



SWITCH BOARD UNSCREENED CABLE

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TITLE: GENERAL TECHNICAL PARTICULARS FOR SOLID ANNEALED COPPER CONDUCTOR, PE INSULATED, PVC INNER SHEATH, SINGLE LAYER G.I. ROUND WIRE, PVC SHEATHED ARMoured COMMUNICATION UNSCREENED CABLE

TECHNICAL DESCRIPTION	DETAILS
Make	Polycab India Ltd.
Cable Type	Switch Board Unscreened Cable
Applicable Standards	Generally Spec. No. GR/WIR-06/03 MAR 2002
Number of Pairs	20 Pairs
Conductor	
a) Material	Solid Annealed bare Copper
b) Size	0.50mm
Insulation	Solid Polythene
a) Material	HDPE (Type III, Conforming to ASTM D 1248)
b) Min. Thickness of insulation (mm)	The thickness of insulation shall be adequate to meet the electrical requirement
c) Method of Application	Extrusion
d) Color scheme for identification of cores	As per IS – 9938
Colors Combination	Table – 2 of GR/WIR-06/03 & Table – 2 of GR/CUG-01/03AUG.2003
Twining	Two insulated conductors uniformly twisted together to form a pair. With suitable right hand lay
Group Twining	2pairs Twisted together to for Laid-up of 2Pairs . 5 pairs Twisted together to for Laid-up of 5 Pairs . 10 pairs Twisted together to for Laid-up of 10 Pairs . 20 pairs Twisted together to for Laid-up of 20 Pairs (As per Below Annexure) . 50 pairs Twisted together to for Laid-up of 50 Pairs (As per Below Annexure) . 100 pairs Twisted together to for Laid-up of 100 Pairs (As per Below Annexure) .

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Note: -The values given above are subject to tolerances as per the relevant standards.

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Unit Identification	Unit is identified by wrapping colored polypropylene binder.
Laid up	The units shall be laid up as per cable size and construction. Cable core is wrapped by longitudinally application of non-hygroscopic Polyester tape with suitable overlap (applicable for 50 & 100Pr)
Rip Cord	A nonmetallic suitable Rip cord shall be laid-up longitudinally under the sheath. It shall provide an effective means of slitting the sheath longitudinally to facilitate removal.
Inner Sheath	
a) Material	PVC
b) Color	Grey
c) Type	ST 1 conforming to (As per IS – 5831)
d) Thickness (Minimum)	For 2 & 5Pr → 0.65mm, For 10 – 20Pr → 0.75mm, For 50 Pr → 1.10mm, For 100 Pr → 1.40mm
Armouring	
a) Material	G.I. WIRE (As per IS 3975)
b) Wire Dia (mm)	For 2 - 20Pr → 0.90mm, For 50 & 100 Pr → 1.60mm,
Outer Sheath	
a) Material	PVC (As per IS – 5831)
b) Type	ST1
c) Color	Grey
d) Thickness (Minimum)	For 2 - 20 Pr → 1.24mm, For 50 & 100 Pr → 1.40mm, For 2Pr → 50±2mm, For 5Pr → 10.0±2mm, For 10Pr → 12.0±2mm, For 20Pr → 14.5±2mm, 50 Pr → 22.5±2mm, 100 Pr → 29.0±3mm
e) Nom. Diameter (mm)	
Electrical Test	
0.50 mm Conductor	
a) Conductor Resistance (Max)	92.2 Ω/Km
b) Capacitance Unbalance (Pr to Pr) (Max)	230 pF/km
c) Insulation Resistance (Min.)	50 MΩ/Km
d) Dielectric Strength (DC Voltage) 3 kV DC or 2 kV RMS Applied between each conductor and the remaining conductor bunch and earth	Withstand for 1 Minutes. There should not any breakdown of the insulation.
Standard Length in Coil/drum	1000mtr ± 10%
Length Marking	Every one-meter marking
Prominently Printing Marking on the Cable	YEAR CABLE SIZE POLYCAB +Seq.mtr marking
Type of Drum offered and its dimensions	Drum and dimension as per manufacturer discretion

PAIR IDENTIFICATION					
Pairing	Color of Insulation		Pairing	Color of Insulation	
Element	Cond "A"	Cond "B"	Element	Cond "A"	Cond "B"
1	White	Blue	11	Yellow	Blue
2	White	Orange	12	Yellow	Orange
3	White	Green	13	Yellow	Green
4	White	Brown	14	Yellow	Brown
5	White	Grey	15	Yellow	Grey
6	Red	Blue	16	Black	Blue
7	Red	Orange	17	Black	Orange
8	Red	Green	18	Black	Green
9	Red	Brown	19	Black	Brown
10	Red	Grey	20	Black	Grey

CABLE MAKE-UP		
No of Pairs	Make-up	Identification Binder
2 Pair	2 Pr	N.A
5 Pair	5 Pr	If any (Blue, Orange, Green, Brown, Grey)
10 Pair	10 Pr	If any (Blue, Orange, Green, Brown, Grey)
20 Pair	20Pr	If any (Blue, Orange, Green, Brown, Grey)
50 Pair	5 + 10Pr	(Blue, Orange, Green,Brown,Grey)
100 Pair	5 x 20 Pr	(Blue, Orange, Green,Brown,Grey)