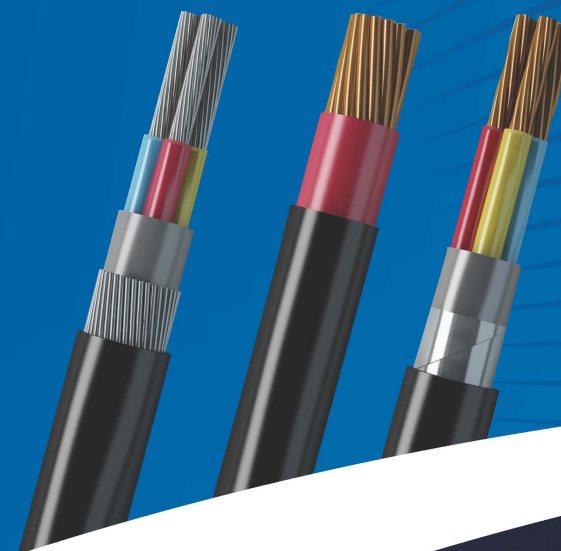




LOW VOLTAGE CABLES



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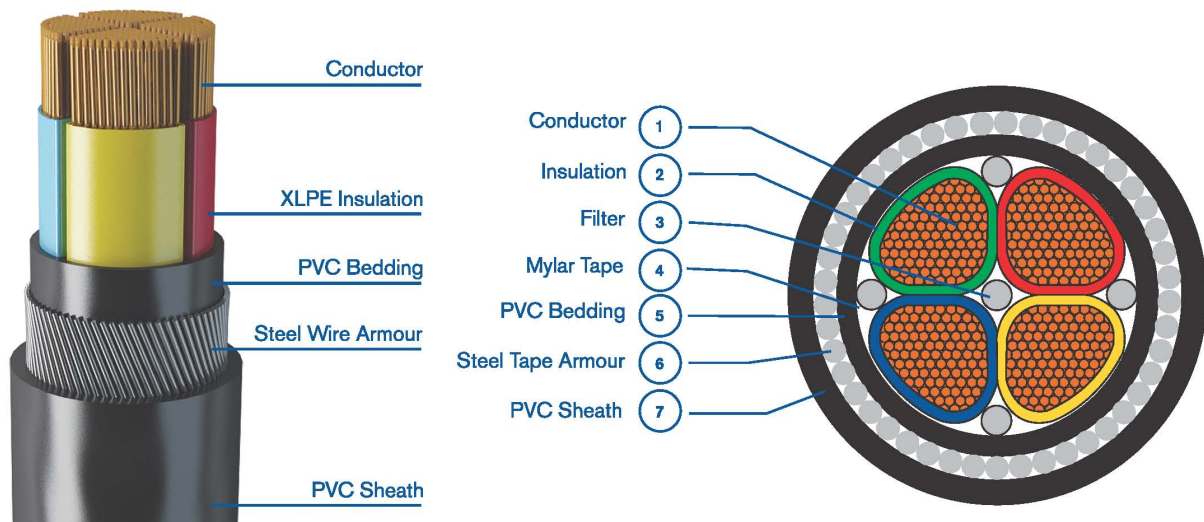
INTRODUCTION

Underground low voltage cables provide the best of safety and environment-friendly conditions to subscribers. In creating, renewing, and extending power transmission and distribution networks worldwide, Energya Cables SA provides a wide range of LV underground power cables.

