8	5.75
110200200070	70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
110200200095	95	0.32	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.9
110200200120	120	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.8
110200200150	150	0.206	0.124	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.4	17.3
110200200185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.1	21.3
110200200240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.2	27.6
110200200300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.8	34.5
110200200400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	335	290	375	425	360	435	30.4	46
110200200500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	370	320	425	470	390	520	38	57.5
110200200630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	405	350	480	555	470	675	47.9	72.5

AYFY/YFY-AYWY/YWY-3.5 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3.5 cores AL / CU Conductor, PVC insulated, galvanised steel strip / wire armoured cables as per IS 1554 Part - 1.

Conductor : AL/ CU Stranded compact shaped conductor as per Cl. 2, IS 8130

Insulation : PVC Type - A as per IS 5831. (Option : HR PVC Type - C, as per IS 5831)

Phase Core Color : Red, yellow, blue

Neutral Core Color : Black

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831, FR Type, FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

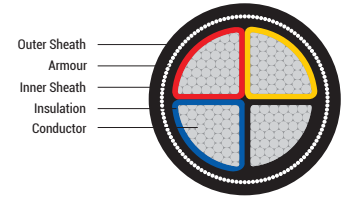
Part Number	Size Cores x Sq. mm + Neutral (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thick. of Insulation (mm)	Minimum Thick. of Inner Sheath (mm)	Armouring with Flat Strip (AYFY/YFY)					Armouring with Round Wire (AYWY/YWY)				
		AL	CU			Nominal Thickness of Arm. Strip (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thick. of Outer Sheath. (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
									AL Cable AYFY	CU Cable YFY				AL Cable AYWY	CU Cable YWY
110901010211	3 x 25 + 16	6/6	6/6	1.2/1.0	0.3	0.8	1.40	24	1000	1550	1.6	1.40	26	1285	1825
110901020211	3 x 35 + 16	6/6	6/6	1.2/1.0	0.3	0.8	1.40	26	1200	1950	1.6	1.40	28	1425	2125
110901030211	3 x 50 + 25	6/6	6/6	1.4/1.2	0.3	0.8	1.56	30	1500	2600	1.6	1.56	31	1785	2790
110901040211	3 x 70 + 35	12/6	12/6	1.4/1.2	0.4	0.8	1.56	34	1800	3300	2.0	1.56	36	2390	3780
110901050211	3 x 95 + 50	15/6	15/6	1.6/1.4	0.4	0.8	1.56	37	2300	4350	2.0	1.72	39	2980	4980
110901060211	3 x 120 + 70	15/6	15/6	1.6/1.4	0.5	0.8	1.72	41	2800	5450	2.0	1.88	43	3480	6080
110901070211	3 x 150 + 70	15/6	15/6	1.8/1.4	0.5	0.8	1.88	45	3200	6400	2.0	1.88	47	3970	7180
110901080211	3 x 185 + 95	30/15	30/15	2/1.6	0.5	0.8	2.04	49	3900	7900	2.5	2.04	53	5185	9150
110901090211	3 x 240 + 120	30/15	30/15	2.20/1.6	0.6	0.8	2.20	55	4800	10000	2.5	2.30	58	6385	11480
110901100211	3 x 300 + 150	30/15	30/15	2.4/1.8	0.6	0.8	2.36	61	5800	12300	3.2	2.52	65	8180	14480
110901110211	3 x 400 + 185	53/30	53/30	2.6/2.0	0.7	0.8	2.68	69	7300	15800	3.2	2.63	75	9885	18380
110901120211	3 x 500 + 240	53/30	53/30	3.0/2.2	0.7	0.8	2.84	77	9000	19500	4.0	3.00	84	13480	23985
110901130211	3 x 630 + 300	53/30	53/30	3.4/2.40	0.7	0.8	3.00	87	11500	25000	4.0	3.00	92	15980	28480

Electrical Parameters

Part Number	Size Cores x Sq. mm + Neutral (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capaci- tance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
								With AL Cond.			With CU Cond.				
		AL	CU	AL	CU			Ground	Duct	Air	Ground	Duct	Air	AL	CU
110901010211	3x25+16	1.2	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.9	2.88
110901020211	3x35+16	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
110901030211	3x50+25	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.8	5.75
110901040211	3x70+35	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
110901050211	3x95+50	0.32	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.9
110901060211	3x120+70	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.8
110901070211	3x150+70	0.206	0.124	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.4	17.3
110901080211	3x185+95	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.1	21.3
110901090211	3x240+120	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.2	27.6
110901100211	3x300+150	0.1	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.8	34.5
110901110211	3x400+185	0.0778	0.047	0.0961	0.058	0.072	0.7	335	290	375	425	360	435	30.4	46
110901120211	3x500+240	0.0605	0.0366	0.0759	0.459	0.072	0.7	370	320	425	470	390	520	38	57.5
110901130211	3x630+300	0.0469	0.0283	0.061	0.0368	0.072	0.7	405	350	480	555	470	675	47.9	72.5

AYFY/YFY-AYWY/YWY-4 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

4 Cores AL / CU conductor, PVC insulated, galvanised steel strip / wire armoured cables as per IS 1554 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl.2 as per IS 8130

Insulation : PVC Type - A as per IS 5831. (Option : PVC Type - C as per IS 5831)

Core Color : Red, yellow, blue, black

Inner Sheath : PVC / PVC tape as per IS 1554 (P-1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831, FR Type, FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While Ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

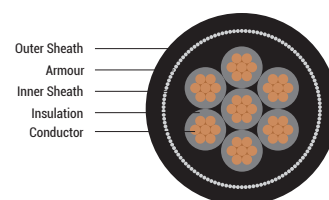
Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Minimum No. of Strands in Conductor		Nominal Thick. of Insulation (mm)	Minimum Thick. of Inner Sheath (mm)	Armouring with Flat Strip (AYFY/YFY)					Armouring with Round Wire (AYWY/YWY)				
		AL	CU			Nominal Thickness of Arm. Strip (mm)	Minimum Thick. of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thick. of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
									AL Cable AYFY	CU Cable YFY				AL Cable AYWY	CU Cable YWY
111000400004	4	-	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	630	775
111000400006	6	1	1/7	1.0	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	21	870	1010
111000400010	10	1	6	1.0	0.3	0.8	1.40	21	750	998	1.6	1.40	22	890	1130
111000400016	16	6	6	1.0	0.3	0.8	1.40	22	860	1260	1.6	1.40	23	1110	1500
111000400025	25	6	6	1.2	0.3	0.8	1.40	25	1100	1720	1.6	1.40	27	1385	2000
111000400035	35	6	6	1.2	0.3	0.8	1.40	28	1300	2170	1.6	1.56	30	1580	2450
111000400050	50	6	6	1.4	0.4	0.8	1.56	32	1600	2850	2.0	1.56	34	2185	3425
111000400070	70	12	12	1.4	0.4	0.8	1.56	32	2000	3740	2.0	1.56	37	2625	4370
111000400095	95	15	15	1.6	0.4	0.8	1.72	40	2600	5000	2.0	1.72	42	3285	5640
111000400120	120	15	18	1.6	0.5	0.8	1.88	43	3050	6030	2.0	1.88	47	3825	6820
111000400150	150	15	18	1.8	0.5	0.8	1.88	48	3600	7325	2.5	2.04	51	4830	8560
111000400185	185	30	30	2.0	0.6	0.8	2.04	52	4300	8890	2.5	2.20	56	5780	10370
111000400240	240	30	34	2.2	0.6	0.8	2.36	59	5400	11355	2.5	2.36	62	7685	12940
111000400300	300	30	34	2.4	0.7	0.8	2.52	67	6600	14050	3.2	2.68	70	9185	16630
111000400400	400	53	53	2.6	0.7	0.8	2.84	74	8200	18128	3.2	2.84	76	10980	20390
111000400500	500	53	53	3.0	0.7	0.8	3.00	80	10500	22900	4.0	3.00	86	14980	27360
111000400630	630	53	53	3.4	0.7	0.8	3.00	90	13000	28625	4.0	3.00	96	17975	33600

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)		Max. AC Conductor Resistance at 70°C (Ω/km)		Approx. Reactance at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration (K.Amps)	
								With AL Cond.			With CU Cond.				
		AL	CU	AL	CU			Ground	Duct	Air	Ground	Duct	Air	AL	CU
111000400004	4	–	4.61	–	5.53	0.098	0.23	28	23	23	36	30	30	0.304	0.46
111000400006	6	4.61	3.08	5.53	3.7	0.096	0.28	35	30	30	45	38	39	0.456	0.69
111000400010	10	3.08	1.83	3.7	2.2	0.091	0.34	46	39	40	60	50	52	0.76	1.15
111000400016	16	1.91	1.15	2.29	1.38	0.085	0.4	60	50	51	77	64	66	1.22	1.84
111000400025	25	1.2	0.727	1.44	0.87	0.083	0.42	76	63	70	99	81	90	1.9	2.88
111000400035	35	0.868	0.524	1.04	0.63	0.082	0.48	92	77	86	120	99	110	2.66	4.03
111000400050	50	0.641	0.387	0.769	0.464	0.082	0.49	110	95	105	145	125	135	3.8	5.75
111000400070	70	0.443	0.268	0.532	0.322	0.076	0.56	135	115	130	175	150	165	5.32	8.05
111000400095	95	0.32	0.193	0.384	0.232	0.076	0.58	165	140	155	210	175	200	7.22	10.9
111000400120	120	0.253	0.153	0.304	0.184	0.075	0.63	185	155	180	240	195	230	9.12	13.8
111000400150	150	0.206	0.124	0.247	0.1488	0.074	0.63	210	175	205	270	225	265	11.4	17.3
111000400185	185	0.164	0.0991	0.197	0.1189	0.074	0.64	235	200	240	300	255	305	14.1	21.3
111000400240	240	0.125	0.0754	0.151	0.0912	0.073	0.67	275	235	280	345	295	355	18.2	27.6
111000400300	300	0.1	0.0601	0.122	0.0733	0.073	0.68	305	260	315	385	335	400	22.8	34.5
111000400400	400	0.0778	0.047	0.0961	0.058	0.072	0.7	335	290	375	425	360	435	30.4	46
111000400500	500	0.0605	0.0366	0.0759	0.0459	0.072	0.7	370	320	425	470	390	520	38	57.5
111000400630	630	0.0469	0.0283	0.061	0.0368	0.072	0.7	405	350	480	555	470	675	47.9	72.5



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

1.5 Sq. mm copper conductor, PVC insulated unarmoured & galvanised steel strip / wire armoured control cables as per IS 1554 Part - 1.

Conductor : CU conductor solid as per Cl.1 IS 8130 or stranded as per Cl. 2 IS 8130

Insulation Material : PVC Type -A as per IS 5831/Option : HR PVC (Type-C) as per IS 5831. Nominal Thickness of Insulation is 0.8 mm.

Core Colours : Up to 5 cores by colour coding & more than 5 cores number printing on core as per IS 1554 (P-1)

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831, FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Class of conductor - Cl. 1 or 2.

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

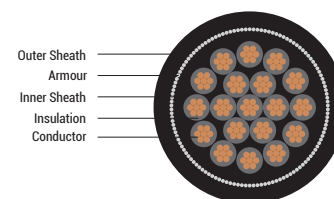
Part Number	No. of Cores	Minimum Thickness of Inner Sheath (mm)	Unarmoured (YY)			Armoured With Flat Strips (YFY)				Armoured With Round Wire (YWY)			
			Nominal Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Strip for Arm. (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. (kg/km)	Nominal Thickness of Strip for Arm. (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. (kg/km)
111100201105	2	0.3	1.8	12	180	N/A	N/A	N/A	N/A	1.4	1.24	13	380
111100301105	3	0.3	1.8	12.5	200	N/A	N/A	N/A	N/A	1.4	1.24	14	440
111100401105	4	0.3	1.8	13	230	N/A	N/A	N/A	N/A	1.4	1.24	15	480
111100501105	5	0.3	1.8	14	250	N/A	N/A	N/A	N/A	1.4	1.24	16	510
111100601105	6	0.3	1.8	15	290	N/A	N/A	N/A	N/A	1.4	1.24	17	570
111100701105	7	0.3	1.8	15	310	N/A	N/A	N/A	N/A	1.4	1.24	17	630
111101001105	10	0.3	1.8	18	420	N/A	N/A	N/A	N/A	1.4	1.24	20	780
111101201105	12	0.3	1.8	19	470	0.8	1.24	19	700	1.6	1.40	21	900
111101401105	14	0.3	1.8	20	530	0.8	1.40	20	800	1.6	1.40	22	980
111101601105	16	0.3	1.8	21	600	0.8	1.40	21	850	1.6	1.40	23	1050
111101901105	19	0.3	2.0	22	700	0.8	1.40	22	950	1.6	1.40	24	1160
111102401105	24	0.3	2.0	25	850	0.8	1.40	25	1150	1.6	1.40	27	1400
111102701105	27	0.3	2.0	26	920	0.8	1.40	26	1250	1.6	1.40	28	1480
111103001105	30	0.3	2.0	27	1000	0.8	1.40	27	1330	1.6	1.40	29	1600
111103701105	37	0.3	2.0	28	1200	0.8	1.40	29	1530	1.6	1.40	30	1800
111104001105	40	0.3	2.0	29	1270	0.8	1.40	30	1650	1.6	1.56	32	1980
111104401105	44	0.3	2.0	31	1400	0.8	1.56	32	1850	1.6	1.56	34	2150
111105201105	52	0.4	2.0	33	1650	0.8	1.56	34	2050	2.0	1.56	36	2650
111106101105	61	0.4	2.2	35	1850	0.8	1.56	35	2300	2.0	1.56	38	2950

Electrical Parameters

Part Number	No. of Cores	Max. DC Conductor Resistance at 20°C (Ω/km)	Approx. AC Conductor Resistance (Ω/km)		Reactance of Cable at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration	
			at 70°C	at 85°C			With General Insulation			With H.R. Insulation			With Gen. Purpose Insulation	With Heat Resistance Insulation
							Ground	Duct	Air	Ground	Duct	Air		
111100201105	2	12.1	14.52	15.2	0.112	0.2	23	20	20	26	24	24	0.156	0.173
111100301105	3	12.1	14.52	15.2	0.112	0.2	21	17	17	24	21	21	0.156	0.173
111100401105	4	12.1	14.52	15.2	0.112	0.2	21	17	17	24	21	21	0.156	0.173
111100501105	5	12.1	14.52	15.2	0.112	0.2	21	17	17	24	21	21	0.156	0.173
111100601105	6	12.1	14.52	15.2	0.112	0.2	15	13	13	17	16	16	0.156	0.173
111100701105	7	12.1	14.52	15.2	0.112	0.2	14	13	13	16	15	15	0.156	0.173
111101001105	10	12.1	14.52	15.2	0.112	0.2	13	11	11	15	13	13	0.156	0.173
111101201105	12	12.1	14.52	15.2	0.112	0.2	12	10	10	14	12	12	0.156	0.173
111101401105	14	12.1	14.52	15.2	0.112	0.2	11	10	10	13	12	12	0.156	0.173
111101601105	16	12.1	14.52	15.2	0.112	0.2	11	9	9	13	11	11	0.156	0.173
111101901105	19	12.1	14.52	15.2	0.112	0.2	10	9	9	11	11	11	0.156	0.173
111102401105	24	12.1	14.52	15.2	0.112	0.2	9	8	8	10	10	10	0.156	0.173
111102701105	27	12.1	14.52	15.2	0.112	0.2	9	8	8	10	10	10	0.156	0.173
111103001105	30	12.1	14.52	15.2	0.112	0.2	9	7	7	10	8	8	0.156	0.173
111103701105	37	12.1	14.52	15.2	0.112	0.2	8	7	7	9	8	8	0.156	0.173
111104001105	40	12.1	14.52	15.2	0.112	0.2	8	7	7	9	8	8	0.156	0.173
111104401105	44	12.1	14.52	15.2	0.112	0.2	7	7	7	8	7	7	0.156	0.173
111105201105	52	12.1	14.52	15.2	0.112	0.2	6	6	6	7	7	7	0.156	0.173
111106101105	61	12.1	14.52	15.2	0.112	0.2	6	6	6	7	7	7	0.156	0.173

YY/YFY/YWY-2.5 Sq. mm

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

2.5 Sq. mm copper conductor, PVC insulated unarmoured & galvanised steel strip / wire armoured control cables as per IS 1554 Part - 1.

Conductor : CU conductor solid as per Cl. 1 IS 8130 or stranded as per Cl. 2 IS 8130

Insulation Material : PVC Type - A as per IS 5831/ Option : HR PVC (Type - C) as per IS 5831. Nominal thickness of insulation is 0.9 mm

Core Colours : Up to 5 cores by colour coding & more than 5 cores number printing on core as per IS 1554 (P - 1)

Inner Sheath : PVC / PVC tape as per IS 1554 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 1 as per IS 5831 (Option : PVC Type ST - 2 as per IS 5831, FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Class of conductor - Cl. 1 or 2.

Insulation Type - PVC Type A / C.

Sheath Type - PVC Type ST - 1 / FR / FRLS; PVC Type ST - 2 / FR / FRLS.

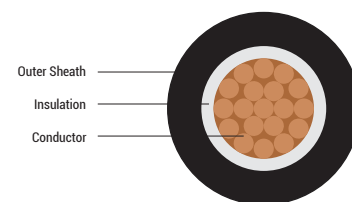
Part Number	No. of Cores	Minimum Thickness of Inner Sheath (mm)	Unarmoured (YY)			Armoured With Flat Strips (YFY)				Armoured With Round Wire (YWY)			
			Nominal Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Strip for Arm. (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. (kg/km)	Nominal Thickness of Strip for Arm. (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. (kg/km)
111200201205	2	0.3	1.8	13	220	N/A	N/A	N/A	N/A	1.4	1.24	14	440
111200301205	3	0.3	1.8	14	260	N/A	N/A	N/A	N/A	1.4	1.24	15	480
111200401205	4	0.3	1.8	15	310	N/A	N/A	N/A	N/A	1.4	1.24	16	560
111200501205	5	0.3	1.8	16	340	N/A	N/A	N/A	N/A	1.4	1.24	17	600
111200601205	6	0.3	1.8	17	390	N/A	N/A	N/A	N/A	1.4	1.24	19	685
111200701205	7	0.3	1.8	17	424	N/A	N/A	N/A	N/A	1.6	1.24	19	720
111201001205	10	0.3	1.8	20	570	0.8	1.40	21	850	1.6	1.40	23	1040
111201201205	12	0.3	1.8	21	670	0.8	1.40	22	950	1.6	1.40	24	1130
111201401205	14	0.3	1.8	22	750	0.8	1.40	23	1050	1.6	1.40	25	1080
111201601205	16	0.3	1.8	24	840	0.8	1.40	24	1120	1.6	1.40	26	1180
111201901205	19	0.3	2.0	25	950	0.8	1.40	25	1250	1.6	1.40	27	1340
111202401205	24	0.3	2.0	28	1200	0.8	1.40	29	1550	1.6	1.56	31	1680
111202701205	27	0.3	2.0	29	1300	0.8	1.40	30	1650	1.6	1.56	32	1840
111203001205	30	0.3	2.0	30	1400	0.8	1.56	31	1800	1.6	1.56	33	1985
111203701205	37	0.4	2.0	33	1700	0.8	1.56	34	2100	2.0	1.56	36	2580
111204001205	40	0.4	2.0	34	1850	0.8	1.56	35	2300	2.0	1.56	37	2740
111204401205	44	0.4	2.0	36	2000	0.8	1.56	37	2500	2.0	1.56	40	2980
111205201205	52	0.4	2.0	38	2350	0.8	1.56	39	2850	2.0	1.72	42	3380
111206101205	61	0.4	2.2	40	2700	0.8	1.56	41	3250	2.0	1.72	44	3780

Electrical Parameters

Part Number	No. of Cores	Max. DC Conductor Resistance at 20°C (Ω/km)	Approx. AC Conductor Resistance (Ω/km)		Reactance of Cable at 50 Hz (Ω/km)	Approx. Capacitance of Cable (microF /KM)	Normal Current Rating (Amps)						Short Circuit Current Rating for 1sec. Duration	
			at 70°C	at 85°C			With General Insulation			With H.R. Insulation			With Gen. Purpose Insulation	With Heat Resistance Insulation
							Ground	Duct	Air	Ground	Duct	Air		
111200201205	2	7.41	8.89	9.34	0.107	0.22	32	27	27	38	32	32	0.26	0.288
111200301205	3	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.26	0.288
111200401205	4	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.26	0.288
111200501205	5	7.41	8.89	9.34	0.107	0.22	27	24	24	30	28	28	0.26	0.288
111200601205	6	7.41	8.89	9.34	0.107	0.22	21	18	18	24	21	21	0.26	0.288
111200701205	7	7.41	8.89	9.34	0.107	0.22	20	17	17	22	20	20	0.26	0.288
111201001205	10	7.41	8.89	9.34	0.107	0.22	18	15	15	20	16	16	0.26	0.288
111201201205	12	7.41	8.89	9.34	0.107	0.22	17	14	14	19	16	16	0.26	0.288
111201401205	14	7.41	8.89	9.34	0.107	0.22	16	13	13	18	15	15	0.26	0.288
111201601205	16	7.41	8.89	9.34	0.107	0.22	15	13	13	17	15	15	0.26	0.288
111201901205	19	7.41	8.89	9.34	0.107	0.22	14	12	12	16	14	14	0.26	0.288
111202401205	24	7.41	8.89	9.34	0.107	0.22	13	11	11	14	13	13	0.26	0.288
111202701205	27	7.41	8.89	9.34	0.107	0.22	12	10	10	13	12	12	0.26	0.288
111203001205	30	7.41	8.89	9.34	0.107	0.22	12	10	10	13	12	12	0.26	0.288
111203701205	37	7.41	8.89	9.34	0.107	0.22	11	9	9	12	10	10	0.26	0.288
111204001205	40	7.41	8.89	9.34	0.107	0.22	11	9	9	12	10	10	0.26	0.288
111204401205	44	7.41	8.89	9.34	0.107	0.22	10	9	9	11	10	10	0.26	0.288
111205201205	52	7.41	8.89	9.34	0.107	0.22	9	8	8	10	10	10	0.26	0.288
111206101205	61	7.41	8.89	9.34	0.107	0.22	8	8	8	9	9	9	0.26	0.288

A2XY/2XY-1 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

1 cores AL / CU conductor, XLPE insulated, unarmoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm & above stranded round or stranded compact Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red or yellow or blue or black or natural

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option: FR Type / FRLS Type)

Cable Color : Black (Options: Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

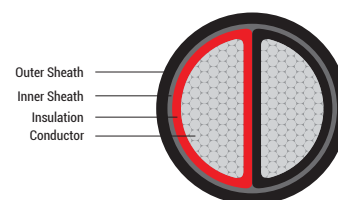
Colour from above technical details.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of Cable (kg/km)	
					AL Cable A2XY	CU Cable 2XY
111300100016	16	0.7	1.8	11	125	225
111300100025	25	0.9	1.8	12	170	330
111300100035	35	0.9	1.8	13	205	425
111300100050	50	1	1.8	15	250	550
111300100070	70	1.1	1.8	16	335	750
111300100095	95	1.1	1.8	18	425	1000
111300100120	120	1.2	1.8	20	515	1250
111300100150	150	1.4	2	22	615	1520
111300100185	185	1.6	2	24	770	1880
111300100240	240	1.7	2	27	965	2415
111300100300	300	1.8	2	30	1160	2980
111300100400	400	2	2.2	33	1480	3800
111300100500	500	2.2	2.2	36	1840	4815
111300100630	630	2.4	2.2	40	2350	6150
111300100800	800	2.6	2.4	47	2830	7840
111300101000	1000	2.8	2.6	51	3670	9800

For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-2



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

2 cores AL / CU conductor, XLPE insulated, unarmoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact round or compact shape conductor Cl. 2 as per IS:8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded round Cl. 2 as per IS:8130. 10 Sq. mm conductor is stranded round or stranded compact conductor Cl. 2 as per IS 8130

Above 10 Sq. mm conductor are stranded round or compact round or compacted shaped Cl. 2 as per : IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, black

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (class 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of Cable (kg/km)	
						AL Cable A2XY	CU Cable 2XY
111400200004	4	0.7	0.3	1.8	13	180	235
111400200006	6	0.7	0.3	1.8	14	220	300
111400200010	10	0.7	0.3	1.8	17	280	400
111400200016	16	0.7	0.3	1.8	17	300	440
111400200025	25	0.9	0.3	2.0	19	340	650
111400200035	35	0.9	0.3	2.0	20	415	840
111400200050	50	1.0	0.3	2.0	22	520	1090
111400200070	70	1.1	0.3	2.0	25	680	1500
111400200095	95	1.1	0.4	2.2	28	880	2010
111400200120	120	1.2	0.4	2.2	31	1080	2500
111400200150	150	1.4	0.4	2.2	33	1295	3060
111400200185	185	1.6	0.5	2.4	37	1630	3840
111400200240	240	1.7	0.5	2.6	41	2070	4970
111400200300	300	1.8	0.6	2.8	44	2520	6160
111400200400	400	2.0	0.6	3.0	48	3200	7830
111400200500	500	2.2	0.7	3.4	54	4040	9990
111400200630	630	2.4	0.7	3.6	62	5130	12840

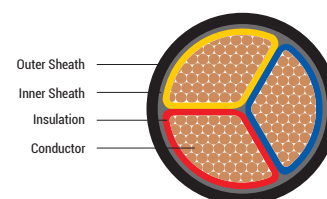
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-3

A2XY/2XY-3 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3 Cores AL / CU conductor, XLPE insulated, unarmoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl.1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, yellow, blue

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of Cable (kg/km)	
						AL Cable A2XY	CU Cable 2XY
111500300004	4	0.7	0.3	1.8	14	170	240
111500300006	6	0.7	0.3	1.8	16	200	300
111500300010	10	0.7	0.3	1.8	18	250	430
111500300016	16	0.7	0.3	1.8	18	310	600
111500300025	25	0.9	0.3	2.0	21	470	920
111500300035	35	0.9	0.3	2.0	22	570	1210
111500300050	50	1.0	0.3	2.0	25	720	1590
111500300070	70	1.1	0.4	2.2	30	950	2200
111500300095	95	1.1	0.4	2.2	32	1250	2980
111500300120	120	1.2	0.4	2.2	35	1520	3720
111500300150	150	1.4	0.5	2.4	39	1840	4550
111500300185	185	1.6	0.5	2.6	43	2310	5700
111500300240	240	1.7	0.6	2.8	49	3010	7390
111500300300	300	1.8	0.6	3.0	53	3600	9190
111500300400	400	2.0	0.7	3.2	59	4560	11700
111500300500	500	2.2	0.7	3.6	66	5780	14940
111500300630	630	2.4	0.7	3.8	73	7360	19230

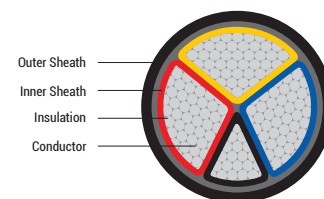
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4

A2XY/2XY-3.5 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3.5 Cores AL / CU Conductor, XLPE Insulated, Unarmoured Cables as per IS:7098 Part-1.

