



MEDIUM VOLTAGE ARMoured CABLES: IEC 60502-2

Application

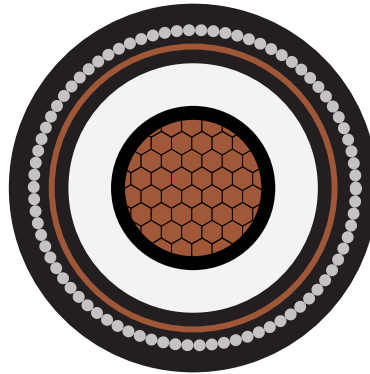
These Medium Voltage Single Core & Three Core Cables are Designed for Electricity Power Distribution, Suitable for Installation in Power Supply Stations, Commercial, Industrial and Urban Residential Networks, Indoors and in Cable Ducts, Outdoors, Undergrounds and as well as for Installation on Cable Trays for industries, Switchboards and the power Stations with Nominal Voltage U_0/U Ranging from 3.6/6 kV to 18/30 kV.

Construction

- Conductor** : Annealed Plain Copper or Aluminium Compacted Round Stranded Conductors to carry Current and withstand Pulling Stresses During Cable Laying.
Conductors Complying with IEC 60228
- Inner Semi-Conducting Screen** : Extruded Layer of Semi-Conducting Screen over Conductor to Smooth the Electric Field at the Conductor and Firmly Bonded to the Insulation to exclude all air voids and Prevent Concentration of electric field of the interface between the Insulation and the Inner Semi-Conductor. Semi-Conducting Compound Complying with IEC 60502-2
- Insulation** : The Insulation of XLPE (Cross-Linked Polyethylene) Rated Voltage, Lightning Overvoltage, Switching Overvoltage and Withstand the Various Voltage Field Stress During the Cable Service Life as per IEC 60502-2
- Core Semi-Conducting Screen** : Extruded Layer of Semi-Conducting Screen over the Insulation. The Screen is Tightly Fitted to the Insulation to Exclude all air Voids, Prevent Concentration of electric field of the interface between the Insulation and the Semi-Conductor. Semi-Conducting Compound Complying with IEC 60502-2
- Metallic Screen** : The Metallic Screen Shall Consist of Copper Tape. The Metallic Layer may be applied over the Individual Cores. Metallic Screen Provide no Electric Field outer side of the Cable.
- Filler (Optional)** : Non Hygroscopic filler
- Inner Sheath** : The Inner-sheath Comprises a layer of Extruded as per Requirement PVC or LSZH, Applied Under the Armour, Inner-sheath Compound Complying with IEC 60502-2
- Armour** : The Armour Consists of Round Aluminium Wire for Single Core Cable, And Round Galvanized Steel Wire Armour. Applied over the Inner-sheath. Armour Material Complying with IEC 60502-2
- Outer Sheath** : The Outer-sheath Comprises a layer of Extruded as per Requirement PVC or LSZH, Applied Over the Armour to Insulate the Metallic Screen From the Surrounding Medium, to Protect the Metallic Screen From Corrosion, to Reduce the contribution of cables to Fire Propagation and Contribute to Mechanical Protection. Outer sheath Compound Complying with IEC 60502-2
- Temperature Range** : Minimum Conductor Operating Temperature : -15°C (XLPE INSULATION)
Maximum Conductor Operating Temperature: 90°C (XLPE INSULATION)
Short Circuit Temperature: 250°C (5 Seconds Maximum Duration)(XLPE INSULATION)
- Bending Radius** : Single Core Armoured: 20D
Three Core Armoured: 12D
D = Outer Diameter of Cable

Note:

As per customer requirement cables can be manufacture as per BS 6622 (PVC sheathed) & BS 7835 (LSZH sheathed).



1 Core Cables - 18/30 KV, CU Or AL Conductor, XLPE Insulation, Metallic Screen: Copper Tape, AL. Wire Armoured, PVC Sheathed