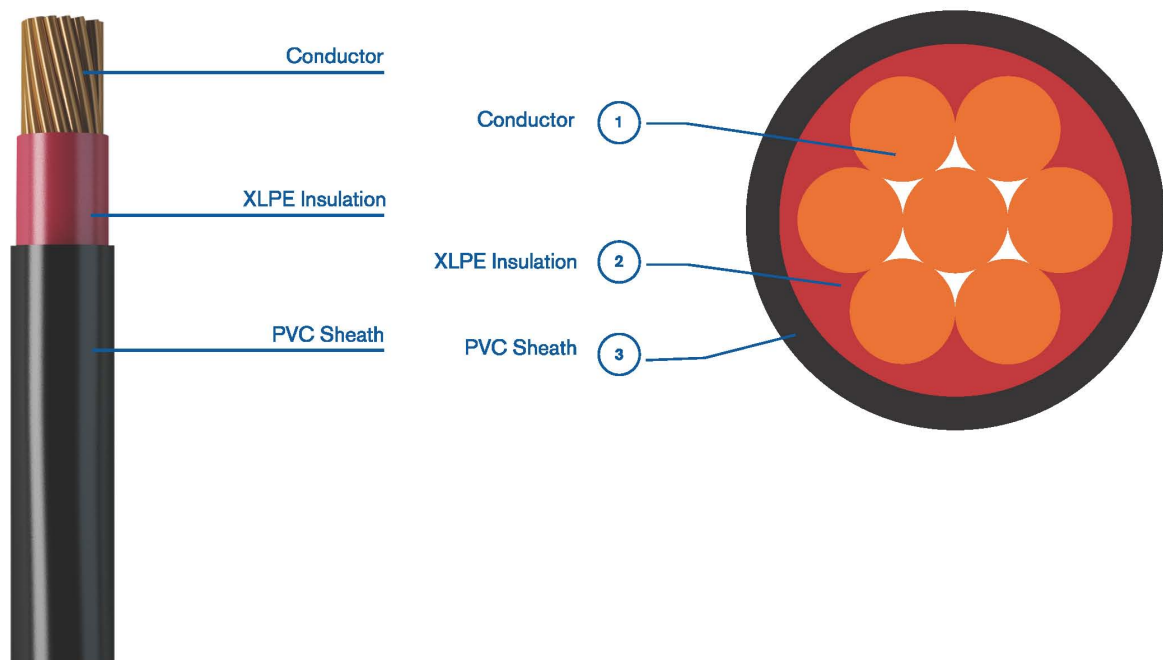
Its distinct advantage is portrayed in its relentless commitment to quality, which is complemented by its superior technical expertise and extensive manufacturing capabilities. Energya Cables SA Low Voltage Power Cables are manufactured based on customer's standards, such as SEC or ARAMCO, or on international standards such as IEC, BS.



EXAMPLES OF LOW VOLTAGE CABLES



Sector Shape 4 Cores



Round Shape 1 Core

STANDARDS



IEC 60502-1: Power Cables with Extruded Insulation and their Accessories for Rated Voltages of 1 kV and 3 kV.



BS 5467: Electric Cables – Thermosetting Insulated, Armored Cables for Voltages of 600/1000 V and 1900/3300 V.



BS 6724: Electric Cables – Thermosetting Insulated, Armored Cables for Voltages of 600/1000 V and 1900/3300 V, having Low Emission of Smoke and Corrosive Gases when Affected by Fire.



BS 7889: Electric cables – Thermosetting Insulated, Unarmored Cables for a Voltage of 600/1000 V.



ICEA S-95-658-1999: Nonshielded Power Cables Rated 2000 Volts or Less for the Distribution of Electrical Energy.



UL 44: Thermoset-Insulated Wires and Cables.



UL 83: Thermoplastic-Insulated Wires and Cables.



GENERAL INFORMATION

Selecting Power Cables

The following factors are important when selecting a suitable cable construction which is required to transport electrical energy from the power station to the consumer:

- Maximum operating voltage
- Insulation level
- Frequency
- Load to be carried
- Magnitude and duration of possible overload
- Magnitude and duration of short-circuit current
- Voltage drop
- Length of line
- Mode of installation
 - underground (direct or in ducts)
 - in air
- Chemical and physical properties of soil
- Max. and min. ambient air temperature and soil temperatures
- Specification and requirements to be met

Voltage

The standard rated voltage of a cable is denoted by $U_0/U (U_m)$, i.e. «0.6/1 (1.2)» where:

U_0 : is the rated power-frequency voltage between conductor and earth.

U : is the rated power-frequency voltage between conductors.

U_m : is the maximum continuously permissible operating voltage between conductors at any time or in any part of the network.

Standards

The cables described in this catalogue are all standard types, and their performance has been proved in operation. Construction and tests are in accordance with the recommendation of IEC publications where applicable.

Power cables in accordance to other standards (e.g. BS, VDE, NEMA) can be manufactured upon customer's request.