Conductor : AL / CU Stranded compact shaped conductor as per Cl. 2, IS:8130

Insulation : Crosslinked polyethylene (XLPE)

Phase Core Color : Red, yellow, blue

Neutral Core Color : Black

Inner Sheath : PVC / PVC tape as per IS:7098 (P-1)

Outer Sheath : PVC Type ST-2 as per IS:5831 (Option: FR Type / FRLS Type)

Cable Color : Black (Options: Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST-2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of Cable (kg/km)	
						AL Cable A2XY	CU Cable 2XY
111601010211	3 x 25 + 16	0.9/0.7	0.3	2.0	22	575	1125
111601020211	3 x 35 + 16	0.9/0.7	0.3	2.0	24	685	1425
111601030211	3 x 50 + 25	1.0/0.9	0.3	2.0	27	880	1980
111601040211	3 x 70 + 35	1.1/0.9	0.4	2.2	31	1185	2680
111601050211	3 x 95 + 50	1.1/1.0	0.4	2.2	34	1480	3580
111601060211	3 x 120 + 70	1.2/1.1	0.4	2.2	38	1880	4480
111601070211	3 x 150 + 70	1.4/1.1	0.5	2.4	43	2275	5485
111601080211	3 x 185 + 95	1.6/1.1	0.5	2.6	46	2770	6785
111601090211	3 x 240 + 120	1.7/1.2	0.6	2.8	52	3580	8675
111601100211	3 x 300 + 150	1.8/1.4	0.6	3.0	57	4380	10780
111601110211	3 x 400 + 185	2.0/1.6	0.7	3.4	65	5580	13980
111601120211	3 x 500 + 240	2.2/1.7	0.7	3.6	73	6980	17425
111601130211	3 x 630 + 300	2.4/1.8	0.7	4.0	82	8885	21970

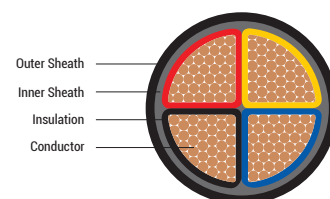
For conductor and resistance refer table no. 16-1

For capacitance, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4

A2XY/2XY-4 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

4 cores AL /CU conductor, XLPE insulated, unarmoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl.2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2 round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, yellow, blue, black

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

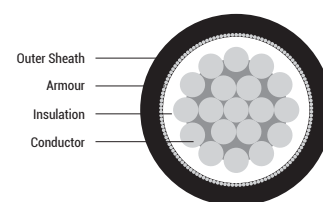
Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Nominal Thickness of Outer Sheath (mm)	Approx. Overall Diameter (mm)	Approx. Net Wt. of Cable (kg/km)	
						AL Cable A2XY	CU Cable 2XY
111700400004	4	0.7	0.3	1.8	16	225	340
111700400006	6	0.7	0.3	1.8	17	315	480
111700400010	10	0.7	0.3	1.8	19	370	640
111700400016	16	0.7	0.3	1.8	20	440	840
111700400025	25	0.9	0.3	2.0	24	650	1290
111700400035	35	0.9	0.3	2.0	26	780	1685
111700400050	50	1	0.3	2.0	29	985	2190
111700400070	70	1.1	0.4	2.2	34	1380	3090
111700400095	95	1.1	0.4	2.2	37	1685	3980
111700400120	120	1.2	0.5	2.4	41	2125	5130
111700400150	150	1.4	0.5	2.6	45	2630	6230
111700400185	185	1.6	0.5	2.8	50	3230	7830
111700400240	240	1.7	0.6	3.0	56	4080	9980
111700400300	300	1.8	0.7	3.2	63	5030	12030
111700400400	400	2	0.7	3.6	70	6385	15980
111700400500	500	2.2	0.7	3.8	79	7980	19985
111700400630	630	2.4	0.7	4.0	88	9985	25985

For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

1 cores AL / CU conductor, XLPE insulated, aluminum strip / wire armoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm & above stranded round or stranded compact Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red or yellow or blue or black

Armouring : Single armouring of aluminum strip or aluminum wire as per IS 7098 P - 1

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Colour from above technical details.

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Armouring with flat strip (A2XFaY/ 2XFaY)					Armouring with Round Wire (AYWaY/YWaY)				
			Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx Net Wt. of Cable (kg/km)	
						AL Cable A2XFaY	CU Cable 2XFaY				AL Cable AYWaY	CU Cable YWaY
111800100016	16	1.0	N/A	N/A	N/A	N/A	N/A	1.4	1.24	13	200	300
111800100025	25	1.2	N/A	N/A	N/A	N/A	N/A	1.4	1.24	14	300	455
111800100035	35	1.2	N/A	N/A	N/A	N/A	N/A	1.4	1.24	15	350	567
111800100050	50	1.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	17	420	730
111800100070	70	1.4	N/A	N/A	N/A	N/A	N/A	1.4	1.24	19	520	954
111800100095	95	1.4	0.8	1.4	21	600	1195	1.6	1.4	22	650	1235
111800100120	120	1.5	0.8	1.4	23	700	1450	1.6	1.4	24	750	1494
111800100150	150	1.7	0.8	1.4	24	800	1730	1.6	1.4	25	850	1780
111800100185	185	1.9	0.8	1.4	26	950	2100	1.6	1.4	28	1000	2147
111800100240	240	2	0.8	1.4	30	1200	2690	1.6	1.4	30	1250	2738
111800100300	300	2.1	0.8	1.56	32	1400	3270	1.6	1.56	33	1500	3360
111800100400	400	2.4	0.8	1.56	36	1750	4230	2	1.56	38	1900	4380
111800100500	500	2.6	0.8	1.56	39	2150	5250	2	1.56	41	2350	5450
111800100630	630	2.8	0.8	1.72	44	2700	6610	2	1.72	46	2900	6806
111800100800	800	3.1	0.8	1.72	48	3350	8320	2	1.88	51	3600	8560
111800101000	1000	3.3	0.8	1.88	54	4100	10300	2.5	2.04	56	4600	10800

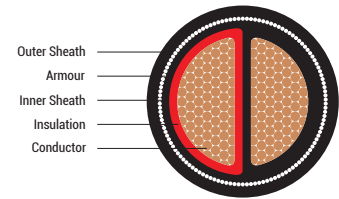
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4

A2XFY/2XFY-A2XWY/2XWY-2 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

2 cores AL / CU conductor, XLPE insulated, galvanised steel strip / wire armoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded round or compact round or compact shape conductor Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded round Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded round or stranded compact conductor Cl. 2 as per IS 8130

Above 10 Sq. mm conductor are stranded round or compact round or compacted shaped Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, black

Inner Sheath : PVC / PVC tape as per IS 7098 (P-1)

Armouring : Single armouring of galvanised steel strip / wire as per IS 3975

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation mm	Minimum Thickness of Inner Sheath (mm)	Armouring with flat strip (A2XFY/ 2XFY)					Armouring with round wire (A2XWY/ 2XWY)				
				Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
							AL Cable A2XFY	CU Cable 2XFY				AL Cable AYWaY	CU Cable YWaY
111900200004	4	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	15	500	550
111900200006	6	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	16	550	600
111900200010	10	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	650	770
111900200016	16	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.4	19	700	900
111900200025	25	0.9	0.3	0.8	1.4	20	650	950	1.6	1.4	21	850	1150
111900200035	35	0.9	0.3	0.8	1.4	21	750	1200	1.6	1.4	23	950	1400
111900200050	50	1.0	0.3	0.8	1.4	23	900	1500	1.6	1.4	25	1100	1700
111900200070	70	1.1	0.3	0.8	1.56	26	1100	1950	1.6	1.56	28	1400	2250
111900200095	95	1.1	0.4	0.8	1.56	29	1350	2500	2.0	1.56	31	1850	3000
111900200120	120	1.2	0.4	0.8	1.56	31	1600	3100	2.0	1.56	34	2150	3600
111900200150	150	1.4	0.4	0.8	1.72	34	1900	3750	2.0	1.72	37	2450	4300
111900200185	185	1.6	0.5	0.8	1.72	37	2250	4500	2.0	1.88	40	2900	5200
111900200240	240	1.7	0.5	0.8	1.88	42	2800	5800	2.5	2.04	45	3850	6800
111900200300	300	1.8	0.6	0.8	2.04	45	3300	7000	2.5	2.2	49	4450	8200
111900200400	400	2.0	0.6	0.8	2.36	50	4100	9050	2.5	2.36	52	5350	10300
111900200500	500	2.2	0.7	0.8	2.52	55	5000	11000	3.2	2.68	60	7100	13300
111900200630	630	2.4	0.7	0.8	2.68	63	6100	14000	3.2	2.84	66	8500	16300

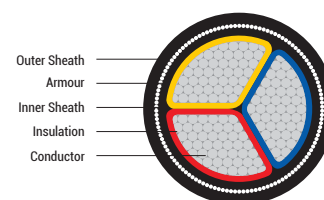
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-3

A2XFY/2XFY-A2XWY/2XWY-3 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3 cores AL / CU conductor, XLPE insulated, galvanised steel strip / wire armoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130.

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2, round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130.

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, yellow, blue

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 2 as per IS 5831. (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation mm	Minimum Thickness of Inner Sheath (mm)	Armouring with flat strip (A2XFY/ 2XFY)					Armouring with round wire (A2XWY/ 2XWY)				
				Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
							AL Cable A2XFY	CU Cable 2XFY				AL Cable A2XWY	CU Cable 2XWY
112000300004	4	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	430	510
112000300006	6	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	19	470	600
112000300010	10	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	20	520	750
112000300016	16	0.7	0.3	0.8	1.24	19	590	890	1.6	1.4	20	730	1020
112000300025	25	0.9	0.3	0.8	1.4	21	790	1190	1.6	1.4	23	940	1400
112000300035	35	0.9	0.3	0.8	1.4	23	940	1490	1.6	1.4	25	1130	1750
112000300050	50	1	0.3	0.8	1.4	26	1090	1990	1.6	1.56	29	1330	2180
112000300070	70	1.1	0.4	0.8	1.56	29	1450	2690	2	1.56	32	1820	3070
112000300095	95	1.1	0.4	0.8	1.56	32	1740	3490	2	1.56	35	2210	3950
112000300120	120	1.2	0.4	0.8	1.56	35	2100	4190	2	1.72	39	2670	4840
112000300150	150	1.4	0.5	0.8	1.72	42	2520	5200	2	1.88	43	3450	6150
112000300185	185	1.6	0.5	0.8	1.88	44	2990	6300	2.5	2.04	48	3830	7160
112000300240	240	1.7	0.6	0.8	2.04	49	3740	8190	2.5	2.2	53	4720	8870
112000300300	300	1.8	0.6	0.8	2.2	54	4490	10000	2.5	2.36	58	6130	11380
112000300400	400	2	0.7	0.8	2.52	60	5590	12990	3.2	2.68	65	7390	14410
112000300500	500	2.2	0.7	0.8	2.68	66	6890	15990	3.2	2.84	72	9980	18490
112000300630	630	2.4	0.7	0.8	2.84	74	8540	19990	4	3	81	11820	22560

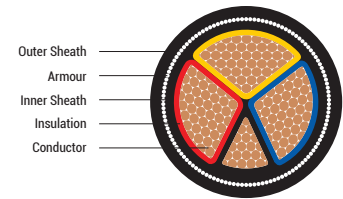
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-3

A2XFY/2XFY-A2XWY/2XWY-3.5 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

3.5 cores AL / CU conductor, XLPE insulated, galvanised steel strip / wire armoured Cables as per IS 7098 Part -1.

Conductor : AL / CU stranded compact shaped conductor as per Cl. 2, IS 8130.

Insulation : Crosslinked polyethylene (XLPE)

Phase Core Color : Red, yellow, blue

Neutral Core Color : Black

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 2 as per IS 5831. (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Size Cores x Neutral (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Armouring with flat strip (A2XFY/ 2XFY)					Armouring with round wire (A2XWY/ 2XWY)				
				Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
							AL Cable A2XFY	CU Cable 2XFY				AL Cable A2XWY	CU Cable 2XWY
112101010211	3x25+16	0.9/0.7	0.3	0.8	1.40	23	900	1400	1.6	1.40	25	1080	1685
112101020211	3x35+16	0.9/0.7	0.3	0.8	1.40	25	1000	1800	1.6	1.40	27	1285	1980
112101030211	3x50+25	1.0/0.9	0.3	0.8	1.40	28	1200	2300	1.6	1.56	30	1580	2685
112101040211	3x70+35	1.1/0.9	0.4	0.8	1.56	32	1600	3200	2.0	1.56	35	2190	3690
112101050211	3x95+50	1.1/1.0	0.4	0.8	1.56	35	2000	4100	2.0	1.56	38	2580	4585
112101060211	3x120+70	1.2/1.1	0.4	0.8	1.72	39	2400	5100	2.0	1.72	42	3085	5680
112101070211	3x150+70	1.4/1.1	0.5	0.8	1.72	43	2800	6000	2.0	1.88	46	3590	6790
112101080211	3x185+95	1.6/1.1	0.5	0.8	1.88	47	3400	7400	2.5	2.04	51	4675	8615
112101090211	3x240+120	1.7/1.2	0.6	0.8	2.04	53	4300	9500	2.5	2.20	56	5680	10485
112101100211	3x300+150	1.8/1.4	0.6	0.8	2.20	57	5000	11500	2.5	2.36	60	6685	12990
112101110211	3x400+185	2.0/1.6	0.7	0.8	2.52	66	6400	14500	3.2	2.68	71	8980	16980
112101120211	3x500+240	2.2/1.7	0.7	0.8	2.68	74	7900	18000	3.2	2.84	79	10985	21485
112101130211	3x630+300	2.4/1.8	0.7	0.8	3.00	82	9900	23000	4.0	3.00	88	14490	27985

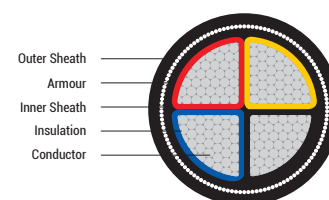
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4

A2XFY/2XFY-A2XWY/2XWY-4 CORE

REACH | RoHS



Cable Construction

1.1 kV (A.C) & 1.5 kV (D.C) to Earth

4 cores AL / CU conductor, XLPE insulated, galvanised steel strip / wire armoured cables as per IS 7098 Part - 1.

Conductor : AL up to 10 Sq. mm conductor are solid Cl. 1 as per IS 8130. And above 10 Sq. mm conductor are stranded compacted shape Cl. 2 as per IS 8130

In CU 4 & 6 Sq. mm conductor are solid Cl. 1 or stranded Cl. 2 as per IS 8130. 10 Sq. mm conductor is stranded Cl. 2, round as per IS 8130. Above 10 Sq. mm conductor are stranded compacted shaped Cl. 2 as per IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Color : Red, yellow, blue, black

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Conductor Type (Aluminium or Copper) and Class of conductor (Cl. 1 or 2).

Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Armouring with flat strip (A2XFY/ 2XFY)					Armouring with round wire (A2XWY/ 2XWY)				
				Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)		Nominal Diameter of Wire (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	
							AL Cable A2XFY	CU Cable 2XFY				AL Cable A2XWY	CU Cable 2XWY
112200400004	4	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	18	540	640
112200400006	6	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.24	19	590	760
112200400010	10	0.7	0.3	N/A	N/A	N/A	N/A	N/A	1.4	1.4	21	655	940
112200400016	16	0.7	0.3	0.8	1.4	20	700	1100	1.6	1.4	22	920	1280
112200400025	25	0.9	0.3	0.8	1.4	24	900	1500	1.6	1.4	26	1185	1750
112200400035	35	0.9	0.3	0.8	1.4	27	1100	2000	1.6	1.4	28	1420	2185
112200400050	50	1.0	0.3	0.8	1.56	30	1400	2500	1.6	1.56	32	1730	2830
112200400070	70	1.1	0.4	0.8	1.56	34	1800	3400	2.0	1.56	37	2375	3980
112200400095	95	1.1	0.4	0.8	1.56	37	2200	4400	2.0	1.72	40	2870	5130
112200400120	120	1.2	0.5	0.8	1.72	41	2700	5600	2.0	1.88	44	3475	6285
112200400150	150	1.4	0.5	0.8	1.88	46	3200	6800	2.5	2.04	49	4480	7980
112200400185	185	1.6	0.5	0.8	2.04	51	3900	8300	2.5	2.2	54	5185	9680
112200400240	240	1.7	0.6	0.8	2.20	57	4850	10500	2.5	2.36	65	6385	11985
112200400300	300	1.8	0.7	0.8	2.36	63	5850	13000	3.2	2.52	68	8280	15385
112200400400	400	2.0	0.7	0.8	2.68	71	7320	17000	3.2	2.84	76	9985	19480
112200400500	500	2.2	0.7	0.8	2.84	79	9000	21000	4.0	3.00	86	13480	24985
112200400630	630	2.4	0.7	0.8	3.00	88	11000	27000	4.0	3.00	94	15975	30485

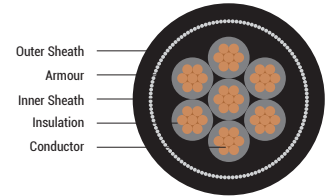
For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-4

2XY/2XFY/2XWY-1.5 Sq. mm

REACH | RoHS



Cable Construction

1.5 Sq.mm copper conductor, XLPE insulated unarmoured & galvanised steel strip/wire armoured control cables as per IS 7098 Part-1

Conductor : CU Conductor solid as per Cl. 1 IS 8130 or Stranded as per Cl. 2 IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Colours : Up to 5 cores by colour coding & more than 5 cores number printing on core as per IS 7098 Part - 1

Inner Sheath : PVC / PVC tape as per IS 7098 (P - 1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Class of conductor - Cl. 1 or 2.

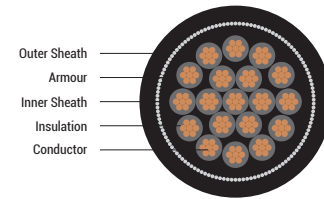
Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	No. of Cores	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Unarmoured (2XY)			Armoured With Flat Strips (2XFY)				Armoured With Round Wire (2XWY)			
				Nominal Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	App. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)
112300201105	2	0.7	0.3	1.8	10	140	N/A	N/A	N/A	N/A	1.4	1.24	12.5	370
112300301105	3	0.7	0.3	1.8	10.5	160	N/A	N/A	N/A	N/A	1.4	1.24	13.0	390
112300401105	4	0.7	0.3	1.8	11.5	200	N/A	N/A	N/A	N/A	1.4	1.24	13.5	415
112300501105	5	0.7	0.3	1.8	12.5	225	N/A	N/A	N/A	N/A	1.4	1.24	14.5	465
112300601105	6	0.7	0.3	1.8	13.5	250	N/A	N/A	N/A	N/A	1.4	1.24	15.5	500
112300701105	7	0.7	0.3	1.8	13.5	260	N/A	N/A	N/A	N/A	1.4	1.24	15.5	520
112301001105	10	0.7	0.3	1.8	17	340	N/A	N/A	N/A	N/A	1.4	1.24	18.5	655
112301201105	12	0.7	0.3	1.8	17.5	390	N/A	N/A	N/A	N/A	1.6	1.40	19.0	720
112301401105	14	0.7	0.3	1.8	18	430	N/A	N/A	N/A	N/A	1.6	1.40	20.0	825
112301601105	16	0.7	0.3	1.8	18.5	475	0.8	1.40	19.0	750	1.6	1.40	21.0	925
112301901105	19	0.7	0.3	2.0	19.5	540	0.8	1.40	20.0	815	1.6	1.40	22.0	1010
112302401105	24	0.7	0.3	2.0	22.5	665	0.8	1.40	23.0	1000	1.6	1.40	25.0	1250
112302701105	27	0.7	0.3	2.0	23	750	0.8	1.40	23.5	1050	1.6	1.40	25.5	1330
112303001105	30	0.7	0.3	2.0	23.5	820	0.8	1.40	24.0	1125	1.6	1.40	26.0	1400
112303701105	37	0.7	0.3	2.0	26	665	0.8	1.40	26.0	1325	1.6	1.40	28.0	1550
112304001105	40	0.7	0.3	2.0	26	1050	0.8	1.40	26.5	1400	1.6	1.40	29.5	1700
112304401105	44	0.7	0.3	2.0	28	1150	0.8	1.40	28.5	1500	1.6	1.56	30.5	1850
112305201105	52	0.7	0.3	2.0	29	1300	0.8	1.56	30.5	1700	1.6	1.56	32.0	2050
112306101105	61	0.7	0.4	2.2	31	1500	0.8	1.56	32.0	1950	2.0	1.56	34.5	2550

For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-8



Cable Construction

2.5 Sq. mm copper conductor, XLPE insulated unarmoured & galvanised steel strip/wire armoured control cables as per IS 7098 Part- 1.

Conductor : CU conductor solid as per Cl. 1 IS 8130 or stranded as per Cl. 2 IS 8130

Insulation : Crosslinked polyethylene (XLPE)

Core Colours : Up to 5 cores by colour coding & more than 5 cores number printing on core as per IS 7098 Part - 1

Inner Sheath : PVC / PVC tape as per IS 7098 (P-1)

Armouring : Single armouring of galvanised steel strip / wire

Outer Sheath : PVC Type ST - 2 as per IS 5831 (Option : FR Type / FRLS Type)

Cable Color : Black (Options : Any other color as per requirement)

Cable Design Parameters

While ordering, in addition to the part number the following details shall also be advised:

Class of conductor - Cl. 1 or 2.

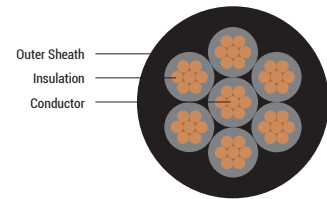
Sheath Type - PVC Type ST - 2 (FR or FRLS).

