



Caledonian

High Voltage Cables

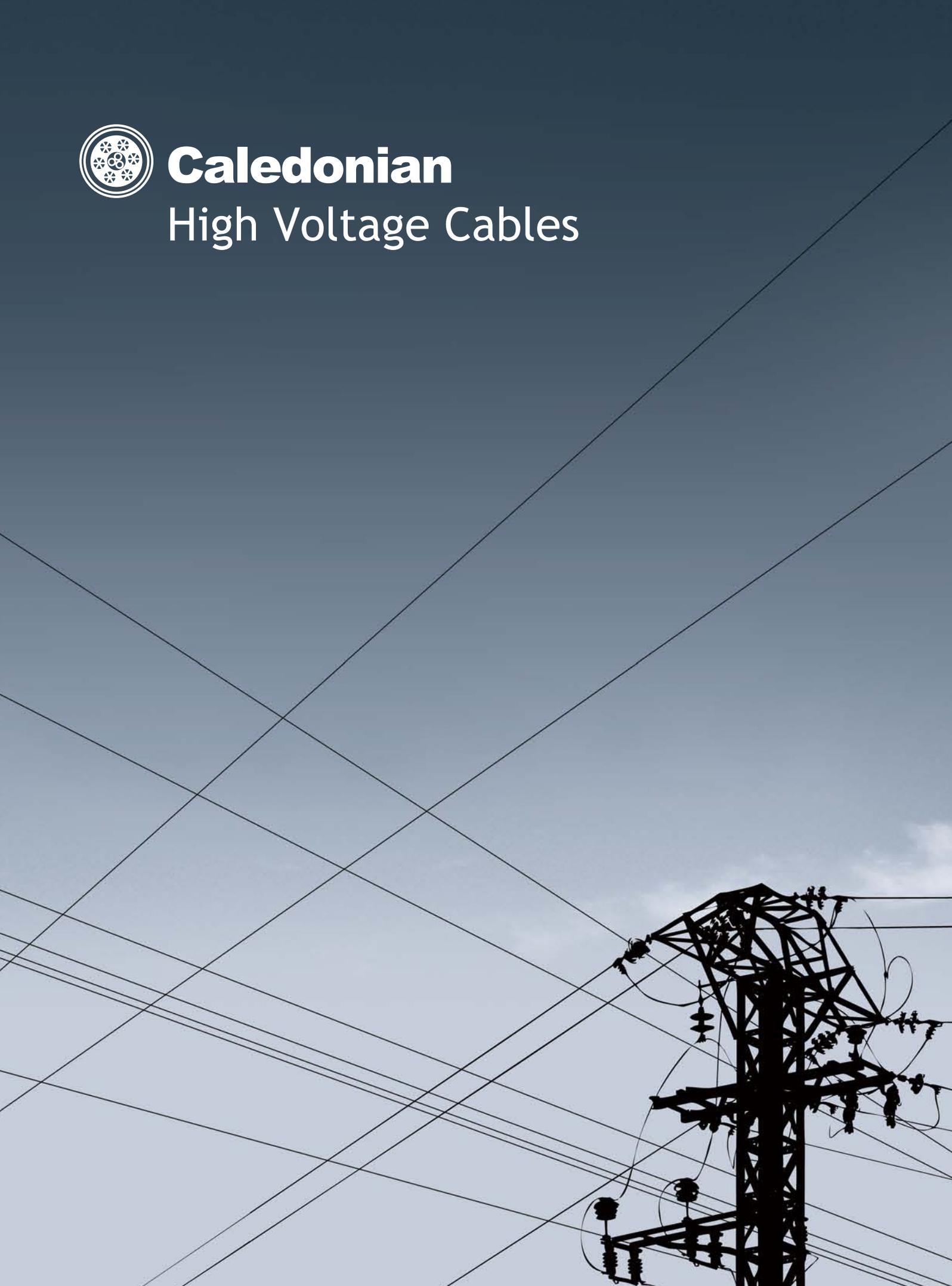


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40/69kV XLPE Insulated, PE Sheathed High Voltage Power Cables

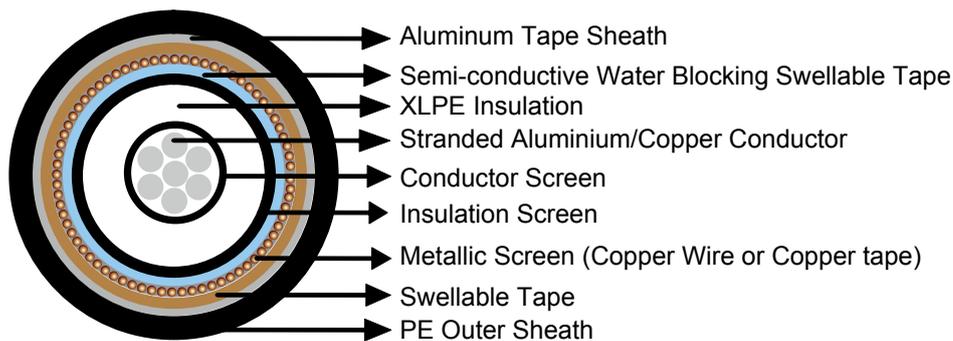
APPLICATIONS

These single core cables are designed for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations. If the cable gets water inside due to the mechanical damages, swellable tapes prevent the movement of the water inside the cable.