Variation in Production parameters and Delivery Options

- The provided cables data are approximate
- Delivery length tolerance is $\pm 5\%$ and subject to manufacturing tolerance
- Other sizes are available upon request

Jacket Marking

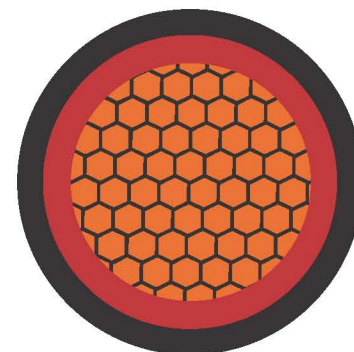
Standard embossed outer jacket marking consisting of:

- Name of manufacturer
- Type designation, size of conductor, rated voltage and standard
- Continuous length marking every meter
- Year of manufacture.

SINGLE CORE CU / XLPE / PVC, 0.6/1KV

For outdoor installations in damp and wet locations

Type : CU / XLPE / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/ 1 KV
 Conductor : Soft annealed stranded copper wires
 Insulation : XLPE compound (or PVC or LSHF)
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION



| Nominal Cross Section NRxmm ² | Nominal Insulation Thickness mm | Nominal Sheath Thickness mm | Approx overall Diameter mm | Approx Cable Weight kg/km | Max DC Resistance at 20°C ohm/km | CURRENT RATING | | | | | |
|---|--|--------------------------------------|-------------------------------------|------------------------------------|---|----------------|----|---|------------------|-----|----|
| | | | | | | Laid in ground | | | Laid in Free Air | | |
| | | | | | | ○○○ | ○○ | ○ | ○ | ○○○ | ○○ |
| | | | | | | A | A | A | A | A | A |

STRANDED COPPER CONDUCTORS

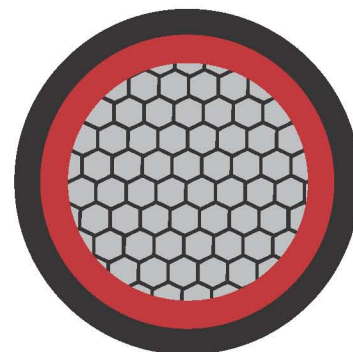
| | | | | | | | | | | | |
|------|-----|-----|------|------|--------|------|------|-----|------|------|------|
| 4 | 0.7 | 1.4 | 6.72 | 80 | 4.6100 | 59 | 56 | 43 | 59 | 53 | 44 |
| 6 | 0.7 | 1.4 | 7.13 | 100 | 3.0810 | 74 | 71 | 57 | 73 | 66 | 59 |
| 10 | 0.7 | 1.4 | 8.2 | 150 | 1.8300 | 97 | 93 | 74 | 94 | 88 | 76 |
| 16 | 0.7 | 1.4 | 9.2 | 205 | 1.1500 | 125 | 121 | 95 | 129 | 123 | 105 |
| 25 | 0.9 | 1.4 | 11 | 310 | 0.7270 | 163 | 154 | 120 | 159 | 152 | 135 |
| 35 | 0.9 | 1.4 | 12 | 400 | 0.5240 | 194 | 187 | 148 | 199 | 193 | 170 |
| 50 | 1.0 | 1.4 | 13 | 515 | 0.3870 | 228 | 217 | 177 | 246 | 234 | 205 |
| 70 | 1.1 | 1.4 | 15 | 720 | 0.2680 | 285 | 268 | 217 | 310 | 298 | 263 |
| 95 | 1.1 | 1.5 | 16.7 | 980 | 0.1930 | 336 | 319 | 262 | 386 | 374 | 322 |
| 120 | 1.2 | 1.5 | 18.4 | 1210 | 0.1530 | 388 | 371 | 296 | 450 | 439 | 380 |
| 150 | 1.4 | 1.6 | 20.5 | 1500 | 0.1240 | 428 | 405 | 336 | 509 | 497 | 433 |
| 185 | 1.6 | 1.6 | 22.5 | 1840 | 0.0991 | 490 | 462 | 382 | 591 | 579 | 491 |
| 240 | 1.7 | 1.7 | 25.4 | 2400 | 0.0754 | 564 | 530 | 439 | 725 | 714 | 597 |
| 300 | 1.8 | 1.8 | 27.8 | 2995 | 0.0601 | 638 | 593 | 496 | 918 | 842 | 690 |
| 400 | 2.0 | 1.9 | 31.2 | 3800 | 0.0470 | 735 | 673 | 559 | 995 | 971 | 796 |
| 500 | 2.2 | 2.0 | 34.7 | 4750 | 0.0366 | 827 | 752 | 621 | 1203 | 1100 | 907 |
| 630 | 2.4 | 2.2 | 41.7 | 6275 | 0.0283 | 946 | 844 | 707 | 1287 | 1264 | 1065 |
| 800 | 2.6 | 2.3 | 46.8 | 8260 | 0.0221 | 1060 | 935 | 798 | 1463 | 1439 | 1217 |
| 1000 | 2.8 | 2.4 | 51.1 | 9745 | 0.0176 | 1174 | 1015 | 866 | 1615 | 1591 | 1346 |