Part Number	No. of Cores	Nominal Thickness of Insulation (mm)	Minimum Thickness of Inner Sheath (mm)	Unarmoured (2XY)			Armoured With Flat Strips (2XFY)				Armoured With Round Wire (2XWY)			
				Nominal Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	Approx. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)	Nominal Thickness of Arm. Strip (mm)	Minimum Thickness of Outer Sheath (mm)	App. Overall Dia. (mm)	Approx. Net Wt. of Cable (kg/km)
112400201205	2	0.7	0.3	1.8	10.5	170	N/A	N/A	N/A	N/A	1.4	1.24	12.5	390
112400301205	3	0.7	0.3	1.8	11.5	200	N/A	N/A	N/A	N/A	1.4	1.24	13.0	420
112400401205	4	0.7	0.3	1.8	12.0	235	N/A	N/A	N/A	N/A	1.4	1.24	14.0	480
112400501205	5	0.7	0.3	1.8	13.0	270	N/A	N/A	N/A	N/A	1.4	1.24	15.0	540
112400601205	6	0.7	0.3	1.8	14.0	310	N/A	N/A	N/A	N/A	1.4	1.24	15.5	595
112400701205	7	0.7	0.3	1.8	14.0	335	N/A	N/A	N/A	N/A	1.4	1.24	15.5	620
112401001205	10	0.7	0.3	1.8	17.0	350	N/A	N/A	N/A	N/A	1.6	1.4	19.5	870
112401201205	12	0.7	0.3	1.8	19.0	520	0.8	1.4	19.0	760	1.6	1.4	21.0	985
112401401205	14	0.7	0.3	1.8	19.5	575	0.8	1.4	19.5	820	1.6	1.4	21.5	1030
112401601205	16	0.7	0.3	2.0	20.0	655	0.8	1.4	20.0	890	1.6	1.4	22.0	1105
112401901205	19	0.7	0.3	2.0	21.0	745	0.8	1.4	21.0	990	1.6	1.4	23.0	1225
112402401205	24	0.7	0.3	2.0	23.5	910	0.8	1.4	24.0	1210	1.6	1.4	25.5	1470
112402701205	27	0.7	0.3	2.0	24.0	1040	0.8	1.4	24.5	1300	1.6	1.4	26.5	1580
112403001205	30	0.7	0.3	2.0	25.0	1085	0.8	1.4	25.5	1400	1.6	1.4	27.0	1680
112403701205	37	0.7	0.3	2.0	27.0	1290	0.8	1.4	27.5	1635	1.6	1.56	29.0	1950
112404001205	40	0.7	0.3	2.0	28.0	1390	0.8	1.56	28.5	1770	1.6	1.56	30.5	2145
112404401205	44	0.7	0.4	2.2	31.0	1550	0.8	1.56	31.0	1950	2	1.56	33.5	2525
112405201205	52	0.7	0.4	2.2	32.0	1790	0.8	1.56	32.5	2200	2	1.56	35.0	2785
112406101205	61	0.7	0.4	2.2	34.0	2050	0.8	1.56	34.0	2490	2	1.56	36.5	3105

For conductor and resistance refer table no. 16-1

For capacitances, reactance, short circuit rating refer table no. 16-5, 16-6 and 16-7

For current rating refer table no. 16-8



Application

Power cables for energy supply are installed in open air, in underground, in water, indoors, in cable ducts, power stations, for industry and distribution boards as well as in subscriber networks, where mechanical damages are not to be expected.

Technical Data

Power and control cable to IEC 60502-1

Temperature Range : Flexing - 5°C to + 50°C. Fixed installation -20°C to +70°C

Nominal Voltage : U0 / U 0.6 / 1 kV

Test Voltage : 4 kV

Max. permissible tensile stress with cable grip for CU-conductor : 50 N/mm²

Minimum Bending Radius : For single core approx. 15 x cable ø. For multi core approx. 12 x cable ø.

Cable Construction

Plain copper conductor, to DIN VDE 0295.

Cl. 1 or Cl. 2 solid or stranded type, BS 6360.

Cl. 1 or Cl.2, IEC 60228 and HD 383.

PVC core insulation, DIV4 to HD 603.1.

Cores stranded concentrically.

Colour coded to DIN VDE 0293 - 308, 0276 part 603 or HD 186.

Core colour for 3 + 1/2 conductor.

J-type : gnyl (1/2) bn, bk, gy.

O-type : bu (1/2) bn, bk, gy.

PVC outer jacket, DMV5 to HD 603.1.

Sheath Colour : Black.

Properties

Flame propagation test according to IEC 60332 - 1 - 2.

Highest permissible voltage.

Direct current systems 1.8 kV.

Alternating current systems, single-phase systems 1.4 kV.

Both conductor insulated, single-phase systems 0.7 kV.

One conductor earthed, three-phase systems 1.2 kV with concentric conductor and a cross-section of 240 mm² and above 3.6 kV.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the type required: 01-J-Type, 02-O-Type.

Part Number	No. of Cores and Nominal Cross-Section Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Weight Cable (kg/km)
112500101xx11	1 x 4 re	6.5	34	80
112500102xx11	1 x 6 re	7.0	51	102
112500103xx11	1 x 10 re	7.9	86	147
112500104xx11	1 x 16 re	8.9	137	210
112500105xx11	1 x 25 rm	11.3	217	335
112500106xx11	1 x 35 rm	12.5	301	439
112500107xx11	1 x 50 rm	14.3	408	587
112500108xx11	1 x 70 rm	16.2	589	807
112500109xx11	1 x 95 rm	18.6	818	1100
112500110xx11	1 x 120 rm	20.3	1031	1357
112500111xx11	1 x 150 rm	22.4	1273	1665
112500112xx11	1 x 185 rm	24.8	1592	2067
112500113xx11	1 x 240 rm	28.0	2093	2686
112500114xx11	1 x 300 rm	30.9	2626	3341
112500115xx11	1 x 400 rm	34.5	3357	4231
112500116xx11	1 x 500 rm	38.5	4311	5379
112500117xx11	1 x 630 rm	42.7	5576	6846
112500118xx11	2 x 1.5 re	10.5	26.1	156.1
112500119xx11	2 x 2.5 re	11.3	42.6	191.5
112500120xx11	2 x 4 re	13.1	68.5	268.5
112500121xx11	2 x 6 re	14.2	102.5	332.4
112500122xx11	2 x 10 re	15.9	172.5	454.4
112500123xx11	2 x 16 re	17.9	274.4	621.1
112500124xx11	2 x 25 rm	24.2	441.9	1089.2
112500125xx11	3 x 1.5 re	11.0	39.1	180
112500126xx11	3 x 2.5 re	11.9	63.9	225
112500127xx11	3 x 4 re	13.9	102.7	320
112500128xx11	3 x 6 re	15.0	153.7	403
112500129xx11	3 x 10 re	16.9	258.7	564
112500130xx11	3 x 16 re	19	411.6	785
112500131xx11	3 x 25 rm	24.2	662.8	1270
112500132xx11	3 x 35 sm	22.6	901.4	1382
112500133xx11	3 x 50 sm	25.7	1220.5	1829
112500134xx11	3 x 70 sm	28.7	1762.5	2487
112500135xx11	3 x 95 sm	33.3	2447.4	3410

Part Number	No. of Cores and Nominal Cross-Section Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Weight Cable (kg/km)
112500136xx11	3 x 120 sm	35.9	3087.2	4171
112500137xx11	3 x 150 sm	39.5	3809.3	5107
112500138xx11	3 x 185 sm	44	4766.4	6372
112500139xx11	3 x 240 sm	49.3	6264.6	8234
112500140xx11	4 x 1.5 re	11.8	52.2	214
112500141xx11	4 x 2.5 re	12.8	85.2	271
112500142xx11	4 x 4 re	15	136.9	390
112500143xx11	4 x 6 re	16.3	204.9	496
112500144xx11	4 x 10 re	18.4	344.9	701
112500145xx11	4 x 16 re	20.7	548.9	986
112500146xx11	4 x 25 rm	26.7	883.7	1604
112500147xx11	4 x 35 sm	27.1	1201.9	1813
112500148xx11	4 x 50 sm	30.9	1627.4	2404
112500149xx11	4 x 70 sm	35.3	2350	3324
112500150xx11	4 x 95 sm	40.5	3263.2	4512
112500151xx11	4 x 120 sm	44.3	4116.3	5582
112500152xx11	4 x 150 sm	48.8	5079	6833
112500153xx11	4 x 185 sm	54.3	6355.2	8520
112500154xx11	4 x 240 sm	61	8352.7	11016
112500155xx11	5 x 1.5 re	12.7	65.2	251
112500156xx11	5 x 2.5 re	13.8	106.5	321
112500157xx11	5 x 4 re	16.3	171.1	467
112500158xx11	5 x 6 re	17.7	256.2	597
112500159xx11	5 x 10 re	20	431.1	851
112500160xx11	5 x 16 re	22.7	686.1	1203
112500161xx11	5 x 25 rm	29.3	1104.6	1966
112500162xx11	5 x 35 rm	32.9	1532.6	2602
112500163xx11	5 x 50 rm	37.9	2075.1	3482
112500164xx11	7 x 1.5 re	13.6	91.3	295
112500165xx11	7 x 2.5 re	14.9	149.1	384
112500166xx11	7 x 4 re	17.6	239.6	564
112500167xx11	7 x 6 re	19.2	358.6	731
112500168xx11	7 x 10 re	21.8	603.6	1058
112500169xx11	10 x 1.5 re	18.5	130.4	477
112500170xx11	10 x 2.5 re	18.4	213	543

Part Number	No. of Cores and Nominal Cross-Section Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Weight Cable (kg/km)
112500171xx11	12 x 1.5 re	17.3	156.5	466
112500172xx11	12 x 2.5 re	19	255.5	616
112500173xx11	14 x 1.5 re	18.1	182.6	524
112500174xx11	14 x 2.5 re	19.9	298.1	696
112500175xx11	16 x 1.5 re	19	208.7	584
112500176xx11	16 x 2.5 re	20.9	340.7	779
112500177xx11	19 x 1.5 re	20	247.8	667
112500178xx11	19 x 2.5 re	22	404.6	895
112500179xx11	21 x 1.5 re	21	273.9	731
112500180xx11	21 x 2.5 re	23.2	447.2	983
112500181xx11	24 x 1.5 re	23.1	273.9	779
112500182xx11	24 x 2.5 re	25.6	511.1	1133
112500183xx11	30 x 1.5 re	24.4	391.2	999
112500184xx11	30 x 2.5 re	27	638.9	1354
112500185xx11	40 x 1.5 re	27.4	521.6	1282
112500186xx11	40 x 2.5 re	30.8	851.8	1782
112500187xx11	52 x 2.5 re	34.6	1107.4	2268
112500188xx11	61 x 1.5 re	33.1	795.5	1905

*3 + 1/2 - Conductors

Part Number	No. of Cores and Nominal Cross-Section Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Weight Cable (kg/km)
112500189xx11	3 x 25 / 16 rm	23.6	786.6	200
112500190xx11	3 x 35 / 16 sm	25.4	1038.3	225
112500191xx11	3 x 50 / 25 sm	29.3	1437.1	281
112500192xx11	3 x 70 / 35 sm	33.3	2063	346
112500193xx11	3 x 95 / 50 sm	38.1	2854.2	433
112500194xx11	3 x 120 / 70 sm	41.7	3674.7	503
112500195xx11	3 x 150 / 70 sm	45.4	4396.8	580
112500196xx11	3 G 185 / 95 sm	50.6	5582.2	698
112500197xx11	3 x 240 / 120 sm	56.8	7293.6	854
112500198xx11	3 x 300 / 150 sm	62.7	9129.1	1013

Note :

re = round conductor, single-wire; rm = round conductor, multiply-wire; sm = stranded, sectional core.

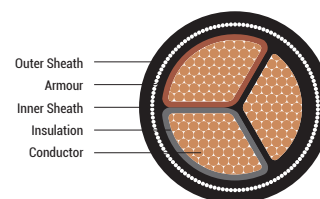
***In respect to 3 + 1/2 conductors**

Whereby only one conductor is allowed to contain a smaller cross-section (as per DIN VDE 0276 part 603 table 5) and permitted to place as insulated core (Green/Yellow and Blue as 1/2-conductor) stranded in layer.

For current rating refer table no. 13-1

POWER CABLE-BS 5467

REACH | RoHS | CE



Application

Industrial wiring and mains distribution. Can be laid direct in the ground, or in ducts, clipped to surface, on trays or in free air. May be embedded in concrete.

Standard

BS 5467

Technical Data

Voltage Rating : 600/1000V

Minimum Bending Radius : 15 x Cable diameter

Maximum Conductor Temperature : 90°C

Cable Construction

Single, two, three, four and five core cables. Stranded plain copper conductors, XLPE insulated, cores laid up, extruded PVC bedding, galvanised steel wire armoured (Aluminium wires for single cores) and PVC sheathed.

Core colours:

Single core : Brown or blue.

Two core : Brown, blue.

Three core : Brown, black, grey.

Four core : Brown, black, grey, blue.

Five core : Brown, black, grey, green/yellow, blue.

(There is the option for core colour as per customer requirement).

Sheath Colour : Black (Other colour as per customer requirement)

Note : Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see regulation 512-1-2 of BS 7671, the 17th Edition of IEE Wiring Regulations). Cables with reduced Flame Propagation and designs with alternative core identification are available to order.

Cables up to 1 x 300 Sq. mm, 2...4 x 400 Sq. mm BASEC Certified.

Cable Design Parameters

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Armour Wire Diameter (mm)	Approx. Dia. under Armour (mm)	Approx Overall Diameter (mm)	Approx Cable Weight (kg/km)	Maximum Resistance of Cable		Reactance at 50 Hz (Ω/km)	Impedance AC at 90°C (Ω/km)	Star Capacitance (μF/km)	Maximum Armour Resistance (Ω/km)
								DC at 20°C (Ω/km)	AC at 90°C (Ω/km)				
Single Core Aluminium Wire Armour	112600100050	50	1.0	0.9	12.7	17.5	800	0.387	0.4938	0.104	0.505	0.41	1.3
	112600100070	70	1.1	1.25	14.7	20.2	960	0.268	0.341	0.101	0.356	0.46	0.75
	112600100095	95	1.1	1.25	16.6	22.3	1240	0.193	0.2469	0.097	0.265	0.53	0.67
	112600100120	120	1.2	1.25	18.5	24.2	1510	0.153	0.1962	0.094	0.217	0.56	0.61
	112600100150	150	1.4	1.6	20.8	27.4	1900	0.124	0.1594	0.095	0.186	0.52	0.42
	112600100185	185	1.6	1.6	23.2	30	2320	0.0991	0.128	0.093	0.158	0.54	0.38
	112600100240	240	1.7	1.6	26	32.8	2930	0.0754	0.0985	0.09	0.134	0.59	0.34
	112600100300	300	1.8	1.6	28.6	35.6	3580	0.0601	0.0797	0.088	0.119	0.63	0.31

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Armour Wire Diameter (mm)	Approx. Dia. under Armour (mm)	Approx Overall Diameter (mm)	Approx Cable Weight (kg/km)	Maximum Resistance of Cable		Reactance at 50 Hz (Ω/km)	Impedance AC at 90°C (Ω/km)	Star Capacitance (μF/km)	Maximum Armour Resistance (Ω/km)
								DC at 20°C (Ω/km)	AC at 90°C (Ω/km)				
	112600100400	400	2.0	2	32.4	40.4	4600	0.047	0.0635	0.089	0.109	0.62	0.22
	112600100500	500	2.2	2	36	44.2	5770	0.0366	0.0513	0.087	0.101	0.66	0.2
	112600100630	630	2.4	2	40.4	48.8	7250	0.0283	0.0419	0.085	0.095	0.7	0.18
	112600100800	800	2.6	2.5	45.6	55.4	9381	0.0221	0.0349	0.087	0.094	0.85	0.13
	112600101000	1000	2.8	2.5	50.6	60.6	11540	0.0176	0.0303	0.085	0.09	0.87	0.12
Single Core Aluminium Wire Armour	112600201105	1.5	0.6	0.9	7.03	12.1	302	12.1	15.428	0.104	15.428	0.23	10.2
	112600201205	2.5	0.7	0.9	8.5	13.6	346	7.41	9.448	0.101	9.449	0.25	8.8
	112600200004	4	0.7	0.9	9.4	14.7	410	4.61	5.878	0.099	5.879	0.27	7.9
	112600200006	6	0.7	0.9	10.5	15.9	499	3.08	3.927	0.094	3.928	0.3	7
	112600200010	10	0.7	0.9	12	18	648	1.83	2.333	0.093	2.335	0.32	6
	112600200016	16	0.7	1.25	14	20.4	978	1.15	1.466	0.088	1.469	0.35	3.7
	112600200025	25	0.9	1.25	15	20.4	1290	0.727	0.926	0.082	0.93	0.38	3.7
	112600200035	35	0.9	1.6	17	23.3	1500	0.524	0.6685	0.077	0.673	0.42	2.6
	112600200050	50	1.0	1.6	19	25.8	1890	0.387	0.494	0.076	0.5	0.45	2.3
	112600200070	70	1.1	1.6	22	29	2450	0.268	0.3412	0.075	0.349	0.49	2
	112600200095	95	1.1	2	25	33.1	3300	0.193	0.2471	0.074	0.258	0.55	1.4
	112600200120	120	1.2	2	28	36.1	4020	0.153	0.1964	0.072	0.209	0.57	1.3
	112600200150	150	1.4	2	30.9	39.3	4750	0.124	0.1597	0.073	0.176	0.57	1.20
	112600200185	185	1.6	2.5	34.9	44.7	6180	0.0991	0.1284	0.073	0.148	0.55	0.82
	112600200240	240	1.7	2.5	39	49	7570	0.0754	0.0989	0.072	0.122	0.6	0.73
	112600200300	300	1.8	2.5	43.3	53.5	9180	0.0601	0.0801	0.072	0.107	0.62	0.67
	112600200400	400	2.0	2.5	48.4	59	10500	0.047	0.0641	0.071	0.096	0.64	0.59
Three Core Steel Wire Armour	112600301105	1.5	0.6	0.9	7.8	12.6	330	12.1	15.428	0.104	15.428	0.23	9.5
	112600301205	2.5	0.7	0.9	9.2	14.1	390	7.41	9.448	0.101	9.449	0.25	8.2
	112600300004	4	0.7	0.9	10	15.3	464	4.61	5.878	0.099	5.879	0.27	7.5
	112600300006	6	0.7	0.9	11.2	16.6	568	3.08	3.927	0.094	3.928	0.3	6.7
	112600300010	10	0.7	1.25	13.1	19.5	866	1.83	2.333	0.093	2.335	0.32	4
	112600300016	16	0.7	1.25	15.3	21.6	1152	1.15	1.466	0.088	1.469	0.35	3.5
	112600300025	25	0.9	1.6	18.9	25.5	1800	0.727	0.926	0.082	0.93	0.37	2.5
	112600300035	35	0.9	1.6	21.3	28	2230	0.524	0.6685	0.077	0.673	0.42	2.3
	112600300050	50	1.0	1.6	21.7	28.5	2490	0.387	0.494	0.076	0.5	0.45	2
	112600300070	70	1.1	1.6	25.2	32.2	3290	0.268	0.3412	0.075	0.349	0.49	1.8
	112600300095	95	1.1	2	28.8	37	4440	0.193	0.2471	0.074	0.258	0.55	1.3
	112600300120	120	1.2	2	32	40.4	5470	0.153	0.1964	0.072	0.209	0.57	1.2
	112600300150	150	1.4	2.5	35.9	45.5	6930	0.124	0.1597	0.073	0.176	0.55	0.78
	112600300185	185	1.6	2.5	40	49.8	8350	0.0991	0.1284	0.073	0.148	0.55	0.71
	112600300240	240	1.7	2.5	44.9	55.1	10400	0.0754	0.0989	0.072	0.122	0.6	0.63
	112600300300	300	1.8	2.5	49.8	60.2	12600	0.0601	0.0801	0.072	0.107	0.62	0.58
	112600300400	400	2.0	2.5	55.8	66.6	14600	0.047	0.0641	0.071	0.096	0.64	0.52

	Part Number	Nominal Cross Sectional Area (Sq. mm)	Insulation Thickness (mm)	Armour Wire Diameter (mm)	Approx. Dia. under Armour (mm)	Approx Overall Diameter (mm)	Approx Cable Weight (kg/km)	Maximum Resistance of Cable		Reactance at 50 Hz (Ω/km)	Impedance AC at 90°C (Ω/km)	Star Capacitance (μF/km)	Maximum Armour Resistance (Ω/km)
								DC at 20°C (Ω/km)	AC at 90°C (Ω/km)				
Four Core Steel Wire Armour	112600401105	1.5	0.6	0.9	8.5	13.5	365	12.1	15.428	0.104	15.428	0.23	8.8
	112600401205	2.5	0.7	0.9	9.9	15	438	7.41	9.448	0.101	9.449	0.25	7.7
	112600400004	4	0.7	0.9	11	16.4	532	4.61	5.878	0.099	5.879	0.27	6.8
	112600400006	6	0.7	1.25	12.3	18.7	764	3.08	3.927	0.094	3.928	0.3	4.3
	112600400010	10	0.7	1.25	14.5	21.1	1013	1.83	2.333	0.093	2.336	0.32	3.7
	112600400016	16	0.7	1.25	0.00	22.9	1360	1.15	1.466	0.088	1.469	0.35	3.1
	112600400025	25	0.9	1.6	21	27.6	2160	0.727	0.926	0.082	0.93	0.37	2.3
	112600400035	35	0.9	1.6	23.6	30.4	2690	0.524	0.6685	0.077	0.673	0.42	2
	112600400050	50	1	1.6	25	32	3130	0.387	0.494	0.076	0.5	0.45	1.8
	112600400070	70	1.1	2	30	37.7	4500	0.268	0.3412	0.075	0.349	0.48	1.2
	112600400095	95	1.1	2	33	41.7	5600	0.193	0.2471	0.074	0.258	0.55	1.1
	112600400120	120	1.2	2.5	38	47.1	7400	0.153	0.1964	0.072	0.209	0.55	0.76
	112600400150	150	1.4	2.5	42	51.4	8780	0.124	0.1597	0.073	0.176	0.55	0.68
	112600400185	185	1.6	2.5	46	56.6	10630	0.0991	0.1284	0.073	0.148	0.55	0.61
	112600400240	240	1.7	2.5	53	63	13390	0.0754	0.0989	0.072	0.122	0.58	0.54
	112600400300	300	1.8	2.5	58	68.8	16290	0.0601	0.0801	0.072	0.107	0.62	0.49
112600400400	400	2	3.15	65	78.1	19800	0.047	0.0641	0.071	0.096	0.63	0.35	
Five Core Steel Wire Armour	112600501105	1.5	0.6	0.9	9.7	14.3	410	12.1	15.428	0.104	15.428	0.23	8.2
	112600501205	2.5	0.7	0.9	11.7	16.3	470	7.41	9.448	0.101	9.449	0.25	6.8
	112600500004	4	0.7	0.9	13	17.8	710	4.61	5.878	0.099	5.879	0.27	6.2
	112600500006	6	0.7	1.25	14.5	20	876	3.08	3.927	0.094	3.928	0.3	3.9
	112600500010	10	0.7	1.25	17.2	22.9	1165	1.83	2.333	0.093	2.336	0.32	3.4
	112600500016	16	0.7	1.6	20	26.6	1742	1.15	1.466	0.088	1.469	0.35	2.2
	112600500025	25	0.9	1.6	24.7	31.5	2323	0.727	0.926	0.082	0.93	0.37	1.8
	112600500035	35	0.9	1.6	27.8	34.8	2932	0.524	0.6685	0.077	0.673	0.42	1.6
	112600500050	50	1	2	32.4	40.4	4192	0.387	0.494	0.076	0.5	0.45	1.1
	112600500070	70	1.1	2	37.9	46.3	5336	0.268	0.3412	0.075	0.349	0.48	0.9

For current rating & voltage drop refer table no. 17-1 and 17-2

MULTICORE CONTROL CABLE STANDARD: BS 5467

Application

Industrial wiring for remote control and telemetry circuits etc. Can be laid direct in the ground, or in ducts, clipped to surface, on trays or in free air. May be embedded in concrete.

Technical Data

Voltage Rating : 600 / 1000V

Cable Construction

Multicore Cables : Stranded plain copper conductors, XLPE insulated, cores laid up, extruded PVC bedding, galvanised steel wire armoured and PVC sheathed

Core Colours : White with black numerals

Sheath Colour : Black. (Other Colour As per customer requirement)

Minimum Bending Radius : 12 x Cable Diameter

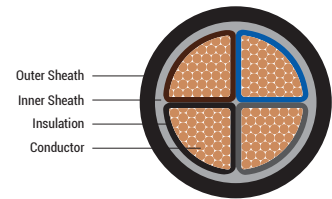
Maximum Conductor Temperature : 90°C

Note: Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conduct or operating temperature (see regulation 512 - 1 - 2 of BS 7671, the 17th Edition of IEE Wiring Regulations). BASEC Certified up to and including 48 x 4 Sq. mm.

Cable Construction

Part Number	Number of Cores	Nominal Cross Sectional Area (Sq. mm)	Approx. Diameter Under Armour (mm)	Approx. Diameter Over Armour (mm)	Approx. Overall Diameter (mm)	Approx. Net Weight (kg/km)
112600701105	7	1.5	10.2	12.1	15.2	470
112600701205	7	2.5	12.3	14	17.1	600
112600700004	7	4	14	17	19.7	890
112601201105	12	1.5	13.7	16	19.4	780
112601201205	12	2.5	16.3	19	22.4	1000
112601200004	12	4	19.1	22	25.7	1410
112601901105	19	1.5	16.2	19	22.2	1000
112601901205	19	2.5	19.9	23	26.6	1540
112601900004	19	4	22.5	26	29.3	1830
112602701105	27	1.5	20	23.2	26.7	1500
112602701205	27	2.5	24	27.2	30.7	1950
112602700004	27	4	27.5	30.7	34.4	2500
112603701105	37	1.5	22.3	25.5	29	1800
112603701205	37	2.5	26.9	30.1	33.8	2350
112603700004	37	4	31	35	39.2	3100
112604801105	48	1.5	25.4	28.6	32.7	2050
112604801205	48	2.5	31	35	39.3	3100
112604800004	48	4	35.3	39.3	44.1	4100

For current rating & voltage drop refer table no. 17-3 and 17-4



Application

EXVB is a power distribution cable suitable for low voltage applications in power plants, transformer stations, industrial plants, metropolitan networks and in other electric plants where heavier current and thermal loads are expected.

