

SECTION - I  
**CONSTRUCTION AND  
BUILDING RANGE**

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

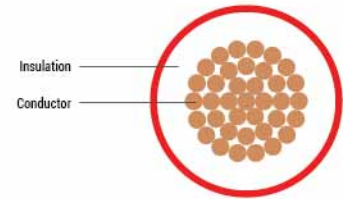
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### **XLPE/PVC 3 CORE SUBMERSIBLE FLAT CABLE WITH WALL**

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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

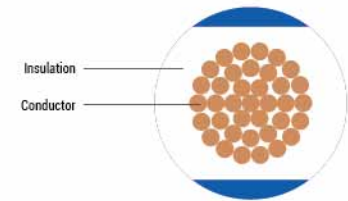
\*\*Insulation Type D as per IS 5831

### 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.

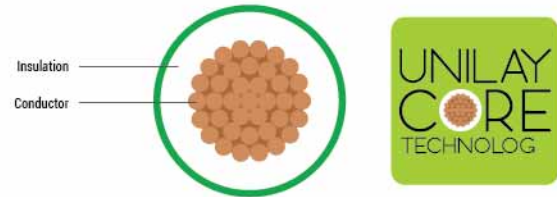
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Number *Nominal Dia. of Strands	Approx. Overall Diameter (mm)	Max. DC Conductor Resistance at 200C (Ω/km)	Current Rating (Amps)	
						Casing	Concealed
01020101xx50	1	0.7	14/0.3	2.7	18.1	14	13
01020102xx50	1.5	0.7	22/0.3	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

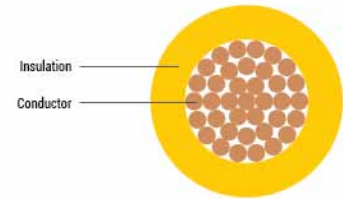
\*Conductor as per IS 8130

### 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

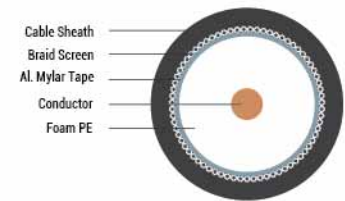
\*\* As per conductor class 5 of IS 8130

### Test Parameters for Assessment of Halogen

Test	Test Method	Values
pH	IS 17048	$\geq 4.3$
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
	Second	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.

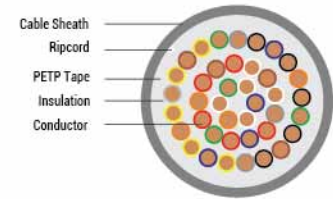
Construction Details	Cable Type - Armoured		
	RG 59 F	RG 6 F'	RG 11 F
Part Number	010501050791	010501060791	010501070791
Nominal Cable Diameter (mm)	10.5	11.4	14.6

\*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 ( $\Omega$ )	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	<b>Max.</b>	<b>Max.</b>	<b>Max.</b>
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



## 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

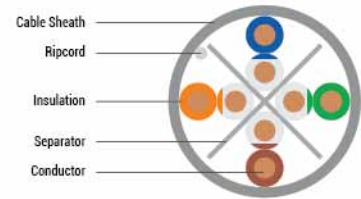
Part Numbers	Size (mm)	No. of Pairs	Approx. Overall Diameter (mm)
10600221040	0.4	2	3.9
10600321040	0.4	3	4.3
10600421040	0.4	4	4.7
10600521040	0.4	5	5.2
10601021040	0.4	10	6.5
10602021040	0.4	20	9.2
10600221050	0.5	2	4.2
10600321050	0.5	3	4.7
10600421050	0.5	4	5.1
10600521050	0.5	5	5.7
10601021050	0.5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

### Electrical Parameters

Electrical Parameters	Size	
	0.5 mm	0.4 mm
DC conductor resistance	92.20 $\Omega$ /Km at 20°C max.	143.0 $\Omega$ /Km at 20°C max.
Mutual capacitance	50 nF/km max.	
Insulation resistance in air	10000 M- $\Omega$ /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		Applicable International Standards for Cable Construction	
Max. Tensile Load :	10 Kgs. per simplex cable (Installation)	ISO/IEC 11801:2002	
Min. Bend Radius :	8 x Outer Diameter (Installation) 4 x Outer Diameter (Operation)	ISO/IEC 61156-5	
Temp. - Installation :	0°C to +50°C	EN 50173 -1:2002	
Temp. - Operation :	-10°C to +60°C	EN 50288-3-1	
		ANSI/TIA/EIA 568B-2:2002	