Standard

IEC 60840

CONSTRUCTION



Conductor: Copper/Aluminium wire, stranded to BS 6360 class 2.

Conductor Screen: The conductor screen consists of an extruded layer of non metallic, semi-conducting compound applied on top of a semi-conducting tape. The conductor screen is applied under triple extrusion process over the conductor along with the insulation and the insulation screen. The extruded semi-conducting compound is firmly bonded to the insulation to exclude all air voids and can be easily hand stripped on site.

Insulation: Extruded cross-linked polyethylene (XLPE-GP8) compound insulation

Insulation Screen: The insulation screen consists of an extruded layer of non metallic, semi-conducting compound extruded over the insulation of each core. The extruded semi-conducting layer shall consist of bonded or cold strippable semi-conducting compound capable of removal for jointing or terminating.

Semi-conductive Water Blocking Swellable Tape: A semi-conducting tape shall be

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applied over the core assembly as a bedding for the metallic layer. The minimum thickness is 0.3 mm and the maximum resistivity is 500 Ohm-m at 90°C. The screen is tightly fitted to the insulation to exclude all air voids and can be easily hand stripped on site. The screen may be covered by semi-conductive water blocking swellable tape to ensure longitudinal watertightness.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Swellable Tape: Swellable material

Separation Sheath: Aluminum Tape sheath

Outer Sheath: Thermoplastic HDPE-ST3 compound

Dimensional Data

| Nom. Cross-Section Area | Nom. Insulation Thickness | Metallic Screen Area | Approx. Overall Diameter | Approx. Weight | |
|-------------------------|---------------------------|----------------------|--------------------------|----------------|-----|
| | | | | CU | AL |
| mm ² | mm | mm ² | mm | kg/m | |
| 240 | 11.0 | 35 | 56.9 | 4.3 | 2.9 |
| 300 | 11.0 | 50 | 59.9 | 5.1 | 3.3 |
| 400 | 11.0 | 50 | 61.5 | 6.0 | 3.8 |
| 500 | 11.0 | 50 | 63.0 | 7.0 | 4.1 |
| 630 | 11.0 | 50 | 67.0 | 8.5 | 4.6 |
| 800 | 11.0 | 50 | 71.0 | 10.3 | 5.4 |
| 1000 | 11.0 | 50 | 77.0 | 12.6 | 6.3 |
| 1200 | 11.0 | 70 | 83.0 | 14.7 | 7.6 |

Electrical Data

| Nom. Cross-Section Area | DC Resistance @20°C | | AC Resistance @90°C | | Capacitance per core | Inductance | Continuous Current Rating for Single Circuit | | | | | |
|-------------------------|---------------------|--------|---------------------|--------|----------------------|------------|--|---------|------|---------------|---------|------|
| | | | | | | | Cu conductor | | | Al conductor | | |
| | Cu | Al | Cu | Al | | | Direct Buried | In Air | | Direct Buried | In Air | |
| | Ω/km | Ω/km | Ω/km | Ω/km | | | | Trefoil | Flat | | Trefoil | Flat |
| mm ² | Ω/km | Ω/km | Ω/km | Ω/km | μF/km | mH/km | A | | | A | | |
| 240 | 0.0754 | 0.125 | 0.0970 | 0.1608 | 0.174 | 0.414 | 545 | 576 | 715 | 424 | 449 | 557 |
| 300 | 0.0601 | 0.100 | 0.0777 | 0.1289 | 0.189 | 0.397 | 617 | 658 | 820 | 481 | 515 | 642 |
| 400 | 0.0470 | 0.0778 | 0.0613 | 0.1006 | 0.207 | 0.381 | 706 | 762 | 955 | 554 | 601 | 752 |
| 500 | 0.0366 | 0.0605 | 0.0485 | 0.0787 | 0.242 | 0.360 | 805 | 877 | 1108 | 635 | 697 | 878 |
| 630 | 0.0283 | 0.0469 | 0.0384 | 0.0616 | 0.267 | 0.446 | 920 | 1012 | 1292 | 728 | 807 | 1023 |
| 800 | 0.0221 | 0.0367 | 0.0311 | 0.0489 | 0.291 | 0.334 | 1039 | 1049 | 1483 | 830 | 931 | 1189 |
| 1000 | 0.0176 | 0.0291 | 0.0232 | 0.0378 | 0.329 | 0.323 | 1157 | 1292 | 1688 | 937 | 1060 | 1364 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0322 | 0.363 | 0.315 | 1333 | 1542 | 1974 | 1054 | 1226 | 1558 |