This cable is mainly suitable for fixed installations in ground, canals, concrete and in areas free from heavy mechanical stress.

Standard

HD 603 Part 5/ Sect.A & IEC 60502-1

Technical Data

Nominal Voltage : U_0 / U 0.6/1.0 kV

Temperature Range : -5°C to 90°C

Minimum Bending Radius : 12 x D

Cable Construction

Conductor : Plain Copper conductor RE, RM, SM (Class-1 & Class-2)

Insulation : Crosslinked polyethylene (XLPE)

Core colours

3C - brown, black & grey

4C - blue, brown, black, grey

Inner sheath : Special Bedding Compound

Outer sheath : Special PVC outer sheath

Sheath Colour : Black

*Water proof variant of this cable, EXeVB is also available with special water blocking tape.

Properties

Self-extinguishing and flame retardant according to IEC 60332-1-2.

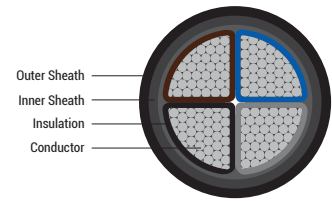
Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Bedding Thickness (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
112701010091	3 x 1.5	0.7	1	1.8	12.0	209
112701020091	3 x 1.5	0.7	1	1.8	12.0	199
112701030091	3 x 2.5	0.7	1	1.8	13.0	257
112701040091	3 x 2.5	0.7	1	1.8	12.0	244
112701050091	3 x 4	0.7	1	1.8	14.0	326
112701060091	3 x 4	0.7	1	1.8	13.0	307
112701070091	3 x 6	0.7	1	1.8	14.0	385
112701080091	3 x 10	0.7	1	1.8	16.0	533
112701090091	3 x 10	0.7	1	1.8	16.0	531
112701100091	4 x 1.5	0.7	1	1.8	13.0	241

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Bedding Thickness (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
112701110091	4 x 1.5	0.7	1	1.8	12.0	229
112701120091	4 x 2.5	0.7	1	1.8	14.0	301
112701130091	4 x 2.5	0.7	1	1.8	13.0	285
112701140091	4 x 4	0.7	1	1.8	14.0	365
112701150091	4 x 6	0.7	1	1.8	16.0	492
112701160091	4 x 6	0.7	1	1.8	15.0	463
112701170091	4 x 10	0.7	1	1.8	18.0	679
112701180091	4 x 10	0.7	1	1.8	17.0	648
112701190091	4 x 16	0.7	1	1.8	20.0	855
112701200091	4 x 25	0.9	1	1.8	23.0	1265
112701210091	4 x 35	0.9	1	1.8	26.0	1653
112701220091	4 x 50	1	1	1.87	29.0	2168
112701230091	4 x 70	1.1	1.2	2.03	34.0	3066
112701240091	4 x 95	1.1	1.2	2.17	38.0	4111
112701250091	4 x 120	1.2	1.2	2.3	42.0	5109
112701260091	4 x 240	1.7	1.6	2.84	58.0	10193

Current Carrying Capacity

Nominal Cross Sectional Area (Sq. mm)	Current Carrying Capacity (Amp.)	
	In Ground at 30°C	In Air at 40°C
1.5	28	24
2.5	35	33
4	44	39
6	55	50
10	74	67
16	94	85
95	120	125
120	145	155
150	170	190
185	210	235
240	250	290



Application

EAXVB is a power distribution cable with aluminium conductor suitable for low voltage applications in power plants, transformer stations, industrial plants, metropolitan networks and in other electric plants where heavier current and thermal loads are expected. This cable is mainly suitable for fixed installations in ground, canals, concrete and in areas free from heavy mechanical stress.

Standard

HD 603 Part 5/ Sect.A & IEC 60502-1

Technical Data

Nominal Voltage : U0 / U 0.6/1.0 kV

Temperature Range : -5°C to 90°C

Minimum Bending Radius : 12 x D

Cable Construction

Conductor : Aluminium conductor SM (Class-2)

Insulation : Crosslinked polyethylene (XLPE)

Core colours : blue, brown, black, grey

Inner sheath : Special Bedding Compound

Outer sheath : Special PVC outer sheath

Sheath Colour : Black

*Water proof variant of this cable, EAXeVB is also available with special water blocking tape.

Properties

Self-extinguishing and flame retardant according to IEC 60332-1-2.

Cable Design Parameters

Part Number	No. of Cores and Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Bedding Thickness (mm)	Nominal Outer Sheath Thickness (mm)	Approx. Overall Diameter (mm)	Approx. Cable Weight (kg/km)
112801010091	4 x 25	0.9	1	1.8	24	695
112801020091	4 x 35	0.9	1	1.8	26	852
112801030091	4 x 50	1	1	1.9	29	1076
112801040091	4 x 70	1	1.2	2	34	1454
112801050091	4 x 95	1.1	1.2	2.2	38	1892
112801060091	4 x 120	1.2	1.4	2.3	43	2359
112801070091	4 x 150	1.4	1.4	2.5	47	2844
112801080091	4 x 185	1.6	1.4	2.6	52	3488
112801090091	4 x 240	1.7	1.6	2.9	59	4457

Current Carrying Capacity

Nominal Cross Sectional Area (Sq. mm)	Current Carrying Capacity (Amp.)	
	In Ground at 30°C	In Air at 40°C
25	95	99
35	116	117
50	140	140
70	170	176
95	200	221
120	225	258
150	255	294
185	285	339
240	325	402

SECTION - XII
APPLICATION BASED CABLES



PRODUCTS

SOLAR CABLE

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POWER CORDS & HARNESS

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ELEVATOR CABLE

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UNINYVIN CABLE

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TUBULAR BRAIDS

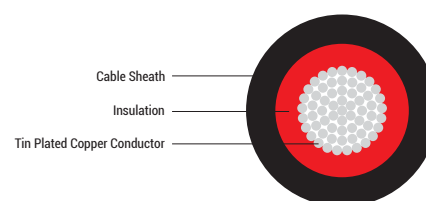
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BARE COPPER CONDUCTOR

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Application

Solar cables are intended for use in photovoltaic power supply systems and similar applications as free hanging, movable, fixed installation and buried in ground in constructional covered systems. The cables can be used indoor, outdoor, in hazard explosion areas, in industry and agriculture. They are suitable for applications in equipment with protective insulation (protecting Class 2).

Standard

EN 50618:2015.

Thermal parameters

Max. Permissible Ambient Temperature : +90°C (stationary and in motion)

Max. Permissible Operating Temperature of The Conductor :

+120°C, Interpretation according to IEC 60216 : permanent temperature.

120°C for 20,000 h (= 2.3 years), at max. 90°C permanent temperature (= 30 years).

Short - Circuit Temperature : 250°C referring to a period of 5 sec.

Damp - Heat Test : According to EN 60068 - 2 - 78. 1,000h at 90°C and 85% humidity.

Min. Permissible Ambient Temperature : -40°C (stationary and in motion)

Resistance to Cold :

Bending test at low temperature according to DIN EN 60811 - 1 - 4, Impact test similar to DIN EN 50305.

Minimum Bending Radius : Fixed Installation approx. 4 x cable Ø

Electrical Parameters

Voltage Rating : AC 0.6 / 1.0 kV

Max. PV - System Voltage : DC up to 2.0 kV possible

Max. Permissible Operating Voltage in AC Systems : 0.7 / 1.2 kV

Max. Permissible Operating Voltage in DC Systems : 0.9 / 1.8 kV

Test Voltage : AC 6.5 kV / DC 15 kV (15 min.)

Mechanical Parameters

Tensile Load : 15 N / mm² in operation. 50 N/mm² during installation

Shrinkage Test : According to EN 60811 - 1 - 3

Shore-Hardness : 85 shore A according to DIN EN 53505

Pressure Test at High Temperature : According to EN 60811 - 3 - 1

Dynamic Penetration Test : According to requirements for cables for PV systems, DKE / VDE 411.2.3

Chemical Parameters

Mineral Oil Resistance : 24h, 100°C according to DIN VDE 0473 - 811 - 2 - 1, DIN EN 60811-2-1

Acid and Alkaline Resistance : According to EN 60811-2-1

7 days, 23°C (N-Oxalic Acid, N-Sodium Hydroxide)

Ammonia Resistance : 30 days in saturated ammonia atmosphere (internal testing)

Weather Resistance : Ozone resistance according to DIN EN 50396 test Type B, HD 22.2 test Type B UV - resistance according to UL 1581 (Xenon - Test), ISO 4892 - 2 (Method A) and HD 506/A1-2.4.20

Absorption of water (gravimetric) according to DIN VDE 0473-811-1-3, DIN EN 60811 - 1 - 3.

Behavior in Case of Fire : Flame propagation.

Single cable according to DIN VDE 0482 Part 332 - 1 - 2, DIN EN 60332 - 1 - 2.

Multiple cable according to DIN VDE 0482 Part 266 - 2 - 5, DIN EN 50305 - 9.

Low smoke emission according to DIN VDE 0482 Part 268 - 2.
 DIN EN 50268-2 (light transmittance > 70%).
 Corrosivity according to DIN EN 50267 - 2 - 2.
 Toxicity according to DIN EN 50305, ITC - index < 3.

Cable Construction

Conductor : Fine Wire Tinned Copper Conductor according to BS EN 60228:2005 cl. 5.

Insulation : UV resistant, cross linkable, halogen free, flame retardant compound for core insulation.

Core Identification : Red, black or natural

Sheath : UV resistant, cross linkable, halogen free, flame retardant compound for Sheath over insulation.

Cable Colour : Red, Black, Black with red strip

Please complete the part numbers for these cables by adding the suffix (in place of 'xx') for the insulation colour required as per the list:
 02 - black, 03 - red, 13 - natural.

Cable Design Parameters

Part Number	Nominal Cross-Sectional (Sq. mm)	Insulation Thickness (mm)	Outer sheath Thickness (mm)	Approx. Cable Diameter (mm) as per EN 50618	Current carrying capacity according to method of installation			Max. Conductor Resistance at 20°C, (Ω/Km)
					Single cable free in air (A)	Single cable on a surface (A)	Two loaded cables touching, on a surface (A)	
12010101xx01	1.5	0.70	0.80	4.66	30	29	24	13.7
12010102xx01	2.5	0.70	0.80	5.09	41	39	33	8.21
12010103xx01	4.0	0.70	0.80	5.59	55	52	44	5.09
12010104xx01	6.0	0.70	0.80	6.13	70	67	57	3.39
12010105xx01	10.0	0.70	0.80	7.07	98	93	79	1.95
12010106xx01	16.0	0.70	0.90	8.32	132	125	107	1.24
12010107xx01	25.0	0.90	1.00	10.14	176	167	142	0.795
12010108xx01	35.0	0.90	1.10	11.49	218	207	176	0.565
12010109xx01	50.0	1.00	1.20	13.33	276	262	221	0.393
12010110xx01	70.0	1.10	1.20	15.19	347	330	278	0.277
12010111xx01	95.0	1.10	1.30	16.94	416	395	333	0.210
12010112xx01	120.0	1.20	1.30	18.71	488	464	390	0.164
12010113xx01	150.0	1.40	1.40	20.86	566	538	453	0.132
12010114xx01	185.0	1.60	1.60	23.24	644	612	515	0.108
12010115xx01	240.0	1.70	1.70	26.14	755	736	620	0.0817



Moulded 3 Pin Cords

We provide a wide assortment of non rewirable moulded cords. Our range offers efficient performance and durability for rugged use. These cords are tested for conformity to required standards. We can offer these cords in various sizes and specifications. These are extensively used in electronic industry, especially in TV, video games, DVD player, voltage stabiliser, heat convector, water immersions rods, instant water heaters and others electrical & electronic Home Appliances.

Moulded Two Pin Plug

We also produce a wide range of two pin plugs for various applications. These cords have a wide usage on various domestic electrical and electronic appliances and gadgets on which earthing is not required. Customised moulding and cable selection is also offered. The standard offer is done with cable twin flat sheathed 0.5 Sq mm.

Cable Construction

The power supply cords are manufactured by using ISI marked cables. The cords are manufactured with the brass pins soldered to the cable cores. Such pins are then firstly moulded with polypropylene which offers a high degree of dielectric strength, thereafter a final layer of coloured PVC matching to the cable jacket is moulded bearing the necessary marks and approvals. The cords for the Indian market are according to the IS 1293: 2005 approval marks.

Cable Design Parameters

3 - Pin Moulded Power Cords as per IS 1293: 2005

Part Number	Item	No. of Cores and Nominal Cross Sectional (Sq. mm)	Current Rating (A)	Length
120301010001	Main Power Cords	3 x 0.5	6	Available in specific length as req. by Customer/Retail packs
120301020001		3 x 0.75	6/16	
120301030001		3 x 1	6/16	
120301040001		3 x 1.5	16	

2 - Pin Flat Moulded Cords

Part Number	Item	No. of Cores and Nominal Cross Sectional (Sq. mm)	Current Rating (A)	Length
120301050001	Main Power Cords	2 x 0.5	6	Available in specific length as req. by Customer/Retail packs

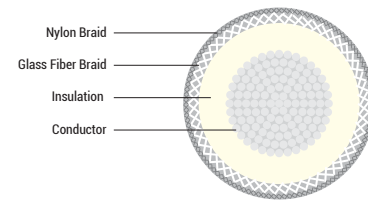
Note:

We cater customized cords in accordance to National and International Standards.

We also cater harness for various industrial automation, computer application and automobiles which are manufactured in house.

UNINYVIN CABLE

REACH | RoHS | CE



Applications

These cables are used in UPS systems and server rooms as the nylon and fiber glass braid on the cable does not allow the heat generated in the conductor, due to continuous operation, to be felt in the surrounding areas. These cables are widely used in aircraft cabling.

Cable Construction

Conductor : Annealed tinned copper to IS:10241 Part 3, uniformly bunched to form a circular shape

Insulation : Special core insulation HR-PVC 105° C

Primary Braid : Braided with glass fiber, 100% coverage

Secondary Braid : Braided with nylon fiber, 100% coverage

Lacquer : Overall construction is finally lacquered with nylon varnish

Properties

Max. Operating Voltage : 600V r.m.s.

Operating Temperature Range : -35°C to 105°C

Resistant to ester based fluids (hydraulic oil), acids, chemicals and solvents.

The nylon and glass fibers are very good heat resistant materials.

Cable Design Parameters

Part Number	Cable Size	Conductor				Radial Thickness	Nylon Braid and Lacquer		Overall Diameter of Cable		DC Conductor Resistance at 20°C (Ω/km)	Max. Current Rating (Amps.) BS G 177
		Nom. Cross Sectional Area (Sq. mm)	No. & Dia. of Wires in (mm)	Max. Conductor Diameter (mm)	Min. Conductor Diameter (mm)		Min. PVC Insulation	Max. (mm)	Min. (mm)	Max. (mm)		
120401050001	14	2.05	70/0.193	1.956	1.803	0.279	0.178	0.076	3.4	3	9.2	31
120401060001	12	3.22	110/0.191	2.438	2.286	0.279	0.178	0.076	3.8	3.5	5.85	43
120401070001	10	5.33	73/0.305	3.15	2.896	0.381	0.381	0.127	5	4.6	3.532	61
120401080001	8	8.76	120/0.305	3.242	3.937	0.381	0.381	0.127	6.3	5.9	2.154	87
120401090001	6	13.3	182/0.305	5.537	5.08	0.381	0.381	0.127	7.6	7.3	1.422	115
120401100001	4	21.5	294/0.305	6.909	6.452	0.483	0.381	0.127	9.3	8.8	0.877	160

Part Number	Cable Size	Conductor				Radial Thickness	Nylon Braid and Lacquer		Overall Diameter of Cable		DC Conductor Resistance at 200C (Ω/km)	Max. Current Rating (Amps.) BSG 177
		Nom. Cross Sectional Area (Sq. mm)	No. & Dia. of Wires in (mm)	Max. Conductor Diameter (mm)	Min. Conductor Diameter (mm)		Min. PVC Insulation	Max. (mm)	Min. (mm)	Max. (mm)		
120401110001	2	33.3	203/0.457	8.763	8.128	0.483	0.381	0.127	11.0	10.5	0.565	200
120401120001	1	40.7	248/0.457	9.754	9.119	0.559	0.381	0.127	12.2	11.7	0.463	220
120401130001	0	53.0	323/0.457	10.973	10.338	0.635	0.381	0.127	13.7	13.0	0.355	240
120401140001	00	68.3	416/0.457	12.446	11.684	0.686	0.381	0.127	15.4	14.6	0.276	270

Table I : Current Ratings for Multiple Circuits

Cable Size	Nominal Cross Sectional Area (Sq. mm)	Max. Current Rating (Amps)			
		Single Cable	3 - Bunched Cables	7 - Bunched Cables	12 - Bunched Cables
14	2.05	31	24	17	12
12	3.22	43	30	22	15
10	5.33	61	47	36	25
8	8.76	87	65	49	36
6	13.3	115	87	65	-
4	21.5	160	120	92	-
2	33.3	200	155	120	-
1	40.7	220	165	130	-
0	53	240	185	168*	-
00	68.3	270	210/240*	190**	-

* Denotes two cables only
** Denotes five cables only

Table II : Derating Factor of Uninyvin Cable for Different Ambient Temperature

Ambient temp. (°C)	40	45	50	55	60	65	70	75	80	85	90	95	100
Derating factor	1.0	0.96	0.92	0.88	0.83	0.78	0.75	0.73	0.68	0.62	0.53	0.48	0.3

Table III : Maximum 1 Minute Current Ratings for Multiple Circuits

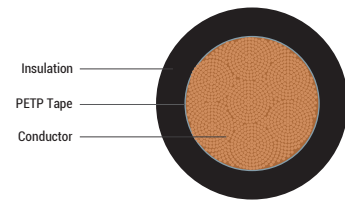
Cable Size	Nominal Cross Sectional Area (Sq. mm)	Max. Current Rating (Amps)			
		Single Cable	3 - Bunched Cables	7 - Bunched Cables	12 - Bunched Cables
14	2.05	50	47	43	42
12	3.22	72	67	62	60
10	5.33	110	107	104	101
8	8.76	173	165	159	153
6	13.3	250	236	230	-
4	21.5	390	378	360	-
2	33.3	545	530	520	-
1	40.7	620	600	590	-
0	53	705	690	680	-
00	68.3	820	810	800	-

Table III : Maximum 1 Minute Current Ratings for Multiple Circuits

Sr. No.	Fluid Represented	Test Fluids	Temp. of Test	Max. Change in Dia. %
1	Aviation Turbine Fuel	Kerosene	20 ± 0.5	5
2	Fuel	70% ISO Octane 30% Toluene by Vol.	20 ± 0.5	5
3	Hydraulic Fluid	80% Ethylene Glycol Mono Ethyl Ether, 20% Castor Oil by Vol.	50 ± 2	5
4	Ester Based Lubricating Oil	Ester Based Hydraulic Fluid	100 ± 2	5

Note:

Uninyvin cables as per BS G 177 are meant for air craft (cabling) flying under tropical weather conditions.



Application

For use between welding generators and hand electrodes and the workpiece .

For use in automobile industries, ship building, in transport and conveyor system, tool making machinery, welding robots, etc.

Standard

Adapted to IS:9857, IS:6380, IS:8130.

Technical Data

Voltage Rating: 450V a. c. rms.

Test Voltage : 1000V

Temperature Range : -20°C to +60°C

Minimum Bending Radius : 5 x cable diameter

Cable Construction

Super fine strands of annealed bare copper according to IS:8130, Cl. 6.

Elastomeric insulation type SE-1 conforming to the requirements of IS:6380.

Properties

The heavy duty welding cable is resistant to flame, oil, abrasions, tar and grease.

Suitable for use in open air, in dry as well as damp interiors.

The high degree of flexibility does not form knots on the cable which could lead to internal break of conductors.

Cable Design Parameters

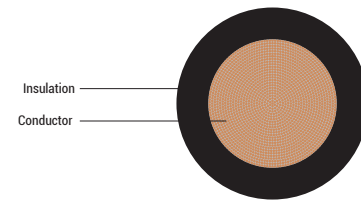
Part Number	Nominal Cross-Sectional Area (Sq. mm)	Max. Strand Diameter (mm)	Max. DC Conductor Resistance (Ω/km)	Nominal Insulation Thickness (mm)	Nominal Cable Diameter (mm)
120500100016	16	0.21	1.21	2.0	9.2
120500100025	25	0.21	0.78	2.0	10.5
120500100035	35	0.21	0.554	2.0	11.5
120500100050	50	0.31	0.386	2.2	13.5
120500100070	70	0.31	0.272	2.4	15.5
120500100095	95	0.31	0.206	2.6	17.7

Current Rating of General Service Normal Duty Elastomeric Compound Covered Cable with Copper Conductor

Part Number	Nominal Cross Sectional Area of Conductor (Sq. mm)	Current Rating at a Maximum Duty Cycle of				
		100% A	85% A	60% A	30% A	20% A
120500100016	16	94	102	121	172	210
120500100025	25	125	136	161	228	279
120500100035	35	156	169	201	285	349
120500100050	50	197	214	254	360	440
120500100070	70	248	269	320	453	555
120500100095	95	299	342	386	546	669

WELDEX-SI (Single Insulated)

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Applications

The welding cable is specially designed for the transmission of high currents from the electric welding machine to the welding tool. It is suitable for flexible use under rugged conditions, on assembly lines and conveyor systems, in machine tool and motor car manufacturing, shipbuilding and for spot welding machines.

Technical Data

Voltage Rating : 450V a.c.r.m.s.

Test Voltage : 3000V

Temperature Range : -30°C to + 70°C

Minimum Bending Radius : 5 x cable diameter

Cable Construction

Super fine strands of annealed bare copper as per EN 60228, Cl. 6.

Elastomeric PVC insulation.

*Also available with TPE insulation 105°C

Properties

The heavy duty welding cable is resistant to flame, oil, abrasions, tar and grease.

Suitable for use in open air, in dry as well as damp interiors.

The high degree of flexibility does not form knots on the cable which could lead to internal break of conductors.

Cable Design Parameters

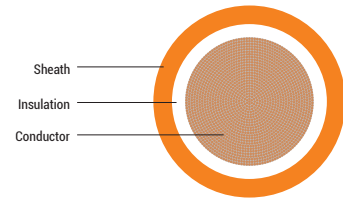
Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the insulation material required:

0 - TPE, 1 - Elastomeric PVC.

Part Number	Nominal Cross-Sectional Area (Sq. mm)	Max. Strand Diameter (mm)	Max. DC Conductor Resistance (Ω/km)	Total Radial Thickness of Covering (mm)	Maximum Cable Diameter (mm)	Approx. Weight (kg/km)
1206y0100010	10	0.31	1.91	2.0	10.0	140
1206y0100016	16	0.31	1.21	2.0	11.5	200
1206y0100025	25	0.31	0.78	2.0	13.0	285
1206y0100035	35	0.31	0.554	2.0	14.5	375
1206y0100050	50	0.31	0.386	2.2	17.0	540
1206y0100070	70	0.31	0.272	2.4	19.0	740
1206y0100095	95	0.31	0.206	2.6	21.5	1000
1206y0100120	120	0.31	0.161	2.8	24.0	1230
1206y0100150	150	0.31	0.129	3.0	26.0	1500

WELDEX-DI (Double Insulated)

REACH | RoHS | CE



Application

Double insulated cable, for welding machines provides higher current carrying capacity. Used to conduct secondary voltage in secondary side connection to MMA welding power sources.

Technical Data

Voltage Rating : 450V a.c.r.m.s.

Test Voltage : 3000V

Temperature Range : -30°C to +70°C

Minimum Bending Radius : 5 x cable diameter

Cable Construction

Super fine strands of annealed bare copper as per EN 60228, Cl. 6

Elastomeric PVC composite covering.

* Also available with TPE composite covering 105°C

Properties

The heavy duty welding cable is resistant to flame, oil, abrasions, tar and grease.

Suitable for use in open air, in dry as well as damp interiors.

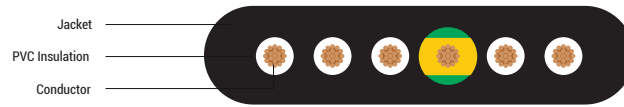
The high degree of flexibility does not form knots on the cable which could lead to internal break of conductors.

Cable Design Parameters

Kindly complete the part numbers for these cables by adding the suffix (in place of 'y') for the insulation material required:

0 - TPE, 1 - Elastomeric PVC

Part Number	Nominal Cross-Sectional Area (Sq. mm)	Max. Strand Diameter (mm)	Max. DC Conductor Resistance (Ω/km)	Total Radial Thickness of Covering (mm)	Maximum Cable Diameter (mm)	Approx. Weight (kg/km)
1207y0100010	10	0.30	1.91	3.2	10.0	180
1207y0100016	16	0.30	1.21	3.2	11.5	250
1207y0100025	25	0.30	0.78	3.2	13.0	350
1207y0100035	35	0.30	0.554	3.2	14.5	460
1207y0100050	50	0.30	0.386	3.5	17.0	650
1207y0100070	70	0.30	0.272	3.8	19.0	880
1207y0100095	95	0.30	0.206	4.2	21.5	1170
1207y0100120	120	0.30	0.161	4.5	24.0	1430
1207y0100150	150	0.30	0.129	4.8	26.0	1720



Application

These power and control flat cables can be used on festooned systems on handling equipment as overhead cranes. They are designed for indoors and outdoors for ambient temperature down to -25°C. These cables can accept a trolley traveling speed up to 120m / min.