P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

SINGLE CORE AL / XLPE / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : AL / XLPE / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/1 KV
 Conductor : Stranded Aluminum wires
 Insulation : XLPE compound (or PVC or LSHF)
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section | Nominal Insulation Thickness | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | | | | |
|-----------------------|------------------------------|--------------------------|-------------------------|---------------------|---------------------------|----------------|-----|-----|------------------|-----|-----|
| | | | | | | Laid in ground | | | Laid in Free Air | | |
| | | | | | | ○○○ | ○○○ | ○○○ | ○ | ○○○ | ○○○ |

STRANDED COPPER CONDUCTORS

| | | | | | | | | | | | |
|------|-----|-----|-------|------|--------|-----|-----|-----|------|------|------|
| 16 | 0.7 | 1.4 | 9.21 | 115 | 1.9100 | 97 | 95 | 72 | 99 | 94 | 70 |
| 25 | 0.9 | 1.4 | 11.3 | 165 | 1.2000 | 123 | 120 | 91 | 129 | 123 | 105 |
| 35 | 0.9 | 1.4 | 12.01 | 205 | 0.8680 | 148 | 143 | 114 | 158 | 152 | 135 |
| 50 | 1.0 | 1.4 | 13.0 | 260 | 0.6410 | 177 | 169 | 131 | 193 | 187 | 164 |
| 70 | 1.1 | 1.4 | 16.0 | 340 | 0.4430 | 217 | 205 | 165 | 246 | 240 | 199 |
| 95 | 1.1 | 1.5 | 16.7 | 450 | 0.3200 | 257 | 245 | 194 | 316 | 304 | 240 |
| 120 | 1.2 | 1.5 | 18.4 | 550 | 0.2530 | 302 | 285 | 234 | 363 | 351 | 269 |
| 150 | 1.4 | 1.6 | 20.5 | 570 | 0.2060 | 336 | 319 | 257 | 415 | 404 | 333 |
| 185 | 1.6 | 1.6 | 24.2 | 830 | 0.1640 | 382 | 365 | 291 | 486 | 468 | 374 |
| 240 | 1.7 | 1.7 | 27.0 | 1050 | 0.1250 | 445 | 422 | 342 | 573 | 556 | 445 |
| 300 | 1.8 | 1.8 | 27.8 | 1300 | 0.1000 | 507 | 473 | 388 | 644 | 632 | 515 |
| 400 | 2.0 | 1.9 | 33.2 | 1610 | 0.0778 | 587 | 547 | 445 | 772 | 755 | 606 |
| 500 | 2.2 | 2.0 | 36.2 | 2000 | 0.0605 | 661 | 616 | 507 | 901 | 878 | 702 |
| 630 | 2.4 | 2.2 | 42.2 | 2520 | 0.0469 | 758 | 701 | 581 | 1053 | 1030 | 831 |
| 800 | 2.6 | 2.3 | 46.8 | 3150 | 0.0367 | 855 | 764 | 650 | 1193 | 1170 | 948 |
| 1000 | 2.8 | 2.4 | 51.8 | 3870 | 0.0291 | 946 | 832 | 707 | 1310 | 1287 | 1076 |