| DIMENSIONAL DATA | | | | | | |
|---------------------|----------------------------|------------------------------|------------------------|------------------|----------------------------------|--------------------|
| Catalogue Number | Nominal Cross Section Area | Nominal Insulation Thickness | Inner Sheath Thickness | Armour Wire Size | Nominal Overall Sheath Thickness | Approx Overall Dia |
| | SQ.MM | MM | MM | MM | MM | MM |
| NMV30CT*2XAWYSC0500 | 50 | 8 | 1.2 | 2.0 | 2.2 | 38 |
| NMV30CT*2XAWYSC0700 | 70 | 8 | 1.2 | 2.0 | 2.2 | 41 |
| NMV30CT*2XAWYSC0950 | 95 | 8 | 1.2 | 2.0 | 2.3 | 42 |
| NMV30CT*2XAWYSC1200 | 120 | 8 | 1.2 | 2.0 | 2.3 | 45 |
| NMV30CT*2XAWYSC1500 | 150 | 8 | 1.3 | 2.5 | 2.4 | 47 |
| NMV30CT*2XAWYSC1850 | 185 | 8 | 1.3 | 2.5 | 2.5 | 48 |
| NMV30CT*2XAWYSC2400 | 240 | 8 | 1.3 | 2.5 | 2.6 | 52 |
| NMV30CT*2XAWYSC3000 | 300 | 8 | 1.4 | 2.5 | 2.6 | 54 |
| NMV30CT*2XAWYSC4000 | 400 | 8 | 1.4 | 2.5 | 2.7 | 58 |
| NMV30CT*2XAWYSC5000 | 500 | 8 | 1.5 | 2.5 | 2.9 | 61 |
| NMV30CT*2XAWYSC6300 | 630 | 8 | 1.6 | 2.5 | 2.9 | 64 |

Notes: *V(*) ADD "A" for Aluminium cable & "C" for Copper cable

The above data is indicative & may be changed without prior information.

| ELECTRICAL DATA | | | | | | | | | | | | | | | | | | | |
|----------------------------|--------------------|--------------------|--|-------|-------------|------------------|---|----------------------|----------------------|------------|-------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----|----|
| Nominal Cross Section Area | D.C Resistance | | Short Circuit Rating of Conductor 1 sec. | | Capacitance | Charging Current | Short Circuit Rating of Copper Tape Screen 1 Sec. | Reactance | | Inductance | | Impedance | | | | | | | |
| | CU | AL | CU | AL | | | | Trefoil | Flat Spaced | Trefoil | Flat Spaced | Trefoil | | Flat Spaced | | CU | AL | CU | AL |
| | | | | | | | | | | | | Ω/km | Ω/km | kA | kA | | | | |
| Sq.mm | Ω/km | Ω/km | CU | AL | kA | kA | kA | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | nH/m | nH/m | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | $\mu\Omega/\text{m}$ | | |
| 50 | 0.387 | 0.641 | 7.15 | 4.72 | 138 | 0.83 | 1.0 | 151 | 214 | 480 | 680 | 511 | 834 | 527 | 844 | 527 | 844 | | |
| 70 | 0.268 | 0.443 | 10.01 | 6.61 | 154 | 0.92 | 1.0 | 144 | 201 | 460 | 640 | 364 | 583 | 386 | 597 | 386 | 597 | | |
| 95 | 0.193 | 0.32 | 13.58 | 8.97 | 169 | 1.01 | 1.1 | 138 | 195 | 440 | 620 | 272 | 427 | 300 | 446 | 300 | 446 | | |
| 120 | 0.153 | 0.253 | 17.16 | 11.33 | 183 | 1.1 | 1.1 | 132 | 188 | 420 | 600 | 225 | 345 | 257 | 367 | 257 | 367 | | |
| 150 | 0.124 | 0.206 | 21.45 | 14.16 | 194 | 1.16 | 1.2 | 126 | 182 | 400 | 580 | 193 | 287 | 229 | 313 | 229 | 313 | | |
| 185 | 0.0991 | 0.164 | 26.45 | 17.46 | 210 | 1.26 | 1.2 | 122 | 182 | 390 | 580 | 165 | 237 | 206 | 267 | 206 | 267 | | |
| 240 | 0.0754 | 0.125 | 34.32 | 22.66 | 229 | 1.37 | 1.3 | 119 | 176 | 380 | 560 | 140 | 191 | 185 | 226 | 185 | 226 | | |
| 300 | 0.0601 | 0.100 | 42.9 | 28.32 | 249 | 1.49 | 1.4 | 113 | 173 | 360 | 550 | 126 | 163 | 174 | 203 | 174 | 203 | | |
| 400 | 0.0470 | 0.0778 | 57.2 | 37.76 | 273 | 1.64 | 1.5 | 107 | 163 | 340 | 520 | 113 | 141 | 164 | 184 | 164 | 184 | | |
| 500 | 0.0366 | 0.0605 | 71.5 | 47.2 | 298 | 1.79 | 1.6 | 104 | 163 | 330 | 520 | 105 | 124 | 158 | 171 | 158 | 171 | | |
| 630 | 0.0283 | 0.0469 | 90.09 | 59.47 | 327 | 1.96 | 1.7 | 100 | 160 | 320 | 510 | 97 | 110 | 151 | 160 | 151 | 160 | | |