64/110kV XLPE Insulated, PE Sheathed High Voltage Power Cables

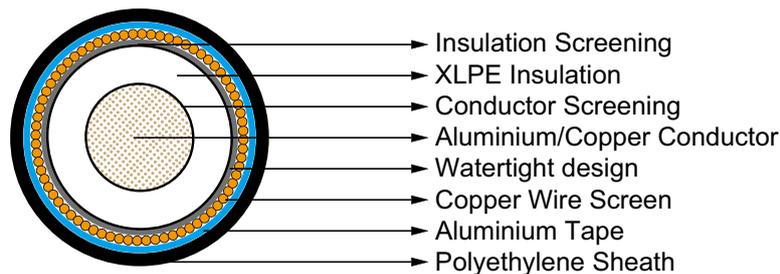
APPLICATIONS

These single core cables are designed for distribution of electrical power with nominal voltage 64/110kV. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standard

IEC 60840

CONSTRUCTION



Conductor: The cable conductors can be made of copper or aluminium, depending on customer's preference or current carrying capacity. Large size solid conductors are made of aluminium. Available constructions including: round solid conductors up to 2000mm² (RE); circular stranded compacted conductors up to 1200mm² (RM); circular conductors with shaped wires up to 2000mm² (RM, Keystone conductors); segmental conductors up to 2500 mm² (RMS, Milliken conductors); oval shaped stranded compacted conductors up to 800mm² for external gas pressure cables (OM).

Conductor Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely.

Insulation: Insulation is of cross-linked polyethylene compound XLPE.

Insulation Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the insulation.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Separation Sheath: Aluminum Tape sheath

Outer Sheath: PE

Caledonian High Voltage Cables

Dimensional Data

| Nom. Cross-Section Area | Nom. Insulation Thickness | Copper Wire Screen Area | Approx. Overall Diameter | Approx. Weight | |
|-------------------------|---------------------------|-------------------------|--------------------------|----------------|------|
| | | | | CU | AL |
| mm ² | mm | mm ² | mm | kg/m | |
| 240 | 15.0 | 95 | 65.0 | 5.6 | 4.1 |
| 300 | 15.0 | 95 | 67.0 | 6.3 | 4.5 |
| 400 | 15.0 | 95 | 71.0 | 7.2 | 5.0 |
| 500 | 14.0 | 95 | 72.0 | 8.2 | 5.3 |
| 630 | 14.0 | 95 | 76.0 | 9.7 | 5.9 |
| 800 | 14.0 | 95 | 80.0 | 11.6 | 6.7 |
| 1000 | 14.0 | 95 | 86.0 | 14.0 | 7.4 |
| 1200 | 14.0 | 95 | 92.0 | 16.0 | 8.7 |
| 1600 | 14.0 | 95 | 98.0 | 19.9 | 10.4 |
| 2000 | 14.0 | 95 | 106.0 | 24.2 | 12.0 |
| 2500 | 14.0 | 95 | 114.0 | 30.0 | 14.3 |

Electrical Data

| Nom. Cross-Section Area | DC Resistance @20°C | | AC Resistance @90°C | | Capacitance per core | Inductance | Continuous Current Rating for Single Circuit (in air) | | | |
|-------------------------|---------------------|--------|---------------------|--------|----------------------|------------|---|-------|--------------|------|
| | Cu | Al | Cu | Al | | | Cu conductor | | Al conductor | |
| | | | | | | | Trefoil | Flat | Trefoil | Flat |
| | mm ² | Ω/km | Ω/km | Ω/km | | | Ω/km | μF/km | mH/km | A |
| 240 | 0.0754 | 0.125 | 0.0973 | 0.161 | 0.141 | 0.442 | 576 | 715 | 449 | 557 |
| 300 | 0.0601 | 0.100 | 0.0781 | 0.129 | 0.152 | 0.424 | 658 | 820 | 515 | 642 |
| 400 | 0.0470 | 0.0778 | 0.0618 | 0.101 | 0.165 | 0.407 | 762 | 955 | 601 | 752 |
| 500 | 0.0366 | 0.0605 | 0.0492 | 0.0791 | 0.188 | 0.392 | 877 | 1108 | 697 | 878 |
| 630 | 0.0283 | 0.0469 | 0.0393 | 0.0622 | 0.206 | 0.376 | 1012 | 1292 | 807 | 1023 |
| 800 | 0.0221 | 0.0367 | 0.0326 | 0.0500 | 0.224 | 0.363 | 1149 | 1483 | 931 | 1189 |
| 1000 | 0.0176 | 0.0291 | 0.0232 | 0.0375 | 0.251 | 0.349 | 1292 | 1688 | 1060 | 1364 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0319 | 0.275 | 0.340 | 1542 | 1974 | 1226 | 1558 |
| 1600 | 0.0113 | 0.0186 | 0.0156 | 0.0240 | 0.304 | 0.328 | 1741 | 2251 | 1432 | 1834 |
| 2000 | 0.0090 | 0.0149 | 0.0129 | 0.0193 | 0.336 | 0.318 | 1942 | 2536 | 1619 | 2085 |
| 2500 | 0.0072 | 0.0119 | 0.0109 | 0.0156 | 0.372 | 0.309 | 2149 | 2836 | 1815 | 2353 |