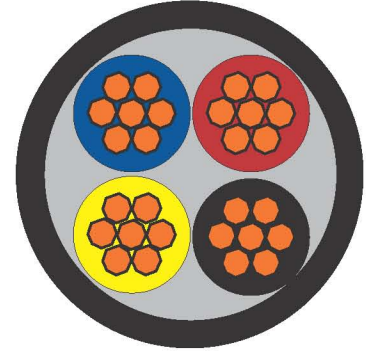


P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE ROUND CONDUCTORS CU / PVC / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / PVC / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/1 KV
 Conductor : Soft annealed stranded copper wires (or Aluminum)
 Insulation : PVC compound
 Bedding : PVC compound (or LSHF or PE)
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION



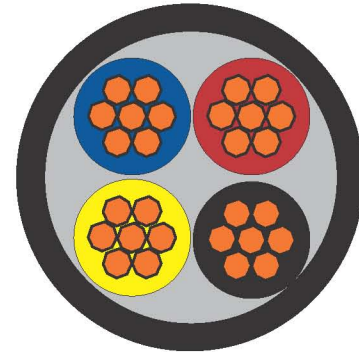
| Nominal Cross Section NR X mm ² | Nominal Insulation Thickness mm | Nominal Sheath Thickness mm | Approx overall Diameter mm | Approx Cable Weight kg/km | Max DC Resistance at 20°C ohm/km | CURRENT RATING | | |
|---|------------------------------------|--------------------------------|-------------------------------|------------------------------|-------------------------------------|----------------------------|--------------------|-----------------------|
| | | | | | | Laid Direct in ground A | Laid in Ducts A | Laid in Free Air A |
| | ph/N | | | | ph/N | | | |
| 2*1.5 | 0.8 | 1.8 | 11.9 | 190 | 12.100 | 33 | 27 | 27 |
| 2*2.5 | 0.8 | 1.8 | 12.8 | 230 | 7.410 | 41 | 35 | 35 |
| 2*4 | 1.0 | 1.8 | 14.7 | 315 | 4.610 | 55 | 45 | 49 |
| 2*6 | 1.0 | 1.8 | 16.0 | 390 | 3.080 | 68 | 56 | 63 |
| 2*10 | 1.0 | 1.8 | 17.6 | 515 | 1.830 | 89 | 77 | 84 |
| 2*16 | 1.0 | 1.8 | 19.7 | 695 | 1.150 | 116 | 91 | 112 |
| 2*25 | 1.2 | 1.8 | 23.12 | 995 | 0.727 | 150 | 119 | 147 |
| 2*35 | 1.2 | 1.8 | 25.1 | 1020 | 0.524 | 177 | 147 | 182 |
| 3*1.5 | 0.8 | 1.8 | 12.4 | 215 | 12.100 | 29 | 25 | 22 |
| 3*2.5 | 0.8 | 1.8 | 13.4 | 270 | 7.410 | 37 | 32 | 28 |
| 3*4 | 1.0 | 1.8 | 15.4 | 370 | 4.610 | 49 | 42 | 39 |
| 3*6 | 1.0 | 1.8 | 16.7 | 460 | 3.080 | 61 | 50 | 49 |
| 3*10 | 1.0 | 1.8 | 18.6 | 630 | 1.830 | 82 | 67 | 64 |
| 3*16 | 1.0 | 1.8 | 20.8 | 860 | 1.150 | 102 | 84 | 91 |
| 3*25 | 1.2 | 1.8 | 24.5 | 1215 | 0.727 | 136 | 112 | 119 |
| 3*35 | 1.2 | 1.8 | 27.0 | 1615 | 0.524 | 163 | 133 | 140 |
| 3*10+6 | 1.0 | 1.8 | 19.6 | 715 | 1.83/3.08 | 82 | 67 | 67 |
| 3*16+10 | 1.0 | 1.8 | 22.0 | 983 | 1.15/1.83 | 102 | 84 | 91 |
| 3*25+16 | 1.2/1.0 | 1.8 | 25.7 | 1455 | 0.727/1.15 | 136 | 112 | 119 |
| 3*35+16 | 1.2/1.0 | 1.8 | 27.6 | 1740 | 0.524/1.15 | 163 | 133 | 140 |
| 4*1.5 | 0.8 | 1.8 | 13.2 | 250 | 12.100 | 29 | 25 | 22 |
| 4*2.5 | 0.8 | 1.8 | 14.3 | 315 | 7.410 | 37 | 32 | 28 |
| 4*4 | 1.0 | 1.8 | 16.8 | 440 | 4.610 | 49 | 42 | 39 |
| 4*6 | 1.0 | 1.8 | 18.0 | 550 | 3.080 | 61 | 50 | 49 |
| 4*10 | 1.0 | 1.8 | 20.2 | 775 | 1.830 | 82 | 67 | 64 |
| 4*16 | 1.0 | 1.8 | 22.6 | 1065 | 1.150 | 102 | 84 | 91 |
| 4*25 | 1.2 | 1.8 | 26.8 | 1580 | 0.727 | 136 | 112 | 119 |
| 4*35 | 1.2 | 1.8 | 29.4 | 2025 | 0.524 | 163 | 133 | 140 |
| 5*1.5 | 0.8 | 1.8 | 12.9 | 235 | 12.100 | 29 | 25 | 22 |
| 5*2.5 | 0.8 | 1.8 | 14.1 | 360 | 7.410 | 37 | 32 | 28 |
| 5*4 | 1.0 | 1.8 | 17.9 | 525 | 4.610 | 49 | 42 | 39 |
| 5*6 | 1.0 | 1.8 | 19.4 | 620 | 3.080 | 61 | 50 | 49 |