Standard

HD 359 S2, IEC 227 Part 6, EN 50214

Technical Data

Voltage Rating :

H05VVH6-F - 300/500V

H07VVH6-F - 450/750V

Colour Coding :

Core 1: Black.

Core 2: Light-blue.

Core 3: Green-yellow.

Core 4: Brown.

Core 5: Black.

Core 6 and above: All black numbered cores with one green / yellow earth core.

Cable Construction

Flexible bare copper, Class 5, IEC 60228

PVC (polyvinyl chloride) insulation

PVC (polyvinyl chloride) outer sheath

Cable Colour : Black

*A stripping thread can be used in each group of cores.

Bending Radius : Fixed installation: 8 x cable height.

Cable Design Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Overall Dimensions (mm)	Approx. Weight (kg/km)
120810401105	4 x 1.5	15.0 x 5.0	150
120810411105	4 G 1.5	15.0 x 5.0	150
120810411205	4 G 2.5	18.5 x 5.7	210
120810410004	4 G 4	21.0 x 6.5	300
120810410006	4 G 6	23.0 x 7.0	385
120810410010	4 G 10	28.8 x 9.0	620
120810410016	4 G 16	36.8 x 10.8	990
120810410025	4 G 25	45.5 x 13.5	1550
120810410035	4 G 35	50.5 x 14.8	2030

Part Number	Nominal Cross Sectional Area (Sq. mm)	Overall Dimensions (mm)	Approx. Weight (kg/km)
120810410050	4 G 50	56.0 x 16.5	2650
120810410070	4 G 70	63.0 x 18.0	3650
120810410095	4 G 95	72.5 x 20.5	4550
120810511105	5 G 1.5	18.0 x 5.0	180
120810511205	5 G 2.5	22.0 x 5.7	260
120810510004	5 G 4	27.0 x 6.5	380
120810510006	5 G 6	27.0 x 7.0	480
120810510010	5 G 10	34.5 x 9	780
120810711105	7 G 1.5	26.0 x 5.0	260
120810711205	7 G 2.5	32.3 x 5.7	380
120810710004	7 G 4	40.0 x 6.8	550
120810801105	8 x 1.5	29.0 x 5.0	300
120810811105	8 G 1.5	29.0 x 5.0	300
120810811205	8 G 2.5	34.5 x 5.7	405
120811011105	10 G 1.5	35.0 x 5.0	360
120811210001	12 G 1***	33.5 x 4.5	320
120811201105	12 x 1.5	40.5 x 5	420
120811211105	12 G 1.5	40.5 x 5	420
120811211205	12 G 2.5	50.5 x 5.7	620
120811210004	12 G 4	57 x 6.8	880
120811411105	14 G 1.5	47.5 x 5	490
120811611105	16 G 1.5	53.5 x 5	560
120811810001	18 G 1***	50.5 x 4.5	470
120811811105	18 G 1.5	58.0 x 5.0	620
120812410001	24 G 1***	6.5 x 4.5	610

Note : ***H05VVH6-F Cables

Electrical Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Permissible Current Rating (A)**	Voltage Drop (ΔU) at $\cos \Phi = 0.8$ (V/A x km)
120810401105	4 x 1.5	20	20.2
120810411105	4 G 1.5	20	20.2
120810411205	4 G 2.5	27	12.3
120810410004	4 G 4	36	7.8
120810410006	4 G 6	48	5.3
120810410010	4 G 10	63	3.2
120810410016	4 G 16	85	2

Part Number	Nominal Cross Sectional Area (Sq. mm)	Permissible Current Rating (A)**	Voltage Drop (ΔU) at $\cos \Phi = 0.8$ (V/A x km)
120810410025	4 G 25	112	1.3
120810410035	4 G 35	138	0.97
120810410050	4 G 50	168	0.74
120810410070	4 G 70	213	0.55
120810410095	4 G 95	258	0.42
120810511105	5 G 1.5	18	20.2
120810511205	5 G 2.5	25	12.3
120810510004	5 G 4	36	7.8
120810510006	5 G 6	48	5.3
120810510010	5 G 10	63	3.2
120810711105	7 G 1.5	15	20.2
120810711205	7 G 2.5	20	12.3
120810710004	7 G 4	25	7.8
120810801105	8 x 1.5	14	20.2
120810811105	8 G 1.5	14	20.2
120810811205	8 G 2.5	20	12.3
120811011105	10 G 1.5	12	20.2
120811210001	12 G 1***	8	38.2
120811201105	12 x 1.5	11	20.2
120811211105	12 G 1.5	11	20.2
120811211205	12 G 2.5	16	12.3
120811210004	12 G 4	20	7.8
120811411105	14 G 1.5	11	20.2
120811611105	16 G 1.5	10	20.2
120811810001	18 G 1***	6	38.2
120811811105	18 G 1.5	8	20.2
120812410001	24 G 1***	6	38.2

Note :
 ***H05VVH6-F Cables
 **Ambient temperature: 30°C



Application

These are flexible braided copper & tin copper used as ground braiding tapes for batteries.

Flexible Braided Copper & Tin Copper tapes accordingly DIN 72333 Part 3 Standard

Adapted to DIN 72333 Part 3.

Cable Construction

Flexible braided copper/tin copper tapes consist of wires with a stringer wire diameter of 0.16 to 0.2 mm.

Surface :

Plain copper or Tinned.

Technical Data

Material :

Annealed electrolytic grade copper wire.

Wire Diameter - 0.16 to 0.2 mm.

Packing :

In rings or spools or wooden drums.

Cable Design Parameters

Kindly complete the part numbers by adding the suffix (in place of 'c') for the conductor type required:

0 = Plain/Bare Copper, 1 = Tinned Copper.

Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Wires	Strand Diameter (mm)	Width (mm)	Thickness (mm)
12090101000c	35	36 X 48	0.16	25	3.0
12090102000c	50	36 X 69	0.16	33	3.2
12090103000c	70	48 X 72	0.16	35	4.5
12090104000c	14	36 X 13	0.20	18	1.5
12090105000c	16	36 X 15	0.20	20	1.6
12090106000c	21	36 X 19	0.20	22	2.0
12090107000c	25	36 X 22	0.20	22	2.5
12090108000c	35	36 X 31	0.20	25	3.0
12090109000c	50	48 X 33	0.20	33	3.2
12090110000c	70	48 X 47	0.20	35	4.5

Flexible Braided Copper & Tin Copper tapes as per RR Specification

Technical Data

Material :

Annealed electrolytic grade copper wire.

Wire Diameter - 0.16 to 0.2 mm.

Packing :

In rings or spools or wooden drums.

Construction and Application

Flexible braided copper/tin copper tapes consist of wires with a stringer wire diameter of 0.12 to 0.3 mm.

Surface :

Plain copper or Tinned.

Cable Design Parameters

Kindly complete the part numbers by adding the suffix (in place of 'c') for the conductor type required:

0 = Plain/Bare Copper, 1 = Tinned Copper.

Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Wires	Strand Diameter (mm)	Width (mm)	Thickness (mm)
12070111000c	40	48 X 48	0.15	30	2.5
12070112000c	55	48 X 64	0.15	33	2.5
12070113000c	20	36 X 8	0.30	20	2.0
12070114000c	30	36 X 12	0.30	25	2.4
12070115000c	40	36 X 16	0.30	30	3.0
12070116000c	50	36 X 20	0.30	30	3.5



Application

Tubular braids are used for covering and shielding. They protect the cables and electrical conductors against interferences and to realise a safe data transfer.

Cable Construction

Surface :

Plain copper or Tinned.

Technical Data

Material :

Annealed electrolytic grade copper wire.

Wire Diameter - 0.16 to 0.3 mm.

Packing :

In rings or spools or wooden drums.

Cable Design Parameters

Kindly complete the part numbers by adding the suffix (in place of 'c') for the conductor type required:

0 = Plain/Bare Copper, 1 = Tinned Copper.

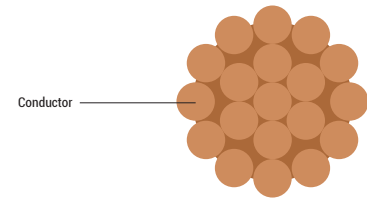
Part Number	Nominal Cross Sectional Area (Sq. mm)	No. of Wires	Strand Diameter (mm)	Width (mm)	Thickness (mm)
12100101000c	7.90	36 X 7	0.2	8.5	25
12100102000c	10.20	36 X 9	0.2	10	27
12100103000c	12.45	36 X 11	0.2	12	29
12100104000c	35.80	36 X 14	0.3	25	70
12100105000c	51.10	48 X 15	0.3	25	90

Note :

*We can also produce special designs in diameters and constructions according to customer requirement.

BARE COPPER CONDUCTOR

REACH | RoHS | CE



Application

The bare copper conductor are used as ground conductor, uninsulated hook up wires and jumpers.

Standard

IEC 60228, BS EN 60228.

Technical Data

Description : Soft drawn plain annealed copper

Packing : In wooden drums

Cable Construction

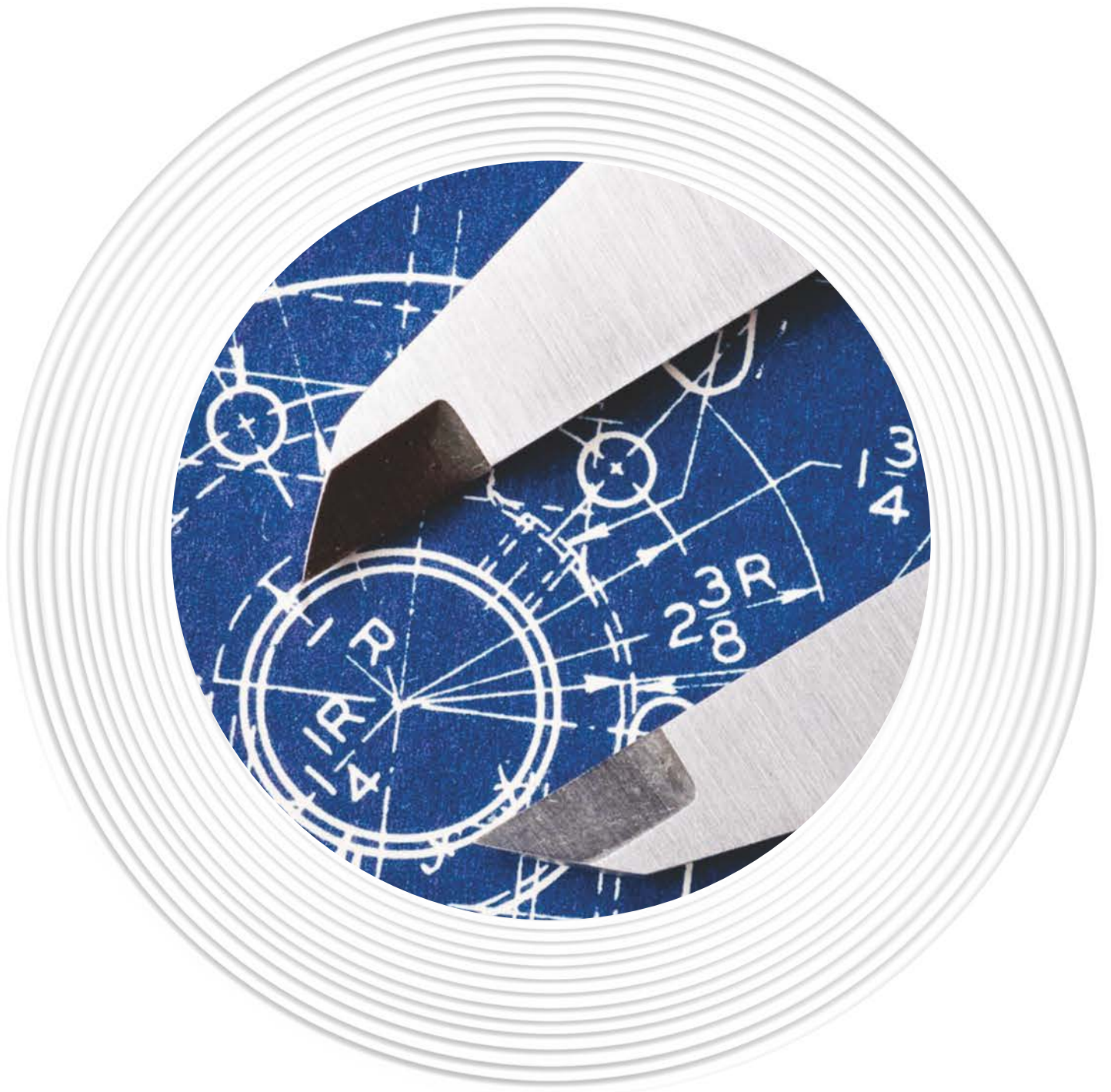
The conductor consist of annealed bare copper wire which are stranded together.

The construction of the conductor is in accordance to IEC 60228 and BS EN 60228.

Cable Design Parameters

Part Number	Nominal Cross Sectional Area (Sq. mm)	Conductor Details		Approx. Conductor Diameter (mm)	Approx Net Weight (kg/km)
		No. of Strand	Max. DC Conductor Resistance at 20°C (Ω/Km)		
121101010000	16	7	1.15	1.15	5.01
121101020000	25	7	0.727	0.727	6.32
121101030000	35	7	0.524	0.524	7.41
121101040000	50	19	0.387	0.387	8.72
121101050000	70	19	0.268	0.268	10.53
121101060000	95	19	0.193	0.193	12.34
121101070000	120	37	0.153	0.153	13.91
121101080000	150	37	0.124	0.124	15.45
121101090000	185	37	0.0991	0.0991	17.28
121101100000	240	61	0.0754	0.0754	19.84
121101110000	300	61	0.0601	0.0601	22.22
121101120000	400	91	0.047	0.047	25.15
121101130000	500	91	0.0366	0.0366	28.49
121101140000	630	91	0.0283	0.0283	32.41

SECTION - XIII
APPENDIX



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Table No. 1-1
Core Identification for Colour Coded Low-Voltage Cables.

VDE 0293-302/HD 308 S2.

For making cores in multi and several core cables for use in electrical systems and distribution systems.

For the supply of permanently secured or portable supplies and for portable equipment cables.

Number of Cores	Cables with Protective Conductor (Code J or G)	Cables without Protective Conductor (Code O or X)	Cables with Concentric Conductor
2	-	BU/BN	BU/BN
3	GNYE/BN/BU	BN/BK/GY	BN/BK/GY
3a	-	BU/BN/BK	BU/BN/BK
4	GNYE/BN/BK/GY	BU/BN/BK/GY	BU/BN/BK/GY
4a	GNYE/BU/BN/BK	-	-
5	GNYE/BU/BN/BK/GY	BU/BN/BK/GY/BK	BU/BN/BK/GY/BK
6 and above	GNYE/BK (with printed numbers)	BK (with printed numbers)	BK (with printed numbers)

Table No. 1-2
Colour Code for Power Cables as per VDE 0293 (old).

(Colour codes are listed in IEC 60757).

For making cores in multicores in multi and several core cables for connecting portable consumers.

Number of Cores	Cables with Green/Yellow Core (Harmonised)	Cables with Green/Yellow Core (Currently not Yet Harmonised)	Cables with Concentric Conductor
2	-	-	-
3	GNYE/BN/BU	GNYE/BN/BU	-
3	-	-	-
4	GNYE/BN/BK/GY	GNYE/BN/BK/GY	-
5	GNYE/BU/BN/BK	GNYE/BU/BN/BK	-
6 and above	GNYE/further core in BK with Printed numbers, starting from the inside with 1 GNYE in the outer layer	BK (with printed numbers)	-

Table No. 1-3
Colour Codes for Fixed Installation.

For making cores in multi- and several- core cables and in multi-core cables for fixed installation

Number of Cores	Cables with Green/Yellow Core (Harmonised)	Cables with Green/Yellow Core (Currently not Yet Harmonised)	Cables with Concentric Conductor
2	-	BK/BU	BK/BU
3	GNYE/BN/BU	BN/BU/BK	BK/BU/BN
3	-	BN/BK/BU	-
4	GNYE/BK/BU/BN	BK/BN/BU/BK	BK/BU/BN/BK
5	GNYE/BK/BU/BN/BK	BK/BN/BU/BK/BK	-
6 and above	GNYE/further core in BK with Printed numbers, starting from the inside with 1 GNYE in the outer layer	Cores in BK with printed numbers, starting from the inside with 1	Cores in BK with printed numbers, starting from the inside with 1

Table No. 1-4
Core Identification for Multicore Cables as per IS 694 : 2010.

Number of Cores	Cable for Fixed Installation	Cables for Flexible Use
2	RD/BK	RD/BK
3	RD/YL/BL	RD/BK/GNYE
3a	-	RD/YL/BL
4	RD/YL/BL/BK	RD/YL/BL/GNYE
4a	-	RD/YL/BL/BK
5	-	RD/YL/BL/BK/GY
6 and above	-	BK(with printed numbers)

Table No. 2-1
Colour Codes for Twisted Pair as per DIN 47100.

Each pair has an a-core and a b-core. The marking is repeated for the first time as from 23 pairs, and for the second time as from 45 pairs. The cores in pair from 6 to 22 are provided with bi colour strip with the first mentioned as major colour.

Pair No.	Colour of a-core	Colour of b-core	Pair No.	Colour of a-core	Colour of b-core
1	white	brown	13	white/black	brown/black
2	green	yellow	14	grey/green	yellow/grey
3	grey	pink	15	pink/green	yellow/pink
4	blue	red	16	green/blue	yellow/blue
5	black	violet	17	green/red	yellow/red
6	grey/pink	red/blue	18	green/black	yellow/black
7	white/green	brown/green	19	grey/blue	pink/blue
8	white/yellow	yellow/brown	20	grey/red	pink/red
9	white/grey	grey/brown	21	grey/black	pink/black
10	white/pink	pink/brown	22	blue/black	red/black
11	white/blue	brown/blue	23-44	see 1 -22	see 1-22
12	white/red	brown/red	45-66	see 1 -22	see 1-22

Table No. 2-2
Colour Codes for Cores as per DIN 47100.

(but differs from DIN as the core colour after 44th core shall be bi-colour insulation with the ring colour being the last).

Core No.	Colour	Core No.	Colour	Core No.	Colour	Core No.	Colour	Core No.	Colour
1	white	14	brown/green	27	grey/green	40	pink/red	53	white/grey/black
2	brown	15	white/yellow	28	yellow/grey	41	grey/black	54	grey/brown/black
3	green	16	yellow/brown	29	pink/green	42	pink/black	55	white/pink/black
4	yellow	17	white/grey	30	yellow/pink	43	blue/black	56	pink/brown/black
5	grey	18	grey/brown	31	green/blue	44	red/black	57	white/blue/black
6	pink	19	white/pink	32	yellow/blue	45	white/brown/black	58	brown/blue/black
7	blue	20	pink/brown	33	green/red	46	yellow/green/black	59	white/red/black
8	red	21	white/blue	34	yellow/red	47	grey/pink/black	60	brown/red/black
9	black	22	brown/blue	35	green/black	48	red/blue/black	61	black/white
10	violet	23	white/red	36	yellow/black	49	white/green/black		
11	grey/pink	24	brown/red	37	grey/blue	50	brown/green/black		
12	red/blue	25	white/black	38	pink/blue	51	white/yellow/black		
13	white/green	26	brown/black	39	grey/red	52	yellow/brown/black		

Table No. 3-1
Max. DC Conductor Resistance for Copper Conductor.

Nominal Cross Section (Sq. mm)	Max. DC Conductor resistance at 20°C (Ω/km)			
	Tin Coated Copper Conductor		Plain Copper Conductor	
	Class 2	Class 5+6	Class 2	Class 5+6
0.08	-	250	-	243
0.14	-	142	-	138
0.25	-	82	-	79.0
0.34	-	59.0	-	57.0
0.38	-	52.8	-	48.5
0.5	36.7	40.1	36	39.0
0.75	24.8	26.7	24.5	26.0
1	18.2	20.0	18.1	19.5
1.5	12.2	13.7	12.1	13.3
2.5	7.56	8.21	7.41	7.98
4	4.7	5.09	4.61	4.95
6	3.11	3.39	3.08	3.30
10	1.84	1.95	1.83	1.91
16	1.16	1.24	1.15	1.21
25	0.734	0.795	0.727	0.78
35	0.529	0.565	0.524	0.554
50	0.391	0.393	0.387	0.386
70	0.27	0.277	0.268	0.272
95	0.195	0.210	0.193	0.206
120	0.154	0.165	0.153	0.161
150	0.126	0.132	0.124	0.129
185	0.1	0.108	0.0991	0.106
240	0.0762	0.0817	0.0754	0.0801
300	0.0607	0.0654	0.0601	0.0641
400	0.0475	-	0.0470	-
500	0.0369	-	0.0366	-
630	0.0286	-	0.0283	-
800	0.0224	-	0.0221	-
1000	0.0177	-	0.0176	-

Notes :

- * 0.08 Sq. mm to 0.38 Sq. mm as per DIN VDE 0295 (Class 5/6)
- * In accordance to
 - IS 8130, Class 1, Plain and tin coated copper max up to and including 150 Sq. mm and 16 Sq. mm respectively
 - IEC 60228, Class 1, Plain and tin coated copper max up to and including 400 Sq. mm and 16 Sq. mm respectively
 - IS 8130, Class 2, Plain and tin coated copper from 1 Sq. mm to 1000 Sq. mm
 - IEC 60228, Class 2, Plain and tin coated copper from 0.5 Sq. mm to 1000 Sq. mm
 - IS 8130 and IEC 60228, Class 5 and 6, Plain and tin coated copper up to and including 630 Sq. mm and 300 Sq. mm respectively

**Table No. 3-2
Conductor Stranding (Metric).**

Cross Section (Sq. mm)	Multiwire Conductor	Several-wire Conductor	Fine-Wire Conductor	Extra-Fine Wire Conductor			
				Class-6	Class-6	Class-6	Class-6
0.14	-	-	8 x 0.15	18 x 0.10	18 x 0.1	36 x 0.07	72 x 0.05
0.25	-	-	14 x 0.15	32 x 0.10	32 x 0.1	65 x 0.07	128 x 0.05
0.34	-	7 x 0.25	19 x 0.15	42 x 0.10	42 x 0.1	88 x 0.07	174 x 0.05
0.38	-	7 x 0.27	19 x 0.16	19 x 0.16	64 x 0.1	100 x 0.07	194 x 0.05
0.5	7 x 0.30	7 x 0.30	16 x 0.20	28 x 0.15	96 x 0.1	131 x 0.07	256 x 0.05
0.75	7 x 0.37	7 x 0.37	24 x 0.20	42 x 0.15	128 x 0.1	195 x 0.07	384 x 0.05
1	7 x 0.43	7 x 0.43	32 x 0.20	56 x 0.15	192 x 0.1	260 x 0.07	512 x 0.05
1.5	7 x 0.52	7 x 0.52	30 x 0.25	84 x 0.15	320 x 0.1	392 x 0.07	768 x 0.05
2.5	7 x 0.67	19 x 0.41	50 x 0.25	140 x 0.15	512 x 0.1	651 x 0.07	1280 x 0.05
4	7 x 0.85	19 x 0.52	56 x 0.30	224 x 0.15	768 x 0.1	1040 x 0.07	-
6	7 x 1.05	19 x 0.64	84 x 0.30	192 x 0.20	1280 x 0.1	1560 x 0.07	-
10	7 x 1.35	49 x 0.51	140 x 0.30	320 x 0.20	2048 x 0.1	2600 x 0.07	-
16	7 x 1.7	49 x 0.65	126 x 0.40	512 x 0.20	3200 x 0.1	-	-
25	7 x 2.13	84 x 0.62	196 x 0.40	800 x 0.20	-	-	-
35	7 x 2.52	133 x 0.58	276 x 0.40	1120 x 0.20	-	-	-
50	19 x 1.83	133 x 0.69	396 x 0.40	705 x 0.30	-	-	-
70	19 x 2.17	189 x 0.69	360 x 0.50	990 x 0.30	-	-	-
95	19 x 2.52	259 x 0.69	480 x 0.50	1340 x 0.30	-	-	-
120	37 x 2.03	336 x 0.67	608 x 0.50	1690 x 0.30	-	-	-
150	37 x 2.27	392 x 0.69	750 x 0.50	2123 x 0.30	-	-	-
185	37 x 2.52	464 x 0.69	931 x 0.50	1470 x 0.40	-	-	-
240	37 x 2.87	627 x 0.70	1200 x 0.50	1905 x 0.40	-	-	-
300	61 x 2.50	790 x 0.70	1500 x 0.50	2385 x 0.40	-	-	-
400	61 x 2.89	-	2013 x 0.50	-	-	-	-
500	61 x 3.23	-	2562 x 0.50	-	-	-	-
630	91 x 2.97	-	3416 x 0.50	-	-	-	-

Table No. 4-1**Current Rating Conversion Factor for Deviating Ambient Temperature.**

Conversion factors, used to the current ratings data in tables of the following pages.

