

## SOLAR CABLES

### Application:

Solar cables are used for inter-connections between solar panels and other electrical components of the D.C. system.

### Types & Sizes:

Typically Single core cables up to 630 sq.mm for voltage grade up to 3.3 kV

### Conductor:

Aluminium – Stranded (Circular) or  
Copper – Stranded or  
Flexible (Circular, Compacted)

### Insulation:

XLPE, XLPO, HEPR, LSZH

### Armour:

Aluminium Wire (Optional)

### Separators & Additional Layers:

Water swellable tapes, Polyamide layer (Optional)

### Outer Sheath:

PVC, HDPE, FR PE, LSZH

### Specifications:

Generally conforming to EN 50618, IS 7098 (Pt 1 & 2), HD 603S1, IEC 60502-1, AS/NZS 5000-1

### Key Features:

- (a) UV resistant, water resistant.
- (b) Weather and ozone resistant.
- (c) Long life expectancy under tough conditions.

### Note

⦿ The technical data given is for reference only and may be revised without notice. The current ratings are given for Air Temperature @ 40°C, Ground/Duct Temperature @ 30°C, Thermal Resistivity of soil 1.5 km/W, Depth of laying 900 mm and may vary if the site conditions are different. The de-rating factors can be provided on request.

### Technical Data

**Single Core, Aluminium Conductor, XLPE Insulated, LSZH / PVC Sheathed, Armoured Cable**  
1100 V (AC) / 1500 V (DC) as per IS: 7098 (Pt-1), 1900 V (AC) / 3300 V (DC) as per IS: 7098 (Pt-2)

| Cross sectional area | 1.1 kV                       |              | 3.3 kV                       |              | Max. D.C conductor resistance at 20°C | Short circuit rating @ 250 deg for 1 Sec duration | A.C Current Rating |                  |         |                    |                  |         | 1.1 kV                      |                      | 3.3 kV                      |                      |
|----------------------|------------------------------|--------------|------------------------------|--------------|---------------------------------------|---------------------------------------------------|--------------------|------------------|---------|--------------------|------------------|---------|-----------------------------|----------------------|-----------------------------|----------------------|
|                      | Thickness of XLPE insulation | Overall dia. | Thickness of XLPE insulation | Overall dia. |                                       |                                                   | 1.1 kV             |                  |         | 3.3 kV             |                  |         | Reactance of cable at 50 Hz | Capacitance of cable | Reactance of cable at 50 Hz | Capacitance of cable |
|                      |                              |              |                              |              |                                       |                                                   | In air             | Direct in ground | In duct | In air             | Direct in ground | In duct |                             |                      |                             |                      |
| Nom.                 | Nom.                         | Approx.      | Nom.                         | Approx.      |                                       |                                                   | For reference only |                  |         | For reference only |                  |         | Approx.                     | Approx.              | Approx.                     | Approx.              |
| sq.mm                | mm                           | mm           | mm                           | mm           | Ω/km                                  | kA                                                | Amps.              |                  |         | Amps.              |                  |         | Ω/km                        | µf/km                | Ω/km                        | µf/km                |
| 10                   | 1                            | 11.5         | —                            | —            | 3.08                                  | 0.940                                             | 64                 | 69               | 58      | —                  | —                | —       | 0.133                       | 0.31                 | —                           | —                    |
| 16                   | 1                            | 12.5         | —                            | —            | 1.91                                  | 1.50                                              | 84                 | 89               | 75      | —                  | —                | —       | 0.122                       | 0.40                 | —                           | —                    |
| 25                   | 1.2                          | 14.0         | 2.5                          | 16.5         | 1.20                                  | 2.40                                              | 112                | 115              | 96      | 110                | 100              | 91      | 0.116                       | 0.40                 | 0.133                       | 0.25                 |
| 35                   | 1.2                          | 15.0         | 2.5                          | 17.5         | 0.868                                 | 3.30                                              | 137                | 137              | 115     | 135                | 120              | 110     | 0.110                       | 0.47                 | 0.126                       | 0.29                 |
| 50                   | 1.3                          | 16.5         | 2.5                          | 19.0         | 0.641                                 | 4.70                                              | 165                | 161              | 135     | 165                | 140              | 125     | 0.103                       | 0.50                 | 0.122                       | 0.33                 |
| 70                   | 1.4                          | 18.0         | 2.5                          | 19.5         | 0.443                                 | 6.60                                              | 209                | 198              | 165     | 210                | 175              | 155     | 0.099                       | 0.55                 | 0.116                       | 0.38                 |
| 95                   | 1.4                          | 19.0         | 2.5                          | 21.0         | 0.320                                 | 9.00                                              | 264                | 243              | 199     | 255                | 205              | 185     | 0.097                       | 0.64                 | 0.111                       | 0.44                 |
| 120                  | 1.5                          | 20.0         | 2.5                          | 22.0         | 0.253                                 | 11.30                                             | 308                | 276              | 226     | 295                | 235              | 210     | 0.093                       | 0.67                 | 0.106                       | 0.49                 |
| 150                  | 1.7                          | 22.5         | 2.5                          | 24.0         | 0.206                                 | 14.20                                             | 350                | 308              | 252     | 335                | 260              | 230     | 0.091                       | 0.67                 | 0.103                       | 0.53                 |
| 185                  | 1.9                          | 24.5         | 2.5                          | 26.0         | 0.164                                 | 17.50                                             | 406                | 349              | 285     | 390                | 295              | 260     | 0.090                       | 0.67                 | 0.100                       | 0.58                 |
| 240                  | 2                            | 27.0         | 2.5                          | 28.0         | 0.125                                 | 22.60                                             | 480                | 404              | 329     | 460                | 340              | 300     | 0.086                       | 0.72                 | 0.097                       | 0.67                 |
| 300                  | 2.1                          | 29.5         | 2.5                          | 30.5         | 0.100                                 | 28.30                                             | 551                | 454              | 369     | 530                | 385              | 335     | 0.085                       | 0.75                 | 0.095                       | 0.73                 |
| 400                  | 2.4                          | 33.0         | 2.6                          | 33.5         | 0.0778                                | 37.70                                             | 647                | 518              | 421     | 620                | 440              | 380     | 0.085                       | 0.75                 | 0.093                       | 0.84                 |
| 500                  | 2.6                          | 36.5         | 2.8                          | 37.0         | 0.0605                                | 47.00                                             | 751                | 588              | 476     | 730                | 495              | 430     | 0.083                       | 0.77                 | 0.091                       | 0.86                 |
| 630                  | 2.8                          | 41.5         | 3.0                          | 42.0         | 0.0469                                | 59.22                                             | 868                | 663              | 536     | 840                | 560              | 485     | 0.082                       | 0.81                 | 0.090                       | 0.88                 |

**Cables that are built for every task,  
for every environment, anywhere in the world.**

### Power Cables



### Control Cables



### Instrumentation & Signal Cables



### Thermocouple Extension/Compensating Cables



### Rubber & Silicon Cables



### Mining Cables



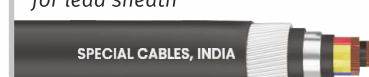
### Solar Cables



### Marine & Offshore Cables



### Multi-layer Cables (AL-HDPE-PA) *Eco-friendly substitute for lead sheath*



### Fire Survival/ Fire Resistant Cables



### Fire Alarm Cables *FireFence®: FA-SD (Standard) and FA-EH (Enhanced)*



### High Temperature Cables



### VFD/ VSD Cables



### Foundation Fieldbus/ Profibus Cables



### Railway Power & Signalling Cables



### House/ Building Wires



### Flexible Multicore Cables



### Flat Cables



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