KĀBEL

Submersible Cables

R R Kabel is a part of R R Global, which is one of the leading conglomerates in the electrical sector. Working with determination to produce products with best technologies, R R Kabel has always made the latest advances in wire design and engineering. Today, R R Kabel offers the latest and widest range of premium wires & cables for various residential, commercial, industrial and infrastructure purposes.

For us at R R Kabel think wires are not just objects, we believe that wires play the role of nerves in the body. When you believe this, you have designers, engineers, fabricators, and other partners who need to have incredible design and commitment to pursue and create a product that can be trusted, and relied upon.

We believe that the future of design lies with innovation that instigates one to push boundaries, eliminate borders between sciences. The materials we use may sometimes be unique, sometimes experimental, many are collaborations but they all represent extraordinary research and dedication by engineers, designers and visionaries.

R R Kabel is constantly emerging with new marketing and technical perspectives that are globally significant, we are aiming to create significance of our multi-faceted range when designing making it better environment and the customers.

SUBMERSIBLE CABLES

CROSS SECTIONAL VIEW

PVC/PVC SUBMERSIBLE FLAT CABLE

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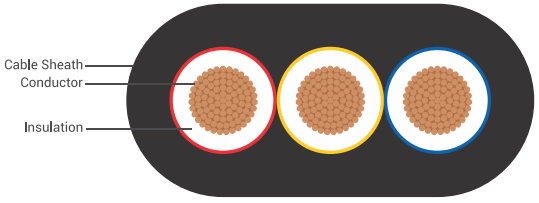

Application

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 condition of usage, excellent resistant to water, conditionally resistant to water and grease.

Technical Data

Approvals : IS 694 marked, FIA/TAC

Conductor : Electrolytic grade annealed copper

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

Sheath Colour : Black

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 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	Nominal Cross Sectional Area (Sq. mm)	No of Strands / Max. strand dia. (mm)	Nom. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Maximum Overall Dimension (W x H) (mm x mm)
0118110102y1	0.5	16/0.2	0.6	0.9	9.6 X 4.9
0118110202y1	0.75	24/0.2	0.6	0.9	10.5 X 5.2
0118110302y1	1	32/0.2	0.6	0.9	11.0 X 5.4
0118110402y1	1.5*	22/0.3	0.6	0.9	12.0 X 5.6
0118110502y1	2.5*	36/0.3	0.7	1.0	13.0 X 6.2
0118110602y1	4	56/0.30	0.8	1.0	15.3 X 7.1
0118110702y1	6	84/0.30	0.8	1.1	19.2 X 8.4

Part Number	Nominal Cross Sectional Area (Sq. mm)	No of Strands / Max. strand dia. (mm)	Nom. Insulation Thickness (mm)	Nominal Sheath Thickness (mm)	Maximum Overall Dimension (W x H) (mm x mm)
0118110802y1	10	140/0.30	1.0	1.4	24.2 X 10.4
0118110902y1	16	126/0.40	1.0	1.4	29.0 X 12.4
0118111002y1	25	196/0.40	1.2	2.0	36.5 X 15.7
0118111102y1	35	276/0.40	1.2	2.0	40.5 X 17.2
0118111202y1	50	396/0.40	1.4	2.2	46.5 X 19.3
0118111302y1	70	360/0.50	1.4	2.2	52.0 X 21.0
0118111402y1	95	480/0.50	1.6	2.4	61.0 X 24.5

*Conductor configuration offered for 1.5 Sq. mm - 22 / 0.3 mm, 2.5 Sq. mm - 36 / 0.3 mm (max.), class 2 as per IS 8130.

Current rating & voltage drop for PVC/PVC sheathed multicore cables as per IS 694.

Nominal Cross-Section Area of Conductor (mm^2)	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

Note:
* Conductor class 2 as per IS 8130

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
30	1.09
40	1.00
45	0.78
50	0.70
55	0.60
60	0.48

Note: For DC resistance, refer technical information table.

XLPE/PVC SUBMERSIBLE FLAT CABLE 1.1 KV

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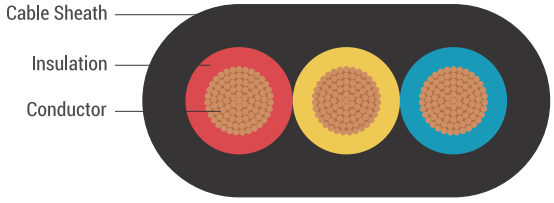

XLPE-PVC flat cables are manufactured with rigid manufacturing controls to sustain complete immersion in water and protection against rain water. The conductors are uniformly drawn from high purity electrolytic grade copper on high precision drawing machines with superb flexibility. Compactly bunched to offer uniform resistance across all conductors extruded on dual screw extrusion machine with inline monitoring of cable diameter and high voltage spark testing.

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

Insulation : Cross linked polyethylene XLPE

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

Sheath : PVC Type ST2 IEC 60502-1 with excellent water resistant properties

Sheath Colour : Black

Variants Available

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

Cable Design Parameters:

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 (Amp.)
	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	3.30	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

Ambient Temperature (°C)	25	30	35	40	45	50
Factor	1.18	1.12	1.06	1.00	0.94	0.88

Note: For DC resistance, refer technical information table.

Technical Information

Max. DC Resistance - IS 8130/EN 60228

Max. DC Conductor resistance as per EN 60228/IS 8130 for conductor made of soft-annealed copper.

Nominal Cross-Section (mm²)	Max. DC Conductor resistance at 20°C (Ω/km)			
	Tin Coated Copper Conductor		Plain Copper Conductor	
	Class 1*/2	Class 5/6	Class 1*/2	Class 5/6
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	2.21	7.41	7.98
4	4.70	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	0.780
35	0.529	0.565	0.524	0.554
50	0.391	0.393	0.387	0.386
70	0.270	0.277	0.268	0.272
95	0.195	0.210	0.193	0.206

Note:

* In accordance to
- IS 8130, class 2, plain and tin coated copper from 1 Sq. mm onwards.
- EN 60228, class 2, plain and tin coated copper from 0.5 Sq. mm onwards.