76/132kV XLPE Insulated, PE Sheathed High Voltage Power Cables

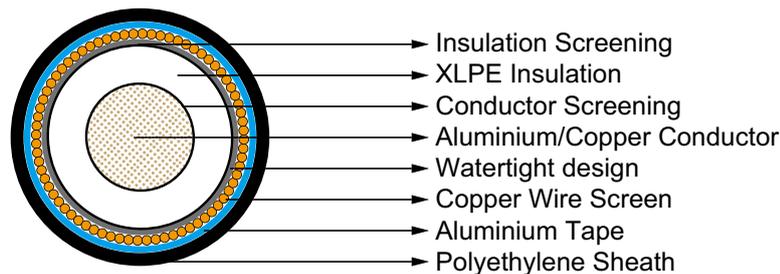
APPLICATIONS

These single core cables are designed for distribution of electrical power with nominal voltage 76/132kV. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standard

IEC 60840

CONSTRUCTION



Conductor: The cable conductors can be made of copper or aluminium, depending on customer's preference or current carrying capacity. Large size solid conductors are made of aluminium. Available constructions including: round solid conductors up to 2000mm² (RE); circular stranded compacted conductors up to 1200mm² (RM); circular conductors with shaped wires up to 2000mm² (RM, Keystone conductors); segmental conductors up to 2500 mm² (RMS, Milliken conductors); oval shaped stranded compacted conductors up to 800mm² for external gas pressure cables (OM).

Conductor Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely.

Insulation: Insulation is of cross-linked polyethylene compound XLPE.

Insulation Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the insulation.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Separation Sheath: Aluminum Tape sheath

Outer Sheath: PE

Caledonian High Voltage Cables

Dimensional Data

| Nom. Cross-Section Area mm ² | Nom. Insulation Thickness mm | Copper Wire Screen Area mm ² | Approx. Overall Diameter mm | Approx. Weight | |
|--|---------------------------------|--|--------------------------------|----------------|------|
| | | | | Cu | AL |
| | | | | kg/m | |
| 185 | 22.0 | 50 | 74 | 6.0 | 4.4 |
| 240 | 20.0 | 50 | 72 | 6.2 | 4.3 |
| 300 | 19.0 | 50 | 72 | 6.8 | 4.5 |
| 400 | 18.0 | 50 | 74 | 7.7 | 5.2 |
| 500 | 18.0 | 50 | 77 | 8.8 | 5.7 |
| 630 | 18.0 | 50 | 81 | 10.3 | 6.4 |
| 800 | 16.0 | 50 | 82 | 11.7 | 6.8 |
| 1000 | 16.0 | 110 | 93 | 15.0 | 9.1 |
| 1200 | 15.0 | 110 | 94 | 17.0 | 9.7 |
| 1400 | 15.0 | 110 | 98 | 19.0 | 10.0 |
| 1600 | 15.0 | 110 | 101 | 21.0 | 11.0 |
| 1800 | 14.0 | 110 | 102 | 23.0 | 12.0 |
| 2000 | 14.0 | 110 | 106 | 25.0 | 13.0 |
| 2500 | 14.0 | 110 | 113 | 30.0 | 15.0 |