## Electrical Parameters at 20°C

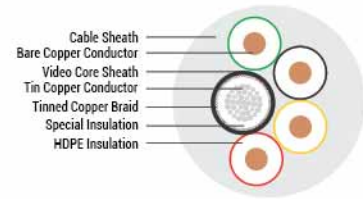
Electrical Characteristics at 20°C	Specification	Typical Performance	
		CAT 5e	CAT 6
Conductor loop resistance	Max. 190/100m	160/100m	140/100m
Conductor resistance unbalance	Max. 2%	0.5%	0.5%
Dielectric strength	1.0 kV DC or 0.7 kV AC for 1 min.	100% in process test	100% in process test
Insulation resistance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



## 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

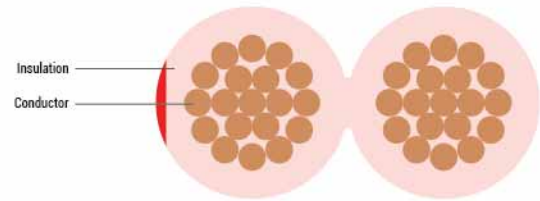
**Cable Colour :** White.

## 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.

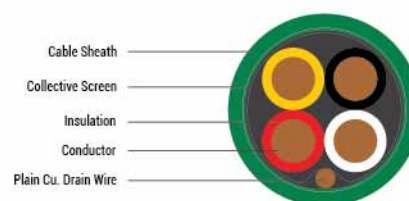
Part Number	Conductor Construction			Maximum Overall Dimensions (W X H) (mm)
	Equivalent AWG	Nominal Cross Sectional Area (Sq. mm)	Max. DC Conductor Resistance at 20°C (Ω/km)	
01090101xx10	22	0.5	39.0	4.2 x 2.1
01090102xx10	19	0.8	26.0	4.7 x 2.4
01090103xx10	18	1.0	19.5	5.7 x 2.9
01090104xx10	16	1.5	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  $\phi$

**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  $\Omega \pm 15$ .

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

Flame retardant to IEC 60332-1-2.

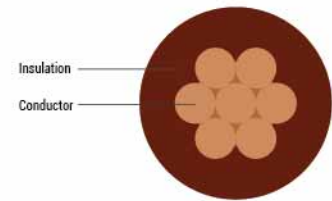
These cables can be laid over, in, or below the plaster, in pipes and pipe ducts, in dry, moist and wet areas as well as outside, provided they are protected against direct exposure to the sun. Wiring together with power supply cables is possible without limitation.

## 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 mm<sup>2</sup> to 630 mm<sup>2</sup> stranded class 2 - H07Z-R

**Temperature Range :** -15°C to 90°C

### Minimum Bending Radius

Upto 10 mm<sup>2</sup> : 3 X Overall Diameter.

16 & 25 mm<sup>2</sup> : 4 X Overall Diameter.

Above 25 mm<sup>2</sup> : 5 X Overall Diameter.

## Cable Construction

**Conductor :** Plain annealed copper conductor 1.5 mm<sup>2</sup> to 630 mm<sup>2</sup> 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

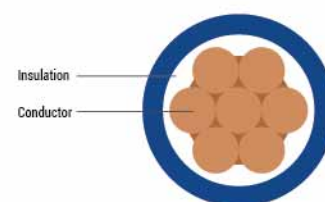


Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01130111xx60	95	1.60	14.10	17.60	950
01130112xx60	120	1.60	15.60	19.40	1240
01130113xx60	150	1.80	17.30	21.60	1530
01130114xx60	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 mm<sup>2</sup> to 630 mm<sup>2</sup> stranded class 2 - H07V-R

**Temperature Range :** -15°C to 70°C

#### Minimum Bending Radius

Upto 10 mm<sup>2</sup> : 3 X Overall Diameter.

16 & 25 mm<sup>2</sup> : 4 X Overall Diameter.

Above 25 mm<sup>2</sup> : 5 X Overall Diameter.

### Cable Construction

**Conductor :** Plain annealed copper conductor 1.5 mm<sup>2</sup> to 630 mm<sup>2</sup> 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, 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.

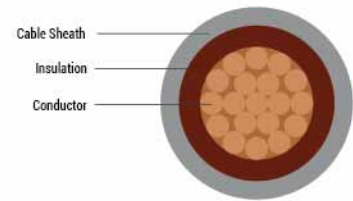
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Overall Diameter Lower Limit (mm)	Overall Diameter Upper Limit (mm)	Approx. Net Weight (kg/km)
01140101xx10	1.5	0.70	2.70	3.30	19
01140102xx10	2.5	0.80	3.30	4.00	33
01140103xx10	4	0.80	3.80	4.60	50
01140104xx10	6	0.80	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 mm<sup>2</sup> to 35 mm<sup>2</sup> - 300 / 500V

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

### Minimum Bending Radius

Upto 10 mm<sup>2</sup> : 10 X Overall Diameter.