Conversion factors for deviating ambient temperature.

Permissible Operating Temperature	40°C	60°C	70°C	80°C	85°C	90°C
Ambient Temperature°C	Conversion Factors					
10	1.73	1.29	1.22	1.18	1.17	1.15
15	1.58	1.22	1.17	1.14	1.13	1.12
20	1.41	1.15	1.12	1.1	1.09	1.08
25	1.22	1.08	1.06	1.05	1.04	1.04
30	1.00	1.00	1.00	1.00	1.00	1.00
35	0.71	0.91	0.94	0.95	0.95	0.96
40	-	0.82	0.87	0.89	0.90	0.91
45	-	0.71	0.79	0.84	0.85	0.87
50	-	0.58	0.71	0.77	-	0.82
55	-	0.41	0.61	0.71	-	0.76
60	-	-	0.5	0.63	-	0.71
65	-	-	0.35	0.55	-	0.65
70	-	-	-	0.45	-	0.58
75	-	-	-	0.32	-	0.5
80	-	-	-	-	-	0.41
85	-	-	-	-	-	0.29

Conversion temperature for heat-resistant cables.



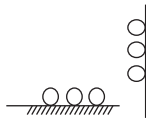
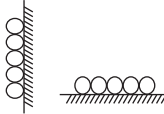
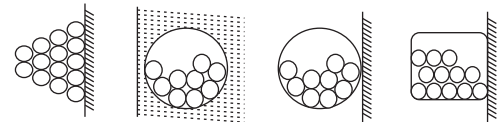
Permissible Operating Temperature	80°C	90°C	110°C	135°C	180°C
Ambient Temperature°C	Conversion Factors				
bis 50	1.00	1.00	1.00	1.00	1.00
55	0.91	0.94	1.00	1.00	1.00
60	0.82	0.87	1.00	1.00	1.00
65	0.71	0.79	1.00	1.00	1.00
70	0.58	0.71	1.00	1.00	1.00
75	0.41	0.61	1.00	1.00	1.00
80	-	0.50	1.00	1.00	1.00
85	-	0.35	0.91	1.00	1.00
90	-	-	0.82	1.00	1.00
95	-	-	0.71	1.00	1.00

Permissible Operating Temperature	80°C	90°C	110°C	135°C	180°C
Ambient Temperature°C	Conversion Factors				
100	-	-	0.58	0.94	1.00
105	-	-	0.41	0.87	1.00
110	-	-	-	0.79	1.00
115	-	-	-	0.71	1.00
120	-	-	-	0.61	1.00
125	-	-	-	0.50	1.00
130	-	-	-	0.35	1.00
135	-	-	-	-	1.00
140	-	-	-	-	1.00
145	-	-	-	-	1.00
150	-	-	-	-	1.00
155	-	-	-	-	0.91
160	-	-	-	-	0.82
165	-	-	-	-	0.71
170	-	-	-	-	0.58
175	-	-	-	-	0.41

Table No. 5-1

Current Rating Conversion Factor for Different Installation Methods.

for grouping on the wall, on the floor, in insulation tubes or in conduit and under the ceiling

Number of multicore cables or number of a.c. or 3-phase circuits of single core cable.	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
Installation method	Conversion factors														
One layer under the ceiling with contact 	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61	0,61	0,61	0,61	0,61	0,61	0,61
One layer under the ceiling, with a space equal to the outer diameter d 	0,95	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85
One layer on the wall or on the floor with a space equal to the outer diameter d 	1,00	0,94	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90
One layer on the wall or on the floor with contact 	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	0,70	0,70	0,70	0,70	0,70	0,70
Bunched directly on the wall, on the floor, in insulating tubes or trunking or in the wall 	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45	0,43	0,41	0,39	0,38

O Symbol for one single core or one multicore cable

Notes:

When these factors are to be applied for the calculation of power ratings, the same type of cables and with equal loaded cores in the same installation method shall correspond. At the same time the Crosssection are permitted to differ maximum one grade of Crosssection.

If the actual horizontal-space between the adjacent cables is more than double of the outer diameter, no reduction factor is necessary.

The same reduction factors are to be applied for grouping of two or three-core or multicore cables. For a system consisting of two or as well as three-core cables, firstly the total number of cables will be assumed as the number of circuits. For that the applicable factor is to be used either in the tables for two-cores loaded cables or the tables for three-cores loaded cables.

If the grouping of single core cables consist of n loaded single core cables, the rating factor shall be determinated for n/2 or n/3 circuits and applied to the current carrying capacity of two or three loaded cores.

Table No. 5-2

Current Rating Conversion Factor for Different Numbers of Loading Cores in Multicore Cables.

(Conversion factors for multicore cables with Cross section up to 10 mm²).

Number of Loaded Cores	Conversion Factros
5	0.75
7	0.65
10	0.55
14	0.5
19	0.45
24	0.4
40	0.35
61	0.30

Table No. 5-3
Current Rating Conversion Factor for Reeled Cables.

Number of layers on drums	1	2	3	4	5
Conversion factors	0.80	0.61	0.49	0.42	0.38

Note : For spiral-reeling the conversion factor 0.80.

Table No. 6-1
Current Rating - Single Core Cables for Fixed Installation as per IS 694.
 (for fixed wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 1 Conductor	Max. Current Capacity (A) for Class 2 Conductor
0.5	5.5	-
0.75	9	-
1	14	14
1.5	19	19
2.5	26	26
4	32	32
6	41	41
10	54	54
16	-	74
25	-	94
35	-	118
50	-	146
70	-	219
95	-	280
120	-	326
150	-	369
185	-	444
240	-	531
300	-	587
400	-	610
500	-	692
630	-	735

Table No. 6-2
Current Rating - Single Core Cables for Flexible Application as per IS 694.
 (for electric panels and switchboards for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 5 Conductor
0.5	5
0.75	8
1	13
1.5	17
2.5	24

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 5 Conductor
4	30
6	38
10	52
16	70
25	88
35	112
50	146
70	216
95	262
120	310
150	355
185	415
240	500
300	550

Table No. 6-3
Current Rating & Voltage Drop for Stranded Multicore Cables as per IS 694.
(for fixed wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	2 Core & 3 Core Cable for Single Phase AC/DC		3 Core & 4 Core Cable for Three Phase AC	
	Max. Current Capacity (A)	Voltage Drop (mV/A/m)	Max. Current Capacity (A)	Voltage Drop (mV/A/m)
1	14	40	13	35
1.5	19	27	18	23
2.5	26	16	24	14
4	32	10	30	8.80
6	41	6.8	39	5.90
10	54	4	50	3.50
16	74	2.6	68	2.20
25	94	1.6	85	1.4
35	118	1.2	105	1.0
50	146	0.97	130	0.84
70	219	0.7	195	0.62
95	280	0.59	246	0.48
120	326	0.48	284	0.42

Table No. 6-4**Current Rating & Voltage Drop for Flexible Multicore Cables as per IS 694.**

(for flexible application especially in electric panels and switchboard wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	2 Core & 3 Core Cable for Single Phase AC/DC		3 Core & 4 Core Cable for Three Phase AC	
	Max. Current Capacity (A)	Voltage Drop (mV/A/m)	Max. Current Capacity (A)	Voltage Drop (mV/A/m)
0.5	5	83	4	72
0.75	8	56	7	48
1	13	40	12	35
1.5	17	27	16	23
2.5	24	16	22	14
4	30	10	28	8.8
6	38	6.8	36	5.9
10	52	4	48	3.5
16	70	2.6	64	2.2
25	88	1.6	80	1.4
35	112	1.2	100	1.0
50	146	0.97	130	0.84
70	216	0.7	192	0.62
95	262	0.59	230	0.48
120	310	0.48	270	0.42
150	355	0.38	305	0.34
185	415	0.34	360	0.3
240	500	0.28	430	0.26
300	550	0.22	470	0.18

Table No. 6-5**Current Rating Conversion Factor for Deviating Ambient Temperature (IS 694).**

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
25	1.25
30	1.16
35	1.09
40	1.00
45	0.90
50	0.81
55	0.74
60	0.68

Table No. 7-1
Current Rating for H05V-K/H07V-K/H05Z1-K/H07Z1-K.

Nominal Cross Section Area of Conductor (Sq. mm)	Installation in Thermally Insulated Walls		Installation in Insulating Tubes (on a wall)		In Free Air
	2	3	2	3	
Number of Loaded Cores Cross Section (Sq. mm)	Current ratings in Ampere (A)				
1.5	14.5	13.5	17.5	15.5	24
2.5	19.5	18	24	21	32
4	26	24	32	28	42
6	34	31	41	36	54
10	46	42	57	50	73
16	61	56	76	68	98
25	80	73	101	89	129
35	99	89	125	110	158
50	119	108	151	134	198
70	151	136	192	171	245
95	182	164	232	207	292
120	210	188	269	239	344
150	240	216	-	-	391
185	273	245	-	-	448
240	320	286	-	-	528

Note : Conversion factors for deviating ambient temperature, grouping, installation under the ceiling, multicore cables and insulated wires - see Table 4-1. 5-1 & 5-2 in accordance to DIN VDE 0298 Part 4.

Table No. 8-1
Current Rating for H05V2-K/H07V2-K/BS 6231/Trirated Cable.

Nominal Cross Section Area (Sq. mm)	Max. Current Rating (A)	Voltage Drop (mV/A/m)
0.50	11	46.0
0.75	14	31.0
1.00	17	22.0
1.50	21	15.0
2.50	30	9.1
4.00	41	5.7
6.00	53	3.8
10.00	75	2.2
16.00	100	1.4
25.00	136	0.9
35.00	167	0.6

Current ratings are based on a conductor operating temperature of 85°C and an ambient air temperature of 45°C and assumes single cable isolated in free air.

Table No. 8-2
Current Rating Conversion Factor for H05V2-K/H07V2-K/BS 6231/Trirated Cable.

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
45°C	1.0
50°C	0.97
55°C	0.90
60°C	0.82
65°C	0.73
70°C	0.63
75°C	0.52

Where cables are to be grouped, the following factors should be applied :

Number of Cables in Group	Reduction Factor
2	0.80
3	0.70
4	0.65
5	0.60
6	0.56
7	0.53
8	0.50

Table No. 9-1
Current Rating - H05Z-K/H07Z-K/H05Z-R/H07Z-R/6491B/LS0H 90°C.
 Current Carrying Capacity (Amperes).

Conductor Cross Sectional area	Reference Method A (Enclosed in Conduits in Thermally Insulating Wall, etc.)		Reference Method B (Enclosed in Conduits on a Wall or in Trunking, etc.)		Reference Method C (Clipped Direct)		Reference Method F (in Free Air or on Perforated Cable Tray etc. Horizontal or Vertical etc.) Touching			Reference Method G (in free air) Spaced by One Cable Diameter	
	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC Flat and Touching	3 or 4 Cables, Three-Phase AC Flat and Touching or Trefoil	2 Cable, Single-Phase AC or DC Flat	3 Cables, Three-Phase A. C. Flat	3 Cables, Three-Phase A. C. Trefoil	2 Cable, Single-Phase AC or DC or 3 Cables, Three-Phase A. C. Flat	
										Horizontal	Vertical
1	2	3	4	5	6	7	8	9	10	11	12
(Sq. mm)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
0.5	6	5	10	8	12	11	-	-	-	-	-
0.75	9	8	14	12	16.5	14	-	-	-	-	-
1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37.0	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719
300	486	435	603	514	743	681	783	736	703	902	833
400	-	-	683	584	868	793	940	868	823	1085	1008
500	-	-	783	666	990	904	1083	998	946	1253	1169
630	-	-	900	764	1130	1033	1254	1151	1088	1454	1362
800	-	-	-	-	1288	1179	1358	1275	1214	1581	1485
1000	-	-	-	-	1443	1323	1520	1436	1349	1775	1671

Ambient temperature: 30°C.

Conductor operating temperature: 90°C

- Notes :**
- 1 Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2).
 - 2 Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D1A) must be used (see also Regulation 523.1).
 - 3 The above table is in accordance with Table 4E1A of the 17th Edition of IEE Wiring Regulations.

Table No. 9-2
Voltage Drop - H05Z-K/H07Z-K/H05Z-R/H07Z-R/6491B/LS0H 90°C.

Voltage Drop (per ampere per meter).

Conductor Cross Sectional area	2 Cable DC	2 Cables, Single-Phase AC						3 or 4 Cables, Three-Phase AC														
		Reference Method A & B (Enclosed in Conduit or Trunking)	Reference Methods C, F & G (Clipped Direct, on Tray or in Free Air)			Reference Method A & B (Enclosed in Conduit or Trunking)	Reference Methods C, F & G (Clipped Direct, on Tray or in Free Air)															
			Cable Touching		Cable Spaced		Cables Touching, Trefoil		Cables Touching, Flat		Cables Spaced*, Flat											
1	2	3	4			5	6	7			8			9								
(Sq. mm)	(mV/A/m)	(mV/A/m)	(mV/A/m)			(mV/A/m)	(mV/A/m)	(mV/A/m)			(mV/A/m)			(mV/A/m)								
0.5	93	93	93			93	80	80			80			80								
0.75	62	62	62			62	54	54			54			54								
1	46	46	46			46	40	40			40			40								
1.5	31	31	31			31	27	27			27			27								
2.5	19	19	19			19	16	16			16			16								
4	12	12	12			12.0	10	10			10			10								
6	7.9	7.9	7.9			7.9	6.8	6.8			6.8			6.8								
10	4.7	4.7	4.7			4.7	4	4			4			4								
16	2.9	2.9	2.9			2.9	2.5	2.5			2.5			2.5								
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.85	1.85	0.31	1.90	1.85	0.190	1.85	1.85	0.28	1.85	1.6	0.27	1.65	1.6	0.165	1.6	1.6	0.190	1.6	1.60	0.27	1.65
35	1.35	1.35	0.29	1.35	1.35	0.180	1.35	1.35	0.27	1.35	1.15	0.25	1.15	1.15	0.155	1.15	1.15	0.180	1.15	1.15	0.26	1.2
50	0.99	1.00	0.29	1.05	0.99	0.180	1.00	0.99	0.27	1.00	0.87	0.25	0.90	0.86	0.155	0.87	0.86	0.180	0.87	0.86	0.26	0.89
70	0.68	0.70	0.28	0.75	0.68	0.175	0.71	0.68	0.26	0.73	0.6	0.24	0.65	0.59	0.150	0.61	0.59	0.175	0.62	0.59	0.25	0.65
95	0.49	0.51	0.27	0.58	0.49	0.170	0.52	0.49	0.26	0.56	0.44	0.23	0.5	0.43	0.145	0.45	0.43	0.170	0.46	0.43	0.25	0.49
120	0.39	0.41	0.26	0.48	0.39	0.165	0.43	0.39	0.25	0.47	0.35	0.23	0.42	0.34	0.140	0.37	0.34	0.165	0.38	0.34	0.24	0.42
150	0.32	0.33	0.26	0.43	0.32	0.165	0.36	0.32	0.25	0.41	0.29	0.23	0.37	0.28	0.140	0.31	0.28	0.165	0.32	0.28	0.24	0.37
185	0.25	0.27	0.26	0.37	0.26	0.165	0.30	0.25	0.25	0.36	0.23	0.23	0.32	0.22	0.140	0.26	0.22	0.165	0.28	0.22	0.24	0.33
240	0.190	0.21	0.26	0.33	0.20	0.160	0.25	0.195	0.25	0.31	0.185	0.22	0.29	0.170	0.140	0.22	0.170	0.165	0.24	0.170	0.24	0.29
300	0.155	0.175	0.25	0.31	0.160	0.160	0.22	0.155	0.25	0.29	0.150	0.22	0.27	0.140	0.140	0.195	0.135	0.160	0.21	0.135	0.24	0.27
400	0.120	0.140	0.25	0.29	0.130	0.155	0.20	0.125	0.24	0.27	0.125	0.22	0.25	0.110	0.135	0.175	0.110	0.160	0.195	0.110	0.24	0.26
500	0.093	0.120	0.25	0.28	0.105	0.155	0.185	0.098	0.24	0.26	0.100	0.22	0.24	0.090	0.135	0.160	0.880	0.160	0.180	0.085	0.24	0.25
630	0.072	0.100	0.25	0.27	0.086	0.155	0.175	0.078	0.24	0.25	0.088	0.21	0.23	0.074	0.135	0.150	0.710	0.160	0.170	0.680	0.23	0.24
800	0.056	-	-	-	0.072	0.150	0.170	0.064	0.24	0.25	-	-	-	0.062	0.130	0.145	0.059	0.155	0.165	0.055	0.23	0.24
1000	0.045	-	-	-	0.063	0.150	0.165	0.054	0.24	0.24	-	-	-	0.055	0.130	0.140	0.050	0.155	0.165	0.047	0.23	0.24

Conductor Operating Temperature: 90°C.

r = Resistive Component.

x = Reactive Component.

z = Impedance Value.

*Spacings larger than those specified in Method 12 (see table 4A of the 17th Edition of IEE Wiring Regulations) will result in larger volt drop.

The above table is in accordance with Table 4E1B from the 17th Edition of IEE Wiring Regulations.

Table No. 10-1

Current Rating - PVC Insulated Building Wire (H07V-R) 6491X.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional area	Reference Method A (Enclosed in Conduits in Thermally Insulating Wall, etc.)		Reference Method B (Enclosed in Conduits on a Wall or in Trunking, etc.)		Reference Method C (Clipped Direct)		Reference Method F (in Free Air or on Perforated Cable Tray Horizontal or Vertical)				
	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC Flat and Touching	3 or 4 Cables, Three-Phase AC Flat and Touching or Trefoil	Touching			Spaced by One Diameter	
							2 Cable, Single-Phase AC or DC Flat	3 Cables, Three-Phase A. C. Flat	3 Cables, Three-Phase A. C. Trefoil	2 Cable, Single-Phase AC or DC or 3 Cables, Three-Phase A. C. Flat	Horizontal
1	2	3	4	5	6	7	8	9	10	11	12
(Sq. mm)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	20	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110.0	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	216	341	311
120	210	188	269	239	330	303	352	321	264	396	362
150	240	216	300	262	381	349	406	372	308	456	419
185	273	245	341	296	436	400	463	427	356	521	480
240	321	286	400	346	515	472	546	507	409	615	569
300	367	328	458	394	594	545	629	587	485	709	659
400	-	-	546	467	694	634	754	689	656	852	795
500	-	-	626	533	792	723	868	789	749	982	920
630	-	-	720	611	904	826	1005	905	855	1138	1070
800	-	-	-	-	1030	943	1086	1020	971	1265	1188
1000	-	-	-	-	1154	1058	1216	1149	1079	1420	1337

Ambient Temperature: 30°C.

Conductor Operating Temperature: 70°C.

The above table is in accordance with Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Table No. 10-2
Voltage Drop - PVC Insulated Building Wire (H07V-R) - 6491X.
 Voltage Drop (per ampere per meter).

Conductor Cross Sectional area	2 Cable DC	2 Cables, Single-Phase AC					3 or 4 Cables, Three-Phase AC															
		Reference Method A & B (Enclosed in Conduit or Trunking)	Reference Methods C, F & G (Clipped Direct, on Tray or in Free Air)			Reference Method A & B (Enclosed in Conduit or Trunking)	Reference Methods C & F (Clipped Direct, on Tray or in Free Air)															
			Cable Touching	Cable Spaced			Cables Touching, Trefoil	Cables Touching, Flat	Cables Spaced*, Flat													
1	2	3	4	5	6	7	8	9														
(Sq. mm)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)	(mV/A/m)
1	44	44	44	44	44	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38
1.5	29	29	29	29	29	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
2.5	18	18	18	18	18	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
4	11	11	11	11	11	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
6	7.3	7.3	7.3	7.3	7.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
10	4.4	4.4	4.4	4.4	4.4	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
16	2.8	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.75	1.8	0.33	1.8	1.75	0.2	1.75	1.75	0.29	1.8	1.5	0.29	1.55	1.5	0.175	1.5	1.5	0.25	1.55	1.5	0.32	1.55
35	1.25	1.3	0.31	1.3	1.25	0.195	1.25	1.25	0.28	1.3	1.1	0.27	1.1	1.1	0.17	1.1	1.1	0.24	1.1	1.1	0.32	1.1
50	0.93	0.95	0.3	1	0.93	0.19	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.8	0.165	0.82	0.8	0.24	0.84	0.8	0.32	0.86
70	0.63	0.65	0.29	0.72	0.63	0.185	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.16	0.57	0.55	0.24	0.6	0.55	0.31	0.63
95	0.46	0.49	0.28	0.56	0.47	0.18	0.5	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.155	0.43	0.41	0.23	0.47	0.41	0.31	0.51
120	0.36	0.39	0.27	0.47	0.37	0.175	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.15	0.36	0.32	0.23	0.4	0.32	0.3	0.44
150	0.29	0.31	0.27	0.41	0.3	0.175	0.34	0.3	0.26	0.39	0.27	0.23	0.36	0.26	0.15	0.3	0.26	0.23	0.34	0.26	0.3	0.4
185	0.23	0.25	0.27	0.37	0.24	0.17	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.145	0.26	0.21	0.22	0.31	0.21	0.3	0.36
240	0.18	0.195	0.26	0.33	0.185	0.165	0.25	0.185	0.25	0.31	0.17	0.23	0.29	0.16	0.145	0.22	0.16	0.22	0.27	0.16	0.29	0.34
300	0.145	0.16	0.26	0.31	0.15	0.165	0.22	0.15	0.25	0.29	0.14	0.23	0.27	0.13	0.14	0.19	0.13	0.22	0.25	0.13	0.29	0.32
400	0.105	0.13	0.26	0.29	0.12	0.16	0.2	0.115	0.25	0.27	0.12	0.22	0.25	0.105	0.14	0.175	0.105	0.21	0.24	0.1	0.29	0.31
500	0.186	0.11	0.26	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.1	0.22	0.25	0.086	0.135	0.16	0.086	0.21	0.23	0.081	0.29	0.3
630	0.068	0.094	0.26	0.27	0.081	0.155	0.175	0.076	0.24	0.25	0.08	0.22	0.24	0.072	0.135	0.15	0.072	0.21	0.22	0.066	0.28	0.29
800	0.053	-			0.068	0.15	0.165	0.061	0.24	0.25	-			0.060	0.13	0.145	0.06	0.21	0.22	0.053	0.28	0.29
1000	0.042	-			0.059	0.15	0.16	0.005	0.24	0.24	-			0.052	0.130	0.140	0.052	0.20	0.21	0.044	0.28	0.28

Conductor Operating Temperature: 70°C.

r = Resistive Component.
 x = Reactive Component.
 z = Impedance Value.

*Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is in accordance with Table 4D1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16 mm² or less Crosssectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16 mm², Cross sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 17th Edition of IEE Wiring Regulations.he

Table No. 11-1

Current Rating - H03/H05VVH2-F & H03/H05VV-F, H03/H05V2V2H2-F & H03/H05V2V2-F, JB-H.

Conductor Cross Sectional Area (Sq. mm)	Current-Carrying Capacity	
	Single-Phase AC (A)	Three-Phase AC (A)
0.5	3	3
0.75	6	6
1	10	10
1.25	13	-
1.5	16	16
2.5	25	20
4	32	25
6	40	-
10	63	-

The above table is in accordance with table 4F3A of the 17 edition of IEE wiring regulation.

Table No. 11-2

Voltage Drop for H03/H05VVH2-F & H03/H05VV-F, H03/H05V2V2H2-F & H03/H05V2V2-F, JB-H

Conductor Cross Sectional Area (Sq. mm)	Current-Carrying Capacity	
	Single-Phase AC (mV/A/m)	Three-Phase AC (mV/A/m)
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

Conductor operating temperature: 60°C*.

*The tabulated values above are for 60°C thermoplastic or thermosetting insulated flexible cords.

For other types of flexible cords they are to be multiplied by the following factors: for thermoplastic or thermoset insulation at 90°C: 1.09, at 105°C: 1.31.

The above table is in accordance with Table 4F3B of the 17th Edition of IEE Wiring Regulations.

Table No. 11-3

Current Rating Conversion Factor for H03/H05VVH2-F & H03/H05VV-F, H03/H05V2V2H2-F & H03/H05V2V2-F, JB-H

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Reduction Factor
35	0.91
40	0.82
45	0.71
50	0.58
55	0.41

Table No. 12-1

Current Rating - JB-750, JB-BK 0.6/1.0 KV, JZ-BK 0.6/1.0 KV.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional Area	Reference Method A (Enclosed in Conduits in Thermally Insulated Wall, etc.)		Reference Method B (Enclosed in Conduits on a Wall or in Trunking, etc.)		Reference Method C (Clipped Direct)		Reference Method E (in Free Air or on Perforated Cable Tray etc. Horizontal or Vertical)	
	1Two-Core Cable*, Single-Phase AC or DC	1Three-Core Cable*, or 1 Four-Core Cable, Three-Phase AC	1Two-Core Cable*, Single-Phase AC or DC	1Three-Core Cable*, or 1 Four-Core Cable, Three-Phase AC	1Two-Core Cable*, Single-Phase AC or DC	1Three-Core Cable*, or 1 Four-Core Cable, Three-Phase AC	1Two-Core Cable*, Single-Phase AC or DC	1Three-Core Cable*, or 1 Four-Core Cable, Three-Phase AC
1	2	3	4	5	6	7	8	9
(Sq. mm)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	11	10	13	11.5	15	13.5	17	14.5
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
120	192	172	232	206	299	259	328	276
150	219	196	258	225	344	299	379	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
300	334	298	394	339	530	464	593	497
400	-	-	470	402	634	557	715	597

Ambient Temperature: 30°C.