Electrical Data

| Nom. Cross-Section Area mm ² | DC Resistance @20°C | | AC Resistance @90°C | | Capacitance per core µF/km | Inductance mH/km | Current Ratings/Power Ratings(continuous load) | | | |
|--|---------------------|------------|---------------------|------------|-------------------------------|---------------------|--|------------|--------------|------------|
| | Cu Ω/km | Al Ω/km | Cu Ω/km | Al Ω/km | | | Cu conductor | | Al conductor | |
| | | | | | | | 1 circuit | 2 circuits | 1 circuit | 2 circuits |
| | | | | | | | A/MVA | | A/MVA | |
| | | | | | | | trefoil installation | | | |
| 185 | 0.0991 | 0.164 | 0.127 | 0.211 | 0.107 | 0.49 | 368/84 | 314/72 | 289/66 | 246/56 |
| 240 | 0.0754 | 0.125 | 0.0973 | 0.161 | 0.121 | 0.46 | 420/96 | 358/82 | 332/76 | 282/64 |
| 300 | 0.0601 | 0.100 | 0.0781 | 0.129 | 0.134 | 0.44 | 469/107 | 398/91 | 371/85 | 315/72 |
| 400 | 0.0470 | 0.0778 | 0.0618 | 0.101 | 0.151 | 0.42 | 525/120 | 444/102 | 420/96 | 356/81 |
| 500 | 0.0366 | 0.0605 | 0.0492 | 0.0791 | 0.163 | 0.40 | 586/134 | 493/113 | 474/108 | 400/91 |
| 630 | 0.0283 | 0.0469 | 0.0393 | 0.0622 | 0.177 | 0.39 | 649/148 | 545/125 | 533/122 | 448/102 |
| 800 | 0.0221 | 0.0367 | 0.0326 | 0.0500 | 0.212 | 0.36 | 706/161 | 591/135 | 591/135 | 495/113 |
| | | | | | | | flat installation | | | |
| 1000 | 0.0176 | 0.0291 | 0.0232 | 0.0375 | 0.245 | 0.56 | 999/228 | 852/195 | 791/181 | 675/154 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0319 | 0.271 | 0.55 | 1074/246 | 915/209 | 859/196 | 732/167 |
| 1400 | 0.0129 | 0.0212 | 0.0175 | 0.0275 | 0.286 | 0.53 | 1155/264 | 984/225 | 929/212 | 791/181 |
| 1600 | 0.0113 | 0.0186 | 0.0156 | 0.0240 | 0.301 | 0.52 | 1226/280 | 1043/238 | 997/228 | 849/194 |
| 1800 | 0.0101 | 0.0165 | 0.0142 | 0.0213 | 0.332 | 0.51 | 1285/294 | 1091/249 | 1058/242 | 900/206 |
| 2000 | 0.0090 | 0.0149 | 0.0129 | 0.0193 | 0.346 | 0.50 | 1346/308 | 1144/262 | 1114/255 | 947/217 |
| 2500 | 0.0072 | 0.0119 | 0.0109 | 0.0156 | 0.378 | 0.47 | 1465/335 | 1244/284 | 1244/284 | 1057/242 |



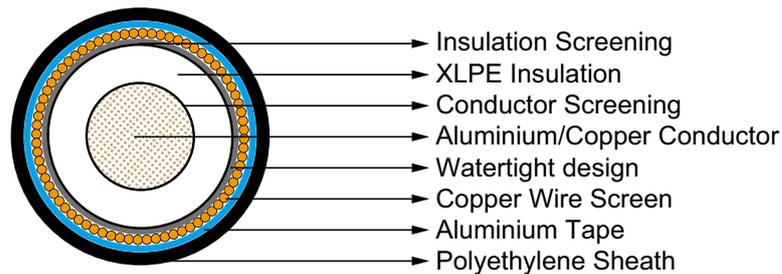
127/220kV XLPE Insulated, PE Sheathed High Voltage Power Cables

APPLICATIONS

These single core cables are designed for distribution of electrical power with nominal voltage 127/220kV. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standard

IEC 62067



CONSTRUCTION

Conductor: The cable conductors can be made of copper or aluminium, depending on customer's preference or current carrying capacity. Large size solid conductors are made of aluminium. Available constructions including: round solid conductors up to 2000mm² (RE); circular stranded compacted conductors up to 1200mm² (RM); circular conductors with shaped wires up to 2000mm² (RM, Keystone conductors); segmental conductors up to 2500 mm² (RMS, Milliken conductors); oval shaped stranded compacted conductors up to 800mm² for external gas pressure cables (OM).

Conductor Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely.

Insulation: Insulation is of cross-linked polyethylene compound XLPE.

Insulation Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the insulation.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Separation Sheath: Aluminum Tape sheath

Outer Sheath: PE

Caledonian High Voltage Cables

Dimensional Data

| Nom. Cross-Section Area | Nom. Insulation Thickness | Copper Wire Screen Area | Approx. Overall Diameter | Approx. Weight | |
|-------------------------|---------------------------|-------------------------|--------------------------|----------------|------|
| | | | | CU | AL |
| mm ² | mm | mm ² | mm | kg/m | |
| 240 | 25.0 | 50 | 83.0 | 7.4 | 5.9 |
| 300 | 24.0 | 50 | 83.0 | 8.0 | 6.1 |
| 400 | 22.0 | 50 | 82.0 | 8.6 | 6.2 |
| 500 | 22.0 | 50 | 86.0 | 9.9 | 6.8 |
| 630 | 22.0 | 50 | 90.0 | 11.4 | 7.5 |
| 800 | 19.0 | 50 | 88.0 | 12.5 | 7.5 |
| 1000 | 19.0 | 110 | 98.0 | 16.0 | 10.0 |
| 1200 | 18.0 | 110 | 100.0 | 18.0 | 10.6 |
| 1400 | 18.0 | 110 | 103.0 | 20.0 | 11.4 |
| 1600 | 18.0 | 110 | 108.0 | 22.0 | 12.4 |
| 1800 | 19.0 | 110 | 113.0 | 25.0 | 13.6 |
| 2000 | 19.0 | 110 | 116.0 | 27.0 | 14.5 |
| 2500 | 19.0 | 110 | 123.0 | 32.0 | 16.6 |