P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE ROUND CONDUCTORS CU / XLPE / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/1 KV
 Conductor : Soft annealed stranded copper wires (or Aluminum)
 Insulation : XLPE compound
 Bedding : PVC compound (or LSHF or PE)
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section NR x mm ² | Nominal Insulation Thickness mm | Nominal Sheath Thickness mm | Approx overall Diameter mm | Approx Cable Weight kg/km | Max DC Resistance at 20°C ohm/km | CURRENT RATING | | |
|---|------------------------------------|--------------------------------|-------------------------------|------------------------------|-------------------------------------|----------------------------|--------------------|-----------------------|
| | | | | | | Laid Direct in ground A | Laid in Ducts A | Laid in Free Air A |
| | ph/N | | | | ph/N | | | |
| 2*1.5 | 0.7 | 1.8 | 11.5 | 170 | 12.100 | 34 | 29 | 28 |
| 2*2.5 | 0.7 | 1.8 | 12.4 | 205 | 7.410 | 42 | 37 | 37 |
| 2*4 | 0.7 | 1.8 | 13.5 | 260 | 4.610 | 57 | 47 | 51 |
| 2*6 | 0.7 | 1.8 | 14.6 | 325 | 3.080 | 72 | 61 | 67 |
| 2*10 | 0.7 | 1.8 | 16.4 | 455 | 1.830 | 93 | 81 | 88 |
| 2*16 | 0.7 | 1.8 | 18.4 | 620 | 1.150 | 121 | 97 | 117 |
| 2*25 | 0.9 | 1.8 | 22.0 | 920 | 0.727 | 158 | 125 | 154 |
| 2*35 | 0.9 | 1.8 | 24.1 | 1140 | 0.524 | 189 | 157 | 185 |
| 3*1.5 | 0.7 | 1.8 | 12.0 | 190 | 12.100 | 30 | 27 | 25 |
| 3*2.5 | 0.7 | 1.8 | 13.0 | 235 | 7.410 | 40 | 34 | 36 |
| 3*4 | 0.7 | 1.8 | 14.1 | 315 | 4.610 | 51 | 42 | 46 |
| 3*6 | 0.7 | 1.8 | 15.3 | 400 | 3.080 | 65 | 53 | 56 |
| 3*10 | 0.7 | 1.8 | 17.3 | 555 | 1.830 | 86 | 70 | 76 |
| 3*16 | 0.7 | 1.8 | 19.5 | 770 | 1.150 | 111 | 88 | 99 |
| 3*25 | 0.9 | 1.8 | 23.3 | 1150 | 0.727 | 146 | 119 | 135 |
| 3*35 | 0.9 | 1.8 | 25.6 | 1480 | 0.524 | 177 | 140 | 161 |
| 3*10+6 | 0.7 | 1.8 | 18.1 | 625 | 1.83/3.08 | 86 | 70 | 76 |
| 3*16+10 | 0.7 | 1.8 | 20.4 | 880 | 1.15/1.83 | 111 | 88 | 99 |
| 3*25+16 | 0.9/0.7 | 1.8 | 24.2 | 1305 | 0.727/1.15 | 146 | 119 | 135 |
| 3*35+16 | 0.9/0.7 | 1.8 | 26.2 | 1620 | 0.524/1.15 | 177 | 140 | 161 |
| 4*1.5 | 0.7 | 1.8 | 12.8 | 225 | 12.100 | 30 | 27 | 25 |
| 4*2.5 | 0.7 | 1.8 | 14.0 | 290 | 7.410 | 40 | 34 | 36 |
| 4*4 | 0.7 | 1.8 | 15.2 | 375 | 4.610 | 51 | 42 | 46 |
| 4*6 | 0.7 | 1.8 | 16.6 | 480 | 3.080 | 65 | 53 | 56 |
| 4*10 | 0.7 | 1.8 | 18.6 | 675 | 1.830 | 86 | 70 | 76 |
| 4*16 | 0.7 | 1.8 | 21.1 | 955 | 1.150 | 111 | 88 | 99 |
| 4*25 | 0.9 | 1.8 | 25.3 | 1435 | 0.727 | 146 | 119 | 135 |
| 4*35 | 0.9 | 1.9 | 28.0 | 1865 | 0.524 | 177 | 140 | 161 |
| 5*1.5 | 0.7 | 1.8 | 13.6 | 255 | 12.100 | 30 | 27 | 25 |
| 5*2.5 | 0.7 | 1.8 | 14.8 | 330 | 7.410 | 40 | 34 | 36 |
| 5*4 | 0.7 | 1.8 | 16.3 | 430 | 4.610 | 51 | 42 | 46 |
| 5*6 | 0.7 | 1.8 | 17.8 | 600 | 3.080 | 65 | 53 | 56 |