Conductor Operating Temperature: 70°C.

The above Table is in accordance to BS 7671, Table 4D2A

Table No. 12-2

Voltage Drop - JB-750, JB-BK 0.6/1.0 KV, JZ-BK 0.6/1.0 KV.

Voltage Drop (per ampere per meter).

Conductor Cross Sectional Area	2 Cables DC	Two Core Cables, Single-Phase AC			Three or Four Core Cables, Three-Phase AC		
		1	2	3	4		
(Sq. mm)	(mV/A/m)	(mV/A/m)			(mV/A/m)		
1	44	44			44		
1.5	29	29			29		
2.5	18	18			18		
4	11	11			11		
6	7.3	7.3			7.3		
10	4.4	4.4			4.4		
16	2.8	2.8			2.8		
		r	x	z	r	x	z
25	1.75	1.75	0.170	1.75	1.50	0.145	1.5
35	1.25	1.25	0.165	1.25	1.10	0.145	1.1
50	0.93	0.93	0.165	0.94	0.80	0.14	0.81
70	0.63	0.63	0.160	0.65	0.55	0.14	0.57
95	0.46	0.47	0.155	0.5	0.41	0.135	0.43
120	0.36	0.38	0.155	0.41	0.33	0.135	0.35
150	0.29	0.3	0.155	0.34	0.26	0.13	0.29
185	0.23	0.25	0.150	0.29	0.21	0.13	0.25
240	0.18	0.19	0.150	0.24	0.17	0.13	0.21
300	0.145	0.155	0.145	0.21	0.14	0.13	0.185
400	0.105	0.115	0.145	0.185	0.10	0.125	0.16

The above Table is in accordance to BS 7671, Table 4D2B

Table No. 12-3

Current Rating as per DIN VDE 0298-4, at 30°C Ambient Temperature.

Current Carrying Capacity (Amperes).

Nominal Cross Sectional Area (Sq. mm)	JB-500, 750, YCY, YSY, Black (0.6 / 1.0 kV), HJZ-500, YCY, YSY, CY, YCY-Black (0.6 / 1.0 kV), EB, EB CY, H, HCHB
0.5	9
0.75	12
1	15
1.5	18
2.5	26
4	34
6	44
10	61
16	82
25	108
35	135
50	168
70	207
95	250
120	292
150	335
185	382
240	453
300	523

Current rating conversion factor for deviating ambient temperature

Ambient Temperature (°C)	Derating Factor
30	1.09
40	1.00
45	0.78
50	0.70
55	0.60
60	0.48

Current rating conversion factor for different numbers of loading cores in multicore cables

Number of loaded cores	5	7	10	14	19	24	40	61
Conversion Factor	0.75	0.65	0.55	0.50	0.45	0.40	0.35	0.30

Note:

*Current carrying capacity is in accordance to VDE0298-4, 2003-08, table 11, column2.
For different installation methods, conversion factors from table 5-1 shall be used.

Table No. 13-1

Current Rating - NYY Cable.

Current Carrying Capacity (Amperes).

Nominal Cross Sectional Area (Sq. mm)	In a Thermally Insulated Walls		On a Walls		Direct installation				In Free Air	
	2	3	2	3	2	3	2	3	2	3
	Current ratings in Ampere (A)									
1.5	14.5	13	16.5	15	19.5	17.5	22	18.5	-	-
2.5	18.5	17.5	23	20	27	24	30	25	-	-
4	25	23	30	27	36	32	40	34	-	-
4	-	-	-	-	-	33.02 ³⁾	-	-	-	-
6	32	29	38	34	46	41	51	43	-	-
10	43	39	52	46	63	57	70	60	-	-
10	-	-	-	47.17 ⁴⁾	-	59.43 ³⁾	-	-	-	-
16	57	52	69	62	85	76	94	80	-	-
25	75	68	90	80	112	96	119	101	131	114
35	92	83	111	99	138	119	148	126	162	143
50	110	99	133	118	168	144	180	153	196	174
70	139	125	168	149	213	184	232	196	251	225
95	167	150	201	179	258	223	282	238	304	275
120	192	172	232	206	299	259	328	276	352	321
150	219	196	-	-	344	299	379	319	406	372
185	248	223	-	-	392	341	434	364	463	427
240	291	261	-	-	461	403	514	430	546	507
300	334	298	-	-	530	464	593	497	629	587

Conversion factors for deviating ambient temperature, grouping, installation under the ceiling, multicore cables and insulated wires - see DIN VDE 0298 Part 4.

- 1) The current rating are valid for cables with concentric conductor, only for multicore versions.
- 2) For further installation method - see DIN VDE 0298 Part 4.
- 3) See DIN VDE 0298 Part 4.

Table No. 14-1**Current Rating for Silicone Cable.**

Nominal Cross Section (Sq. mm)	Current Rating (A)
0.5	12
0.75	15
1	19
1.5	24
2.5	32
4	42
6	54
10	73
16	98
25	129
35	158
50	198
70	245

The above table is in accordance with DIN VDE 0298-4, 2003-08 Table 11/column 2.

Table No. 14-2**Current Rating Conversion Factor for Silicone Cable.**

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
up to 150	1
155	0.91
160	0.82
165	0.71
170	0.58
175	0.41

Table No. 15-1

Current Rating - Fire Survival BS 7846.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional Area	Reference Method C (Clipped Direct)		Reference Method E (in Free Air or on a Perforated Cable Tray etc. Horizontal or Vertical)		Reference Method D (Direct in Ground or in Ducting in Ground, in or Around Buildings)	
	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC
1	2	3	4	5	6	7
(mm ²)	(A)	(A)	(A)	(A)	(A)	(A)
1.5	27	23	29	25	25	21
2.5	36	31	39	33	33	28
4	49	42	52	44	43	36
6	62	53	66	56	53	44
10	85	73	90	78	71	58
16	110	94	115	99	91	75
25	146	124	152	131	116	96
35	180	154	188	162	139	115
50	219	187	228	197	164	135
70	279	238	291	251	203	167
95	338	289	354	304	239	197
120	392	335	410	353	271	223
150	451	386	472	406	306	251
185	515	441	539	463	343	281
240	607	520	636	546	395	324
300	698	599	732	628	446	365
400	787	673	847	728	-	-

Ambient Temperature: 30°C .

Ground Ambient Temperature: 20°C .

Conductor Operating Temperature: 90°C .

Notes:

- 1 Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2) .
- 2 Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D4A) must be used (see also Regulation 523.1).
- 3 The above table is in accordance with Table 4E4A of the 17th Edition of IEE Wiring Regulations.

Table No. 15-2

Voltage Drop - Fire Survival BS 7846.

Voltage Drop (per ampere per meter).

Conductor Cross Sectional Area	Two Cables DC	Two Core Cables, Single-Phase AC			Three or Four Core Cables, Three-Phase AC		
1	2	3			4		
Sq. mm	(mV/A/m)	(mV/A/m)			(mV/A/m)		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185
400	0.12	0.13	0.140	0.19	0.115	0.120	0.163

Conductor Operating Temperature: 90°C.

Table No. 16-1**Conductor Data - IS 7098 P1.**

Copper & Aluminium conductor for single core & multicore cable conforming to IS 8130.

Nominal Area of Conductor (Sq. mm)	Minimum Number Wire in Conductor Solid Conductor Class-1	Minimum Number of Wire in Conductor Stranded Conductor Class-2				Max. DC Resistance at 20°C (Ω/Km)		Max. AC Resistance at 90°C (Ω/Km)	
		Circular Conductor (Non-Compacted)		Circular Compacted or Shape Conductor					
		Aluminium	Copper	Aluminium	Copper	AL	CU	AL	CU
1.5	1	3	3	NA	NA	18.1	12.1	22.6	15.2
2.5	1	3	3	NA	NA	12.1	7.41	15.2	9.35
4	1	3	7	NA	NA	7.41	4.61	10.5	5.9
6	1	3	7	NA	NA	4.61	3.08	5.9	3.94
10	1	7	7	NA	6	3.08	1.83	3.94	2.34
16	NA	7	7	6	6	1.91	1.15	2.44	1.47
25	NA	7	7	6	6	1.2	0.727	1.54	0.931
35	NA	7	7	6	6	0.868	0.524	1.11	0.671
50	NA	19	19	6	6	0.641	0.387	0.82	0.495
70	NA	19	19	12	12	0.443	0.268	0.567	0.343
95	NA	19	19	15	18	0.32	0.193	0.411	0.248
120	NA	37	37	15	18	0.253	0.153	0.325	0.197
150	NA	37	37	15	18	0.206	0.124	0.265	0.159
185	NA	37	37	30	30	0.164	0.0991	0.211	0.127
240	NA	37	61	30	34	0.125	0.08	0.162	0.0976
300	NA	61	61	30	34	0.1	0.0601	0.13	0.0778
400	NA	61	61	53	53	0.0778	0.047	0.1023	0.0618
500	NA	61	61	53	53	0.0605	0.0366	0.0808	0.0489
630	NA	91	91	53	53	0.0469	0.0283	0.0648	0.0391
800	NA	91	91	53	53	0.0367	0.0221	0.0533	0.0319
1000	NA	91	91	53	53	0.0291	0.0176	0.0444	0.0268

Table No. 16-2
Single Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
16	81	80	83	104	102	106
25	99	90	115	130	115	145
35	117	110	135	155	140	175
50	138	125	170	185	165	215
70	168	155	210	225	200	270
95	204	185	255	265	235	330
120	230	210	300	300	265	380
150	265	230	342	335	300	430
185	295	260	385	380	335	495
240	340	300	450	435	385	590
300	390	335	519	490	430	670
400	450	380	605	550	480	780
500	500	430	700	610	530	900
630	555	485	809	680	590	1020
800	625	530	935	740	630	1140
1000	690	570	1065	780	660	1250

Table No. 16-3

Two Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
4	40	28	34	51	37	44
6	50	37	44	63	46	56
10	69	49	59	88	62	75
16	88	61	74	113	81	98
25	112	81	98	144	109	131
35	138	103	124	175	125	150
50	169	129	156	206	161	194
70	200	156	188	256	203	244
95	238	192	231	300	239	288
120	262	217	262	344	275	331
150	300	249	300	388	316	381
185	344	286	344	438	364	438
240	400	337	406	506	425	512
300	444	378	456	562	482	581
400	481	436	525	612	549	662
500	565	523	678	660	620	780
630	652	592	786	730	690	875

Table No. 16-4

Three, Three & Half & Four Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
4	34	28	30	44	37	39
6	43	37	40	55	47	50
10	57	48	53	74	61	67
16	78	61	70	94	78	85
25	95	80	99	120	100	125
35	116	94	117	145	120	155
50	140	110	140	170	145	190
70	170	140	176	210	175	235
95	200	165	221	250	210	290
120	225	185	258	285	240	330
150	255	210	294	315	270	375
185	285	235	339	355	300	435
240	325	270	402	410	350	510
300	370	305	461	460	390	590
400	435	350	542	520	440	670
500	481	405	624	580	480	750
630	537	470	723	680	575	875

Table No. 16-5**Capacitance Single & Multicore Cable - IS 7098 P1.**Approx capacitance ($\mu\text{F}/\text{km}$) for XLPE 1100V cable.

Nominal Area of Conductor (Sq. mm)	Single Core Cable		2 Core Cable	Multicore (3, 3.5 & 4 core cable)
	Unarmoured	Armoured		
1.5	0.19	-	0.051	0.15
2.5	0.24	-	0.058	0.18
4	0.29	-	0.065	0.22
6	0.34	-	0.071	0.25
10	0.43	0.32	0.081	0.31
16	0.51	0.38	0.088	0.36
25	0.49	0.38	0.089	0.41
35	0.57	0.44	0.096	0.47
50	0.58	0.46	0.098	0.50
70	0.63	0.51	0.100	0.53
95	0.68	0.57	0.110	0.61
120	0.73	0.61	0.110	0.63
150	0.73	0.61	0.110	0.64
185	0.74	0.64	0.110	0.65
240	0.74	0.64	0.110	0.66
300	0.80	0.69	0.120	0.67
400	0.83	0.70	0.120	0.67
500	0.83	0.71	0.120	0.69
630	0.87	0.75	0.120	0.73
800	0.92	0.78	NA	NA
1000	0.94	0.81	NA	NA

Table No. 16-6**Reactance Single Core & Multi Core Cable - IS 7098 P1.**Approx reactance at 50 Hz (Ω /Km) for XLPE 1100V cable.

Nominal Area of Conductor (Sq. mm)	Single Core Cable		Multicore (2, 3, 3.5 & 4 core cable)
	Unarmoured	Armoured	
1.5	0.155	-	0.107
2.5	0.142	-	0.0985
4	0.132	-	0.0927
6	0.123	-	0.0884
10	0.114	0.134	0.0837
16	0.108	0.125	0.0808
25	0.103	0.120	0.0805
35	0.0986	0.114	0.0783
50	0.0937	0.108	0.0750
70	0.09	0.102	0.0740
95	0.0865	0.100	0.0724
120	0.0841	0.0968	0.0718
150	0.0839	0.0941	0.0716
185	0.0836	0.0932	0.0712
240	0.0813	0.0900	0.0710
300	0.0795	0.0881	0.0705
400	0.0787	0.0873	0.0704
500	0.0779	0.0859	0.0702
630	0.0765	0.0843	0.0698
800	0.0755	0.0826	NA
1000	0.0752	0.0825	NA

Table No. 16-7
Short Circuit Rating - IS 7098 P1.

Nominal area of conductor (Sq. mm)	Short circuit for 1 Second Duration (K. Amps.)			
	IS 7098 P1		IS 1554 P1	
	Aluminium	Copper	Aluminium	Copper
1.5	0.15	0.21	-	0.173
2.5	0.21	0.36	-	0.29
4	0.38	0.57	0.3	0.46
6	0.57	0.86	0.46	0.69
10	0.94	1.4	0.76	1.15
16	1.5	2.3	1.22	1.84
25	2.4	3.6	1.9	2.88
35	3.3	5.0	2.66	4.03
50	4.7	7.1	3.8	5.75
70	6.6	10	5.32	8.05
95	9.0	13.6	7.22	10.93
120	11.3	17.1	9.12	13.8
150	14.2	21.4	11.4	17.25
185	17.5	26.4	14.06	21.27
240	22.6	34.3	18.24	27.6
300	28.3	42.9	22.8	34.5
400	37.7	57.1	30.4	46
500	47.2	71.4	38	57.5
630	59.4	90	47.88	72.45
800	75.5	114.3	60.8	92
1000	94.3	142.3	76	115

1. Max. Conductor temperature prior to short circuit : 90°C
 2. Max. Conductor temperature at the termination of short circuit : 250°C
- Formula for calculating the short circuit rating for other duration.

$$I_t = \frac{I_{sh}}{\sqrt{t}}$$

where

- I_t= Short circuit rating for t second.
- t= Duration in seconds.
- I_{sh}= Short circuit rating for 1 second.

Table No. 16-8

Current Rating for Control Cable ARM / UN ARM IS 7098 P-1.

No. of Core	1.5 SQ.MM			2.5 SQ.MM		
	With CU Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
2	30.0	27.0	28.0	41.0	36.0	37.0
3	28.0	23.0	24.0	35.0	32.0	33.0
4	28.0	23.0	24.0	35.0	32.0	33.0
5	28.0	23.0	24.0	35.0	32.0	33.0
6	20.5	18.0	19.0	27.5	24.5	25.5
7	19.5	18.0	19.0	26.5	23.5	24.0
10	18.0	15.5	16.5	24.0	21.0	21.5
12	17.0	14.5	15.0	23.0	19.5	20.5
14	15.5	14.5	15.0	21.5	18.5	19.0
16	15.5	13.0	14.0	20.5	18.5	19.0
19	14.5	13.0	14.0	19.5	17.0	17.5
24	13.0	12.0	12.5	18.0	16.0	16.5
27	13.0	12.0	12.5	17.0	14.5	14.0
30	12.0	10.5	11.0	16.0	13.5	14.0
37	11.0	9.5	10.5	14.5	12.5	13.0
40	11.0	9.5	10.5	14.5	12.5	13.0
44	10.0	8.5	9.0	13.5	11.5	12.0
52	9.5	7.5	8.0	12.0	10.0	11.0
61	9.5	7.0	7.5	11.0	9.0	10.0

Table No. 16-9

Voltage Drop for single and multicore cable with Copper Conductor - IS 7098-1 and IS 1554-1

Below values are mentioned in mV/A/m

Conductor Cross Sectional Area Sq. mm	XLPE (IS 7098-1)			PVC (IS 1554-1)		
	Single Phase at 90 deg. C		Thee Phase at 90 deg. Cr	Single Phase at 70 deg. C		Three Phase at 70 deg. C
	Unarmoured	Armoured		Unarmoured	Armoured	
1.5	31.00	-	26.82	29.00	-	25.09
2.5	18.96	-	16.40	17.80	-	15.40
4	11.80	-	10.21	11.04	-	9.55
6	7.88	-	6.82	7.38	-	6.39
10	4.68	-	4.05	4.39	-	3.79
16	2.95	2.95	2.55	2.77	2.77	2.39
25	1.87	1.87	1.62	1.75	1.75	1.51
35	1.35	1.36	1.17	1.27	1.28	1.1
50	1.01	1.01	0.87	0.95	0.95	0.82
70	0.71	0.71	0.61	0.67	0.67	0.57
95	0.52	0.53	0.45	0.50	0.50	0.42
120	0.43	0.43	0.36	0.41	0.41	0.34
150	0.36	0.36	0.30	0.35	0.35	0.29
185	0.31	0.31	0.25	0.30	0.30	0.25
240	0.26	0.26	0.21	0.26	0.26	0.21
300	0.23	0.23	0.18	0.23	0.23	0.18
400	0.21	0.21	0.16	0.21	0.21	0.16
500	0.19	0.19	0.15	0.20	0.20	0.15
630	0.18	0.18	0.14	0.19	0.19	0.14
800	0.17	0.18	-	0.18	0.19	-
1000	0.17	0.17	-	0.18	0.18	-

Table No. 16-10

Voltage Drop for single and multicore cable with Aluminium Conductor - IS 7098-1 and IS 1554-1

Below values are mentioned in mV/A/m

Conductor Cross Sectional Area Sq. mm	XLPE (IS 7098-1)			PVC (IS 1554-1)		
	Single Phase at 90 deg. C		Three Phase at 90 deg. C	Single Phase at 70 deg. C		Three Phase at 70 deg. C
	Unarmoured	Armoured		Unarmoured	Armoured	
1.5	46.34	-	40.08	43.4	-	37.54
2.5	31.00	-	26.82	29.00	-	25.09
4	18.96	-	16.40	17.80	-	15.40
6	11.80	-	10.21	11.08	-	9.59
10	7.88	-	6.82	7.40	-	6.40
16	4.88	4.88	4.22	4.60	4.60	3.98
25	3.09	3.09	2.67	2.89	2.89	2.50
35	2.23	2.23	1.93	2.09	2.09	1.81
50	1.65	1.65	1.43	1.55	1.55	1.34
70	1.15	1.15	0.99	1.08	1.08	0.93
95	0.84	0.84	0.72	0.79	0.79	0.68
120	0.67	0.67	0.57	0.64	0.64	0.54
150	0.56	0.56	0.47	0.53	0.53	0.45
185	0.45	0.46	0.38	0.43	0.43	0.37
240	0.36	0.36	0.30	0.35	0.35	0.29
300	0.31	0.31	0.25	0.30	0.30	0.25
400	0.26	0.26	0.21	0.26	0.26	0.21
500	0.23	0.23	0.18	0.23	0.23	0.18
630	0.20	0.21	0.16	0.21	0.21	0.16
800	0.19	0.19	-	0.20	0.20	-
1000	0.18	0.18	-	0.19	0.19	-

Table No. 17-1

Current Ratings - Single Core (Non-Magnetic Armour) Copper Conductor BS 5467.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional Area	Reference Method 1 (Clipped Direct)		Reference Method 2 (On a Perforated Cable Tray)		Reference Method 12 (Free Air)						
	2 Cables Single AC or DC Flat & Touching Phase	3 or 4 Cables, Three-Phase AC Flat & AC Touching Phase	2 Cables, Single-Phase Flat & Touching	3 or 4 Cables, Three-Phase AC Flat & Touching	2 Cables, Single-Phase AC		2 Cables DC		3 or 4 Cables, Three-Phase AC		
					Horizontal Flat Spaced	Vertical Flat Spaced	Horizontal Spaced	Vertical Spaced	Horizontal Flat Spaced	Vertical Flat Spaced	3 Cables Trefoil
1	2	3	4	5	6	7	8	9	10	11	12
Sq. mm	AMP	AMP	AMP	AMP	AMP	AMP	AMP	AMP	AMP	AMP	AMP
50	237	220	253	232	282	266	284	270	288	266	222
70	303	277	322	293	357	337	356	349	358	331	285
95	367	333	389	352	436	412	446	426	425	393	346
120	425	383	449	405	504	477	519	497	485	449	402
150	488	437	516	462	566	539	600	575	549	510	463
185	557	496	587	524	643	614	688	660	618	574	529
240	656	579	689	612	749	714	815	782	715	666	625
300	755	662	792	700	842	805	943	906	810	755	720
400	853	717	899	767	929	889	1137	1094	848	797	815
500	962	791	1016	851	1032	989	1314	1266	923	871	918
630	1082	861	1146	935	1139	1092	1528	1474	992	940	1027
800	1170	904	1246	987	1204	1155	1809	1744	1042	978	1119
1000	1261	961	1345	1055	1289	1238	2100	2026	1110	1041	1214

Table No. 17-2

Voltage Drop - Single Core (Non-Magnetic Armour) Copper Conductor BS 5467.

Voltage Drop - Per Ampere Per Meter (mV).

Conductor Cross Sectional Area	2 Cables DC	2 Cables, Single-Phase AC						3 or 4 Cables, Three-Phase AC							
		Reference Methods 1 & 11 (Touching)			Reference Method 12 (Spaced)			Reference Methods 1, 11 & 12 (in Trefoil Touching)			Reference Methods 1 & 11 (Flat & Touching)			Reference Method 12 (Flat Spaced)	
1	2	3			4			5			6			7	
Sq. mm	mV	mV			mV			mV			mV			mV	
		r	x	z	r	x	z	r	x	z	r	x	z	r	x
50	0.98	0.99	0.21	1	0.98	0.29	1	0.86	0.18	0.87	0.84	0.25	0.88	0.84	0.33
70	0.67	0.68	0.20	0.71	0.69	0.29	0.75	0.59	0.17	0.62	0.6	0.25	0.65	0.62	0.32
95	0.49	0.51	0.20	0.55	0.53	0.28	0.6	0.44	0.17	0.47	0.46	0.24	0.52	0.49	0.31
120	0.39	0.41	0.19	0.45	0.43	0.27	0.51	0.35	0.17	0.39	0.38	0.24	0.44	0.41	0.3
150	0.31	0.33	0.19	0.38	0.36	0.27	0.45	0.29	0.16	0.33	0.31	0.23	0.39	0.34	0.29
185	0.25	0.27	0.19	0.33	0.3	0.26	0.4	0.23	0.16	0.28	0.26	0.23	0.34	0.29	0.29
240	0.2	0.21	0.18	0.28	0.24	0.26	0.35	0.18	0.16	0.24	0.21	0.22	0.3	0.24	0.28
300	0.16	0.17	0.18	0.25	0.2	0.25	0.32	0.15	0.15	0.21	0.17	0.22	0.28	0.2	0.27
400	0.12	0.15	0.17	0.22	0.18	0.24	0.3	0.13	0.15	0.2	0.16	0.21	0.27	0.2	0.27
500	0.09	0.13	0.17	0.21	0.17	0.24	0.29	0.11	0.15	0.18	0.15	0.2	0.25	0.19	0.24
630	0.07	0.11	0.17	0.2	0.15	0.23	0.27	0.09	0.15	0.17	0.14	0.2	0.24	0.18	0.23
800	0.06	0.09	0.16	0.19	0.15	0.23	0.27	0.09	0.14	0.17	0.13	0.18	0.23	0.18	0.2
1000	0.05	0.09	0.16	0.18	0.14	0.21	0.25	0.08	0.14	0.16	0.13	0.17	0.21	0.17	0.18

Note : Spacings larger than those specified in Method 12 (see Table 4E3B, BS 7671) - 17th Edition, (FE Wiring Regulations) will result in larger voltage drop.
Conductor Operating Temperature : 90°C

Table No. 17-3**Current Ratings - Multicore Armoured Copper Conductor BS 5467.**

Current Carrying Capacity (Amperes).