Electrical Data

| Nom. Cross-Section Area | DC Resistance @20°C | | AC Resistance @90°C | | Capacitance per core | Inductance | Current Ratings/Power Ratings(continuous load) | | | |
|-------------------------|---------------------|--------|---------------------|--------|----------------------|------------|--|------------|--------------|------------|
| | | | | | | | Cu conductor | | Al conductor | |
| | Cu | Al | Cu | Al | | | 1 circuit | 2 circuits | 1 circuit | 2 circuits |
| mm ² | Ω/km | Ω/km | Ω/km | Ω/km | μF/km | mH/km | A/MVA | | A/MVA | |
| | | | | | | | trefoil installation | | | |
| 240 | 0.0754 | 0.125 | 0.0973 | 0.161 | 0.106 | 0.49 | 423/161 | 357/136 | 333/127 | 282/107 |
| 300 | 0.0601 | 0.100 | 0.0781 | 0.129 | 0.116 | 0.47 | 470/179 | 396/151 | 372/142 | 314/120 |
| 400 | 0.0470 | 0.0778 | 0.0618 | 0.101 | 0.133 | 0.44 | 524/200 | 440/168 | 420/160 | 352/134 |
| 500 | 0.0366 | 0.0605 | 0.0492 | 0.0791 | 0.143 | 0.42 | 584/223 | 489/186 | 473/180 | 396/151 |
| 630 | 0.0283 | 0.0469 | 0.0393 | 0.0622 | 0.155 | 0.41 | 648/247 | 540/206 | 531/202 | 443/169 |
| 800 | 0.0221 | 0.0367 | 0.0326 | 0.0500 | 0.187 | 0.38 | 702/267 | 582/222 | 587/224 | 487/186 |
| | | | | | | | flat installation | | | |
| 1000 | 0.0176 | 0.0291 | 0.0232 | 0.0375 | 0.215 | 0.56 | 989/377 | 857/327 | 782/298 | 678/258 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0319 | 0.236 | 0.55 | 1060/404 | 917/349 | 849/324 | 734/280 |
| 1400 | 0.0129 | 0.0212 | 0.0175 | 0.0275 | 0.248 | 0.53 | 1136/433 | 981/374 | 915/349 | 790/301 |
| 1600 | 0.0113 | 0.0186 | 0.0156 | 0.0240 | 0.260 | 0.52 | 1201/458 | 1035/394 | 979/373 | 844/322 |
| 1800 | 0.0101 | 0.0165 | 0.0142 | 0.0213 | 0.260 | 0.51 | 1253/477 | 1080/412 | 1035/394 | 892/340 |
| 2000 | 0.0090 | 0.0149 | 0.0129 | 0.0193 | 0.270 | 0.50 | 1308/498 | 1126/429 | 1086/414 | 935/356 |
| 2500 | 0.0072 | 0.0119 | 0.0109 | 0.0156 | 0.294 | 0.47 | 1406/536 | 1207/460 | 1201/458 | 1031/393 |



230/400kV XLPE Insulated, PE Sheathed High Voltage Power Cables

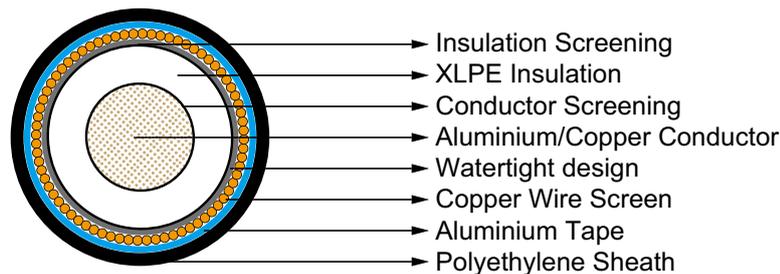
APPLICATIONS

These single core cables are designed for distribution of electrical power with nominal voltage 230/400kV. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standard

IEC 62067

CONSTRUCTION



Conductor: The cable conductors can be made of copper or aluminium, depending on customer's preference or current carrying capacity. Large size solid conductors are made of aluminium. Available constructions including: round solid conductors up to 2000mm² (RE); circular stranded compacted conductors up to 1200mm² (RM); circular conductors with shaped wires up to 2000mm² (RM, Keystone conductors); segmental conductors up to 2500 mm² (RMS, Milliken conductors); oval shaped stranded compacted conductors up to 800mm² for external gas pressure cables (OM).