16 & 35 mm<sup>2</sup> : 12 X Overall Diameter.

16 & 35 mm<sup>2</sup> : 12 X Overall Diameter.

**Test Voltage :** 2 kV for 15 min

## Construction

### Conductor :

Plain annealed copper conductor : 1.5 & 2.5 mm<sup>2</sup> Class -1, 4.0 to 35 mm<sup>2</sup> 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

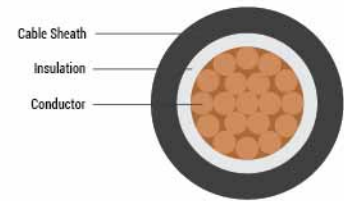
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 04 - blue, 09 - brown.

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 mm<sup>2</sup> to 630 mm<sup>2</sup> - 600 / 1000V

**Harmonised Designation** : -15 °C to 90°C

**Minimum Bending Radius**

4.0 to 50 mm<sup>2</sup> : 10 X Overall diameter.

70 & 630 mm<sup>2</sup> : 12 X Overall diameter.

**Test Voltage** : 2 kV 15 min.

## Cable Construction

**Conductor** : Plain annealed copper conductor : 4 mm<sup>2</sup> to 630 mm<sup>2</sup> 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

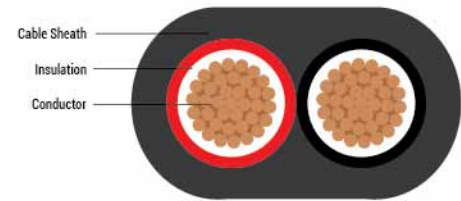
## Cable Design Parameters

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

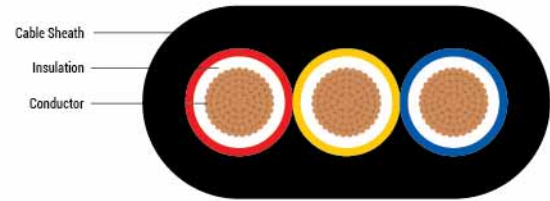
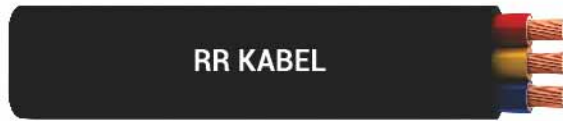
Part Number	Nominal Cross Sectional Area (Sq. mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Maximum Overall Dimension (W x H) (mm x mm)
0117110132yz	0.5	0.6	0.9	7.2 X 4.9
0117110232yz	0.75	0.6	0.9	7.8 X 5.2
0117110332yz	1	0.6	0.9	8.0 X 5.4
0117110432yz	1.5	0.6	0.9	8.6 X 5.6
0117110532yz	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.



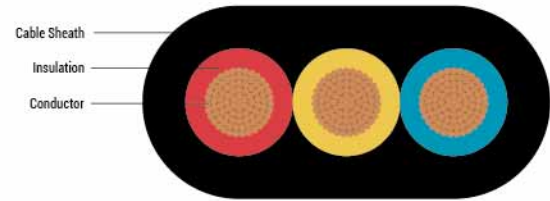
### Current rating conversion factor for deviating ambient temperature

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

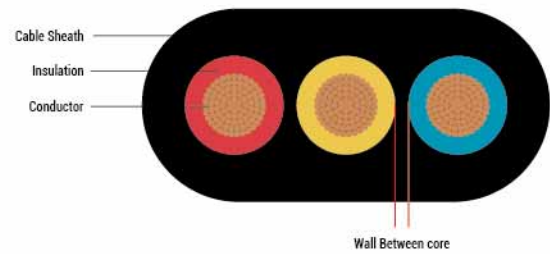
1 – PVC 70°C, 3 - PVC HR 85°C.

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

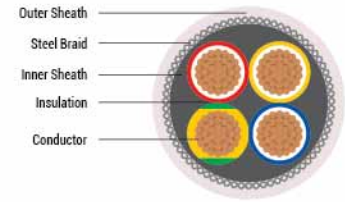
Cross sectional area (Sq. mm)	No of Strands / Max. strand dia. (mm)	Nominal Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Approx. overall dimensions (W X H) (mm)	Max DC Conductor Resistance @ 20°C (Ω/Km)	Current carrying capacity (Ampere)
1.5	22/0.3	0.7	0.9	12.4 x 5.0	12.10	20
2.5	36/0.3	0.7	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 reevaluation.

## 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.