Conductor Cross Sectional Area (Sq. mm)	Reference Method 1 (Clipped Direct) Area		Reference Method 11 (On a Perforated Horizontal or Vertical Tray) or Reference Method 13 (Free Air)	
	2 Core Cable, Single-Phase AC or DC	3 or 4 Core Cable, Three-Phase AC	3 or 4 Core Cable, Three-Phase AC	2 Core Cable, Single-Phase AC or DC
1	2	3	4	5
1.5	27	23	29	25
2.5	36	31	39	33
4	49	42	52	44
6	62	53	66	56
10	85	73	90	78
16	110	94	115	99
25	146	124	152	131
35	180	154	188	162
50	219	187	228	197
70	279	238	291	251
95	338	289	354	304
120	392	335	410	353
150	451	386	472	406
185	515	441	539	463
240	607	520	636	546
300	698	599	732	628
400	787	673	847	728

Notes:

1. Where the conductor is to be protected by a Semi-enclosed fuse to BS 3036, see item 4 of the preface to appendix 4 of BS 7671, the IEE Wiring Regulations, 17th Edition.
2. Where a conductor operates at a temperature exceeding 70°C it shall be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512-1-2 of BS 7671, the IEE Wiring Regulations, 17th Edition).
Conductor Operating Temperature: 30°C
Ambient Temperature: 90°C

Table No. 17-4

Voltage Drop - Multicore Armoured Copper Conductor BS 5467.

Voltage Drop - Per Ampere Per Meter (mV).

Conductor Cross Sectional Area	2 Cables DC	2 Core Cables, Single-Phase AC			3 or 4 Core Cable, Three-Phase AC		
		1	2	3	4		
Sq. mm	mV		mV		mV		
1.5	31	-	31	-	-	27	-
2.5	19	-	19	-	-	16	-
4	12	-	12	-	-	10	-
6	7.9	-	7.9	-	-	6.8	-
10	4.7	-	4.7	-	-	4	-
16	2.9	-	2.9	-	-	2.5	-
		r	x		r	x	z
25	1.85	1.85	0.16	1.9	1.6	0.14	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1	0.86	0.135	0.87
70	0.67	0.67	0.15	0.69	0.59	0.13	0.6
95	0.49	0.5	0.15	0.52	0.43	0.13	0.45
120	0.39	0.4	0.145	0.42	0.34	0.13	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.3
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.2	0.14	0.24	0.175	0.125	0.21
300	0.155	0.16	0.14	0.21	0.14	0.12	0.185
400	0.12	0.13	0.145	0.195	0.115	0.125	0.17

Conductor Operating Temperature: 90°C

Table No. 18-1
Types of Abbreviations

CONTROL CABLES 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ x8 □	HARMONIZED CABLES 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ x8 □ 9 □	TELEPHONE CABLES AND LEADS 1 □ 2 □ 3 □ 4 □ 5 □ 6 □ 7 □ x8 □ 9 □ 10 □
1. BASIC TYPE	1. BASIC TYPE	1. BASIC TYPE
N-VDE STANDARD (N) OR X - as per VDE Standard	H - Harmonized Type A - National Type	A - Outside Cable G - Mine Cable
2. INSULATION MATERIAL	2. RATED VOLTAGE	J - Installation Cable
Y - Thermoplastic Resins	01 - 100/100V	Li - Rubber Sheathed Cable
X - Crosslinked Thermoplastic Resins	03 - 300/300V	S - Jumper Cable
G - Elastomers	05 - 300/500V	2. ADDITIONAL INFORMATION
H - Halogen Free Material	07 - 450/750V	B - Lightning Protection Make Up
3. CABLE DESIGNATION	3. INSULATION MATERIAL	J - Installation Cable Induction Protection
A - Cored Cable	V - PVC	E - Electronics
D - Solid Wire	V2 - PVC + 90°C	3. INSULATION MATERIAL
AF - Fine Wired Cored Cable	V3 - PVC Cold Flexible	Y - PVC
F - Socket Core	B - Ethylenepropylene Rubber	2Y - Polyethylene
L - Fluorescent Tube Cable	E - Polyethylene PE	O2Y - Cellular PE
LH - Connecting Cable Light Mechanical Load	X - XLPE, Crosslinked Polyethylene	5Y - PTFE
MH - Connecting Cable Medium Mechanical Load	R - Rubber	6Y - FEP
SH - Connecting Cable Heavy Mechanical Load	S - Silicon Rubber	7Y - ETFE
SSH - Connecting Cable Special Load	4. OUTER/INNER SHEATH MATERIAL	P - Paper
SL - Control Cable/Welding Cable	V - PVC	4. MAKE UP FEATURES
S - Control Cable	V2 - PVC + 90°C	F - Petroleum Jelly Filling
LS - Light Control Cable	V3 - PVC Cold Flexible	L - Aluminium Sheath
FL - Flat Cable	V5 - PVC with Enhanced Oil Resistance	LD - Corrugated AL Sheath
Si - Silicon Cable	R - Rubber	(L) - Aluminium Strip
Z - Twin Cable	N - Chloroprene Rubber	(ST) - Metal Foil Screen
GL - Glass Filament	Q - Polyurethane	(K) - Copper Strip Screen
Li - Stranded Core to VDE 0812	J - Glass Fiber Braid	(C) - Copper Braid Screen
LiF - Stranded Core to VDE 0812 Superfined Wire	T - Textile braid	(Z) - Steel Wire Braid
4. SPECIAL FEATURES	5. SPECIAL FEATURES	W - Corrugated Steel Sheath
T - Support Wire	C4 - Copper Screen Braiding	M - Lead Sheath
O - Enhanced Oil Resistance	H - Flat Cable, Separable	Mz - Special Lead Sheath
U - Flame Retardant	H2 - Flat Cable, Non Separable	b - Armouring
w - Heat Resistant, Weather Resistant	H6 - Flat Cable, Non Separable for Lifts	c - Jute Sheath + Ground
FE - Insulation re	H8 - Helical/Spiral Cable	E - Ground Layer + Strip

CONTROL CABLES 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> x8 <input type="checkbox"/>	HARMONISED CABLES 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> x8 <input type="checkbox"/> 9 <input type="checkbox"/>	TELEPHONE CABLES AND LEADS 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> x8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/>
C - Screen Braiding	6. CONDUCTOR TYPE	5. SHEATH MATERIAL
D - Screening as Envelope with Copper Wire	U - Single Wire	Same as given in Insulation Material
S - Steel Wire Braid as Mechanical Protection	R - Multiwire	6. NUMBER OF ELEMENTS
5. SHEATH	K - Fine Wire (Static)	..number of stranding elements/cores
Y -Thermoplastic Resin	F - Fine Wire (Flexible)	7. STRANDING ELEMENTS PAIRS
X - Crosslinked Thermoplastic Resins	h - Superfine Wire	1 - Single core
G - Elastomers	Y - Tinsel Wire	2 - Pair
H - Halogen Free Material	D - Fine Wire Core for Welding Cable	8. CONDUCTOR DIAMETER
P - PUR (Polyurethane)	E - Superfine Core for Welding Cable	... in mm
6. PROTECTIVE CONDUCTOR	7. NUMBER OF CORES	9. STRANDING ELEMENTS
O - Without Protective Conductor	8. PROTECTIVE CONDUCTOR	F - Star Quad (Railway)
J - Without Protective Conductor	X - Without Protective Conductor	St - Star Quad (Phantom)
7. NUMBER OF CORES	G - With Protective Conductor	StI - Star Quad (Trunk Cable)
8. CONDUCTOR CROSS SECTION	9. CONDUCTOR CROSS SECTION	StIII - Star Quad (Local Cable)
..mm ²	..mm ²	TF - Star Quad for TF
Example- NHSTOUU	Example- H05 VV-F	S - Signal Cable (Railway)
		PiMF - Screened Pair in Metal Foil
		10. TYPE OF STRANDING
		Lg - Twisted in Layers
		Bd - Twisted in Bundles
		Example- A2Y(L)2Y 6X2X0.8 Bd

Table No. 18-2

Code Designation - Instrumentation Cable BS EN 50288-7.

Abbreviation code

CableType.

Instrumentation and instrumentation control cable.

Thermocouple extension or compensation cable.

Metal Cladding of conductor.

Copper conductor, tinned.

Insulation and/or sheath materials.

Insulation, inner or outer sheath of polyvinylchloride(PVC).

Insulation, inner or outer sheath made of heat resistant polyvinylchloride (PVCw).

Outer sheath made of polyvinylchloride of increased thickness.

Insulation, inner or outer sheath made of polyethylene (PE).

Insulation made of crosslinked polyethylene (XLPE).

Inner and outer sheath made of zero halogen, flame retardant compound (LSZH).

Insulation made of silicone (Sil).

Covering made of polyamide (nylon).

Screening.

Static screen made of laminated plastic tape laminated with aluminium.

Longitudinally applied aluminium foil, one or both sides plastic-coated.

Braid made of tinned or untinned copper wires over the cable core.

Wrapping made of copper foil.

Pair in metal foil.

Triple in metal foil.

Braid of tinned or untinned copper wires over a single cabling element.

Metal sheath.

Sheath made of lead.

Armour.

Galvanised round steel wires.

Galvanised round steel wires with counter helix made of galvanised steel tape.

Galvanised flat steel wires with counter helix made of galvanised steel tape.

Double layer made of galvanised steel tapes.

Braid made of galvanised steel wires.

Further properties

Circuit Integrity (resistance to fire).

Increased flame retardancy.

Meets requirements for IEC 60332-3-24 (Cat. C) fulfilled.

1 cable core filled with petrojelly.

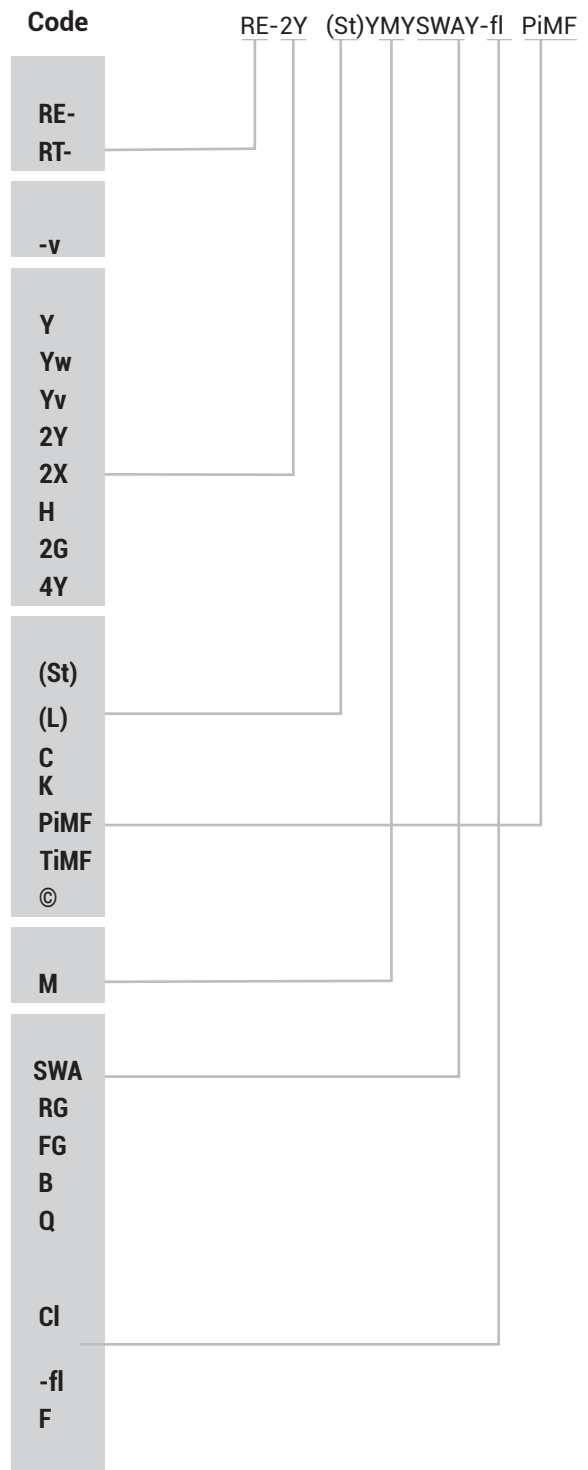


Table No. 18-3
Code Designation - Fire Alarm Cable.

Conductor.

Solid to EN 60228 class 1.
 Stranded to EN 60228 class 2.
 Stranded to EN 60228 class 5.

Outer Sheath.

LSZH.

Screen.

Overall aluminium screen.
 Overall copper braiding.

Insulation.

Mica Tape + XLPE.
 Mica Tape + Thermosetting LSZH.
 Mica Tape + Thermoplastic LSZH.
 Mica Tape + Silicone Rubber.
 Silicone Rubber.

Voltage.

300/500V.
 450/750V.
 600/1000V.

Type.

Single core unsheathed.
 300/500V & 450/750V multicore.
 Single core sheathed.
 600/1000V multicore.

Example : FFX200 05mSOZ1-R.

Code	FFX	A	B	C	D	E	F
F							
U							
R							
F							
E							
Z1							
D							
O							
C							
C							
mR							
mZ							
mZ1							
mS							
S							
B							
05							
07							
1							
A							
100							
200							
300							
400							

Table No. 19-1
Cable Handling & Storage Guideline.

Although RR Kabel's cables are durable & high quality products relatively unaffected by ambient conditions, they should be handled and stored properly to avoid incidental damage.

Reel Handling:

Upon receipt, and before acceptance of a shipment, all reels should be inspected for evidence of damage during shipment. This damage would include broken flanges, damaged wrapping or lagging, interlocked flanges, reels broken loose from their ties or blocking, etc. Any signs of such damage should immediately be reported to the carrier. If the protective wrapping or lagging is removed to inspect for possible damage during shipment, it should be replaced prior to placing the reel into long term storage. Unloading of reels from the delivery truck must be accomplished in a manner that prevents the transfer equipment from coming into contact with either the cable itself or the protective covering over the reel. A crane may be used to lift reels using a steel shaft of sufficient strength placed through the arbor holes. The shaft must be lifted using a spreader bar to prevent the lifting cable or chain from pressing against the reel flanges (see Figure 1). The force exerted by improperly positioned slings has been known to break reel flanges, resulting in damage to the cable.

If a fork lift truck is used, the forks must be placed at a 90° angle to

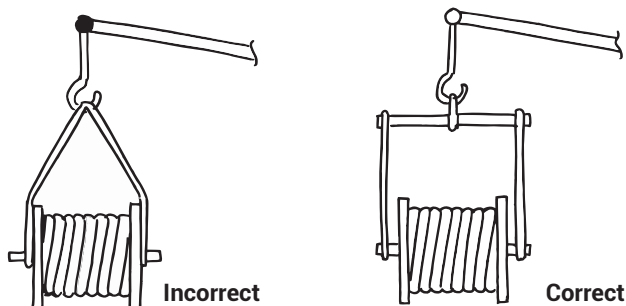
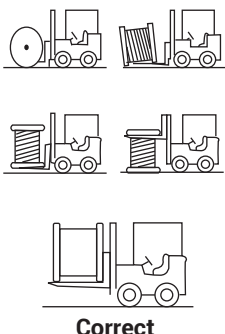


Figure-1

the flanges, and must be long enough to make contact with both flanges (see Figure 2). Under no circumstances should the forks make direct contact with the cable or protective covering. Some facilities may have an inclined ramp available for unloading reels. This ramp must be wide enough to contact both reel flanges with an adequate safety margin. The method used to stop the reel should ensure that the cable or protective covering does not come into contact with any solid object, and that the force transmitted to the reel flanges is not sufficient to damage them. Reels must not be dropped from the delivery vehicle to the ground



Correct

Figure-2



Correct

Figure-3

under any circumstances. When a reel is rolled from one point to another, care must be taken to see that the reel does not straddle objects such as rocks, pipes, or wooden blocks which could damage the cable or protective covering. A reel should always be rolled in the direction indicated by arrows stenciled on the reel. By doing so, you will ensure that the reel is rolled in such a direction as to tighten the cable on the reel. Rolling in the other direction will tend to loosen the turns of cable on the reel (see Figure 3). This can result in turns crossing over one another and subsequently causing kinks in the cable as it is removed from the reel

Storage Conditions:

Reels should be stored in an area reserved for this purpose. The location must be accessible to forklifts and trucks, but removed from areas of constant traffic. If available space prohibits separation, suitable barriers should be erected to prevent damage from moving equipment. Reels must be stored in an area where they cannot be damaged by falling objects, chemical spills including oil and grease, open flames or welding operations, and excessive heat. It is also advisable to secure the designated area to prevent theft or vandalism. Whenever possible, reels should be stored indoors to provide maximum protection. If the cable must be stored outside, the reels should be placed on a hard, well-drained surface that will prevent the reel flanges sinking into it and allowing the weight of cable and reel to rest on the cable surface. It is recommended, but not required, that cable intended for storage longer than six months have overhead protection or be covered with a suitable material such as canvas or opaque polyethylene to avoid prolonged exposure to sunlight.

If a portion of the cable is used, the open end of the cable remaining on the reel should immediately be re-sealed in a manner equivalent to the factory seal to prevent the entrance of moisture. After re-sealing, the cut end should be fixed to the inside edge of the reel flange to prevent the end from extending beyond the flanges during reel movement.

Reels should always be stored with their flanges vertical. They

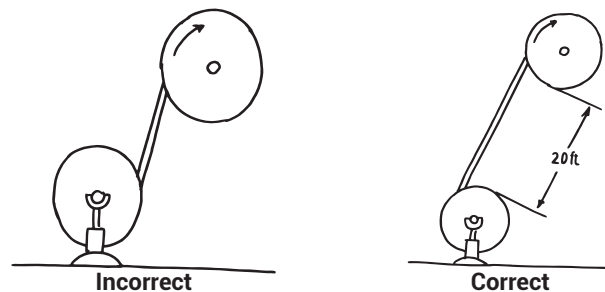


Figure-4

must not be stored on their sides or stacked one on top of another. Care should be taken that reels cannot roll into one another, so that the flange of one reel hits the surface of cable on another reel. If necessary, reel flanges should be chocked to prevent movement.

Removal of Cable from Reel:

Considerable care must be exercised in uncoiling or unreeling flexing cables since their performance is substantially influenced by the way in which they are handled. Reverse bending or twisting can cause internal

damage which can adversely affect the life of the cable. Reels should be placed on jacks or stands with a bar through the arbor holes. This will allow the reel to be turned easily, and the cable to be paid -out. Cables can be paid-out from the bottom or the top of the reel, but if they are to be removed from a shipping reel to be installed on another reel, they should be paid-out in such a manner as to follow the natural cast in the cable. Reverse bending should be avoided (see Figure 4). If possible, the distance between pay-off reel and take-up reel should be at least 20 feet to allow the cable to straighten before it is taken up on the application reel. Cable in coils should be handled in a similar manner. This can be achieved by supporting the coil in a vertical plane and rotating it by hand as the cable is carefully uncoiled (see Figure 5).

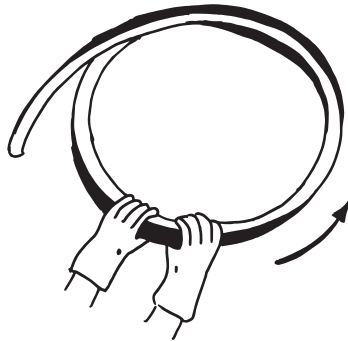
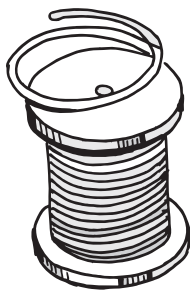
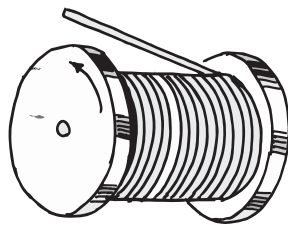


Figure-5

The cable should never be pulled over the flange of a reel, or pulled off the side of a coil, since this will introduce a twist in the cable (see Figure 6).



Incorrect



Correct

Figure-6

Cable Handling Summary :

YES



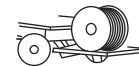
Cradle both reel flanges between forks



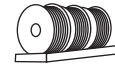
Reels can be hoisted with a shaft extended through both flanges



Place spacers under the bottom flanger and between reels to create space to insert the forks.



Lower reels from truck hydraulic gate, hoist or lift, LOWER CAREFULLY



Always load with flanges on edge and chock and block securely.

NO



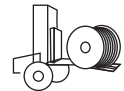
Do not lift by top flanges Cable or reel will be damaged



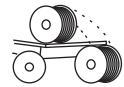
Use a spreader bar, to prevent bending the reel flanges and mashing the cable



Opened heavy reels. Will often arrive damaged. Refuse or receive subject to inspection for hidden damage.



Never allow forks to touch cable surface or reel wrap.

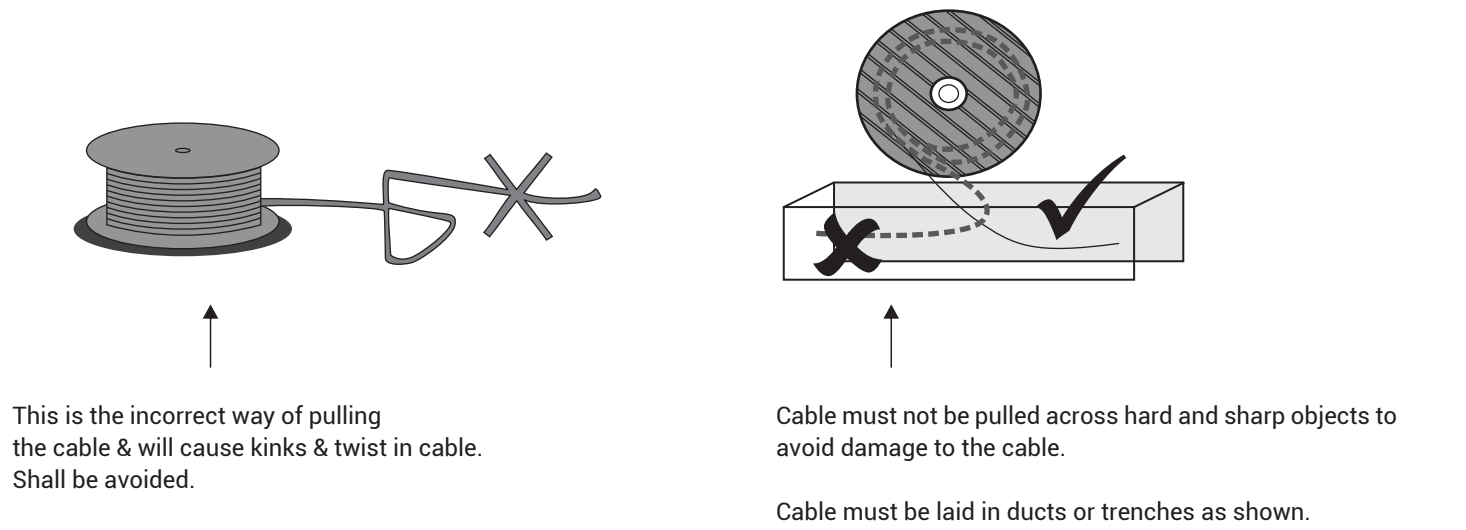
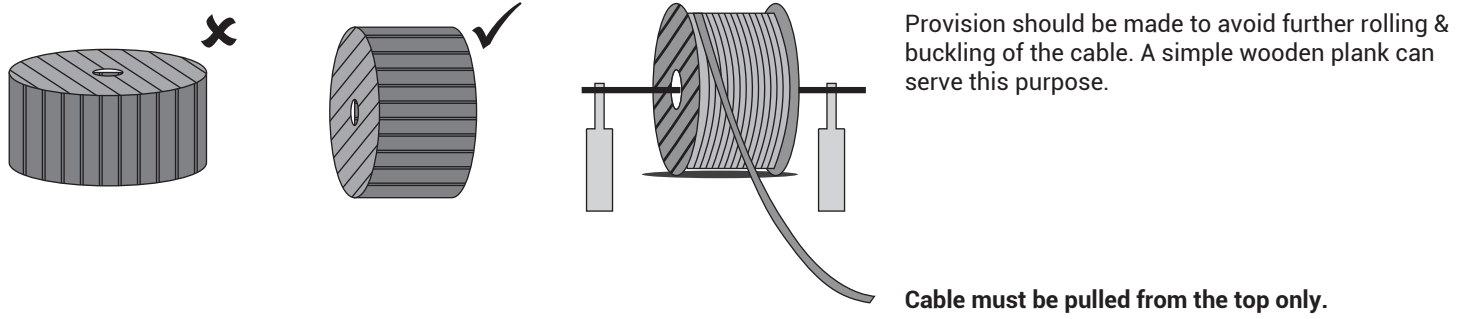


Never drop reels.

Remove all nails staples from reel flanges before moving a reel before moving a reel, and avoid all objects that could crush damage or impact the cable while it is being moved. NEVER use the cable as a means to move a reel. When re-reeling, observe recommended bending radii, use swivels to prevent twisting and avoid overruns.

Table No. 19-2
Cable Laying Guideline.

For laying of cable, special care is to be taken to prevent sharp bending, kinking and twisting. Cable should be unwound from drum by proper mounting the cable drum on a cable wheel stand. Making sure that the spindle is strong enough to carry the weight without bending and that it is lying horizontally in the bearings so as to prevent the drum creeping to one side or the other while it is rotating.





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