Conductor Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely.

Insulation: Insulation is of cross-linked polyethylene compound XLPE.

Insulation Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the insulation.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Separation Sheath: Aluminum Tape sheath

Outer Sheath: PE

Caledonian High Voltage Cables

Dimensional Data

| Nom. Cross-Section Area | Nom. Insulation Thickness | Copper Wire Screen Area | Approx. Overall Diameter | Approx. Weight | |
|-------------------------|---------------------------|-------------------------|--------------------------|----------------|----|
| | | | | CU | AL |
| mm ² | mm | mm ² | mm | kg/m | |
| 630 | 33.0 | 170 | 118 | 17 | 13 |
| 800 | 31.0 | 170 | 118 | 18 | 13 |
| 1000(RM) | 29.0 | 170 | 118 | 20 | 14 |
| 1000(RMS) | 29.0 | 170 | 121 | 20 | 14 |
| 1200 | 27.0 | 170 | 120 | 22 | 14 |
| 1400 | 27.0 | 170 | 123 | 24 | 15 |
| 1600 | 27.0 | 170 | 127 | 26 | 16 |
| 1800 | 26.0 | 170 | 128 | 28 | 17 |
| 2000 | 26.0 | 170 | 131 | 30 | 18 |
| 2500 | 26.0 | 170 | 138 | 36 | 20 |

Electrical Data

| Nom. Cross-Section Area | DC Resistance @20°C | | AC Resistance @90°C | | Capacitance per core | Inductance | Current Ratings/Power Ratings(continuous load) | | | |
|-------------------------|---------------------|--------|---------------------|--------|----------------------|------------|--|------------|--------------|------------|
| | Cu | Al | Cu | Al | | | Cu conductor | | Al conductor | |
| | | | | | | | 1 circuit | 2 circuits | 1 circuit | 2 circuits |
| mm ² | Ω/km | Ω/km | Ω/km | Ω/km | μF/km | mH/km | A/MVA | | A/MVA | |
| | | | | | | | trefoil installation | | | |
| 630 | 0.0283 | 0.0469 | 0.0393 | 0.0622 | 0.119 | 0.46 | 594/412 | 481/333 | 499/346 | 406/281 |
| 800 | 0.0221 | 0.0367 | 0.0317 | 0.0500 | 0.134 | 0.44 | 636/441 | 512/355 | 545/378 | 440/305 |
| 1000(RM) | 0.0176 | 0.0291 | 0.0276 | 0.0409 | 0.150 | 0.41 | 671/465 | 538/373 | 587/407 | 471/326 |
| | | | | | | | flat installation | | | |
| 1000(RM) | 0.0176 | 0.0291 | 0.0232 | 0.0375 | 0.156 | 0.56 | 938/650 | 804/557 | 748/518 | 641/444 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0319 | 0.171 | 0.55 | 1001/694 | 855/592 | 808/560 | 690/478 |
| 1400 | 0.0129 | 0.0212 | 0.0175 | 0.0275 | 0.180 | 0.53 | 1070/741 | 912/632 | 868/601 | 740/513 |
| 1600 | 0.0113 | 0.0186 | 0.0156 | 0.0240 | 0.188 | 0.52 | 1125/779 | 957/663 | 924/640 | 787/545 |
| 1800 | 0.0101 | 0.0165 | 0.0142 | 0.0213 | 0.201 | 0.51 | 1168/809 | 990/686 | 973/674 | 826/572 |
| 2000 | 0.0090 | 0.0149 | 0.0129 | 0.0193 | 0.209 | 0.50 | 1212/840 | 1026/711 | 1016/704 | 861/597 |
| 2500 | 0.0072 | 0.0119 | 0.0109 | 0.0156 | 0.226 | 0.47 | 1289/893 | 1086/752 | 1112/770 | 938/650 |



290/500kV XLPE Insulated, PE Sheathed High Voltage Power Cables

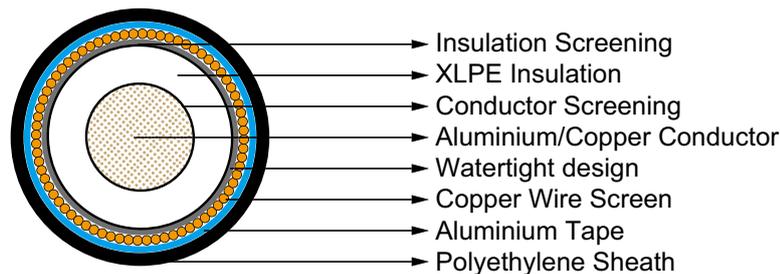
APPLICATIONS

These single core cables are designed for distribution of electrical power with nominal voltage 290/500kV. They are suitable for installation mostly in power supply stations, indoors and in cable ducts, outdoors, underground and in water as well as for installation on cable trays for industries, switchboards and power stations.

