



Customer :

Technical Particulars of PVC Instrumentation Cables

| S.No | Particulars | UNIT | 10C X 1.5 | 12C X 1.5 | 14C X 1.5 | 16C X 1.5 | 18C X 1.5 | 19C X 1.5 | 24C X 1.5 |
|-------|---|------------|---|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1 | Name of Manufacturer | | Polycab Wires Pvt. Ltd, | | | | | | |
| 2 | Type of Cable | | Overall Screened PVC insulated Armored Instrument Cable | | | | | | |
| 3 | No of Elements X Size in mm ² | No X Sq.mm | 10C X 1.5 | 12C X 1.5 | 14C X 1.5 | 16C X 1.5 | 18C X 1.5 | 19C X 1.5 | 24C X 1.5 |
| 4 | Voltage Grade | Volts | 500 | | | | | | |
| 5 | Applicable standard (S) | | Generally as per BSEN 50288-7 | | | | | | |
| 6 | Conductor | | | | | | | | |
| a) | Material | | Annealed Plain Stranded of class2 Electrolytic grade Copper | | | | | | |
| b) | Maximum d.c. resistance of conductor at 20° C | Ω/km | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 |
| c) | Shape of conductor | | Stranded Circular | Stranded Circular | Stranded Circular | Stranded Circular | Stranded Circular | Stranded Circular | Stranded Circular |
| 6 | Insulation | | | | | | | | |
| a) | Material | | Extruded PVC Type 'A' | | | | | | |
| b) | Minimum Thickness | mm | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 | 0.44 |
| c) | Core Identification | | All Cores Grey With Number Printing | | | | | | |
| 7 | Collective Screen | | | | | | | | |
| a) | Material | | Aluminium mylar tape | | | | | | |
| b) | Nominal Thickness | mm | 0.018 | | | | | | |
| c) | Material of Drain Wire | | Flexible ATC | | | | | | |
| d) | Size of Drain Wire | Sq.mm | 0.5 mm ² (16/0.2 mm) | | | | | | |
| 8 | Innersheath | | | | | | | | |
| a) | Material | | Extruded PVC Type ST1 | | | | | | |
| b) | Minimum Thickness | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| 9 | Armouring | | | | | | | | |
| a) | Material | | Gal. Steel | Gal. Steel | Gal. Steel | Gal. Steel | Gal. Steel | Gal. Steel | Gal. Steel |
| b) | Type of armouring | | Round Wire | Round Wire | Round Wire | Round Wire | Round Wire | Round Wire | Flat Strip |
| c) | Nominal size of armour | mm | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 4.0 x 0.8 |
| 10 | Outersheath | | | | | | | | |
| a) | Material | | Extruded FRLS PVC Type ST1 | | | | | | |
| b) | Thickness | mm | 1.24 (Min.) | 1.24 (Min.) | 1.24 (Min.) | 1.24 (Min.) | 1.24 (Min.) | 1.24 (Min.) | 1.40 (Min.) |
| c) | Colour Of Outersheath | | Blue | Blue | Blue | Blue | Blue | Blue | Blue |
| 11 a) | Maximum conductor temperature under normal operating conditions | °C | 70 | | | | | | |
| b) | Maximum conductor temperature at the termination of short circuit | °C | 160 | | | | | | |
| c) | Short Circuit rating of conductor for the duration of 1 sec | kA/Sec | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 |
| 12 | Minimum bending radius | mm | 12 times Overall diameter | | | | | | |
| 13 | Electrical Parameters | | | | | | | | |
| a) | temperature | Ω/km | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| b) | Mutual capacitance | nf/km | <250 | <250 | <250 | <250 | <250 | <250 | <250 |
| c) | Insulation resistance | MΩ/km | 10 | 10 | 10 | 10 | 10 | 10 | 10 |



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|------|---|----------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|
| d) | Inductance to resistance ratio (L/R) | $\mu\text{H}/\Omega$ | <25 | <25 | <25 | <25 | <25 | <25 | <25 |
| e) | Dielectric strength for 1 minute (H.V Test) | kV | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 16 | Max. tensile strength for Cables pulled with stocking | Newtons | 9 x D ² , D is the cable OD in mm | | | | | | |
| 15 | Approximate Overall diameter of cable | mm | 16.5 | 17.0 | 17.5 | 18.0 | 19.0 | 19.0 | 22.0 |
| 16 | FRLS PROPERTIES | | | | | | | | |
| a) | Oxygen Index | | Min. 29% as per ASTM D- 2863 | | | | | | |
| b) | Temperature Index | | Min. 250 Deg.C as per ASTM D- 2863 | | | | | | |
| c) | Smoke Density Rating | | Max. 60% as per ASTM D- 2843 | | | | | | |
| d) | Acid Gas Generation | | Max. 20% as per IEC- 754- 1 | | | | | | |
| e) | Flammability Test | | As per IEC:332-I | | | | | | |
| 17 | Embossing | | POLYCAB 500 VOLTS GRADE FRLS | | | | | | |
| 18 | Printing | | YEAR POLYCAB 500 VOLTS GRADE FRLS No of Core x Sqmm SCREENED WITH SEQUENTIAL MARKING AT EVERY ONE METER.. | | | | | | |

FOR POLYCAB WIRES PVT LTD