Standard

IEC 62067

CONSTRUCTION



Conductor: The cable conductors can be made of copper or aluminium, depending on customer's preference or current carrying capacity. Large size solid conductors are made of aluminium. Available constructions including: round solid conductors up to 2000mm² (RE); circular stranded compacted conductors up to 1200mm² (RM); circular conductors with shaped wires up to 2000mm² (RM, Keystone conductors); segmental conductors up to 2500 mm² (RMS, Milliken conductors); oval shaped stranded compacted conductors up to 800mm² for external gas pressure cables (OM).

Conductor Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the conductor and shall cover the surface completely.

Insulation: Insulation is of cross-linked polyethylene compound XLPE.

Insulation Screen: Extruded layer of semi-conducting cross-linkable compound is applied over the insulation.

Metallic Layer: The metallic layer may be applied over the core assembly collectively.

The metallic screen shall consist of either copper tapes or a concentric layer of copper wires or a combination of tapes and wires.

Separation Sheath: Aluminum Tape sheath

Outer Sheath: PE

Caledonian High Voltage Cables

Dimensional Data

| Nom. Cross-Section Area | Nom. Insulation Thickness | Copper Wire Screen Area | Approx. Overall Diameter | Approx. Weight | |
|-------------------------|---------------------------|-------------------------|--------------------------|----------------|------|
| | | | | CU | AL |
| mm ² | mm | mm ² | mm | kg/m | |
| 800 | 35.0 | 170 | 126.0 | 20.0 | 15.0 |
| 1000(RM) | 33.0 | 170 | 126.0 | 21.0 | 15.0 |
| 1000(RMS) | 32.0 | 170 | 128.0 | 22.0 | 16.0 |
| 1200 | 31.0 | 170 | 130.0 | 24.0 | 16.0 |
| 1400 | 31.0 | 170 | 133.0 | 26.0 | 17.0 |
| 1600 | 31.0 | 170 | 136.0 | 28.0 | 18.0 |
| 1800 | 31.0 | 170 | 139.0 | 30.0 | 19.0 |
| 2000 | 31.0 | 170 | 143.0 | 33.0 | 20.0 |
| 2500 | 31.0 | 170 | 150.0 | 38.0 | 23.0 |

Electrical Data

| Nom. Cross-Section Area | D C Resistance @20°C | | A C Resistance @90°C | | Capacitance per core | Inductance | Current Ratings/Power Ratings(continuous load) | | | |
|-------------------------|----------------------|--------|----------------------|--------|----------------------|------------|--|------------|--------------|------------|
| | Cu | Al | Cu | Al | | | Cu conductor | | Al conductor | |
| | | | | | | | 1 circuit | 2 circuits | 1 circuit | 2 circuits |
| mm ² | Ω/km | Ω/km | Ω/km | Ω/km | μF/km | mH/km | A/MVA | | A/MVA | |
| | | | | | | | trefoil installation | | | |
| 800 | 0.0221 | 0.0367 | 0.0317 | 0.0500 | 0.124 | 0.45 | 628/544 | 498/431 | 537/465 | 427/370 |
| 1000(RM) | 0.0176 | 0.0291 | 0.0276 | 0.0409 | 0.137 | 0.43 | 661/572 | 520/450 | 577/500 | 455/394 |
| | | | | | | | flat installation | | | |
| 1000(RMS) | 0.0176 | 0.0291 | 0.0232 | 0.0375 | 0.149 | 0.56 | 907/785 | 770/667 | 725/628 | 615/533 |
| 1200 | 0.0151 | 0.0247 | 0.0201 | 0.0319 | 0.159 | 0.55 | 968/838 | 818/708 | 782/677 | 661/572 |
| 1400 | 0.0129 | 0.0212 | 0.0175 | 0.0275 | 0.167 | 0.53 | 1031/896 | 868/752 | 838/726 | 707/612 |
| 1600 | 0.0113 | 0.0186 | 0.0156 | 0.0240 | 0.174 | 0.52 | 1085/896 | 912/790 | 893/773 | 751/650 |
| 1800 | 0.0101 | 0.0165 | 0.0142 | 0.0213 | 0.180 | 0.51 | 1124/973 | 942/816 | 939/813 | 787/682 |
| 2000 | 0.0090 | 0.0149 | 0.0129 | 0.0193 | 0.187 | 0.50 | 1159/1004 | 969/839 | 976/845 | 816/707 |
| 2500 | 0.0072 | 0.0119 | 0.0109 | 0.0156 | 0.202 | 0.47 | 1226/1062 | 1019/882 | 1063/921 | 884/766 |



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