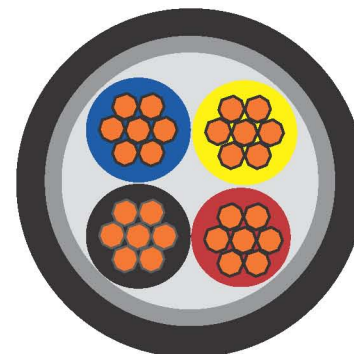


P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE ROUND CONDUCTORS CU / XLPE / STA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / STA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/ 1 KV
 Conductor : Soft annealed stranded copper wires (or Aluminum)
 Insulation : XLPE compound
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Tape
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION



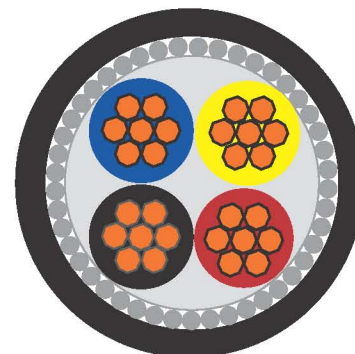
| Nominal Cross Section | Nominal Insulation Thickness | Nominal Diameter of S.Tape | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|----------------------------|--------------------------|-------------------------|---------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | | Laid Direct in ground | Laid in Ducts | Laid in Free Air |
| NR x mm ² | mm | mm | mm | mm | kg/km | ohm/km | A | A | A |
| | ph/N | | | | | ph/N | | | |
| 2*6 | 0.7 | 0.20 | 1.8 | 15.4 | 415 | 3.080 | 71 | 60 | 66 |
| 2*10 | 0.7 | 0.20 | 1.8 | 17.2 | 550 | 1.830 | 92 | 80 | 87 |
| 2*16 | 0.7 | 0.20 | 1.8 | 19.3 | 725 | 1.150 | 120 | 96 | 115 |
| 2*25 | 0.9 | 0.20 | 1.8 | 22.8 | 1045 | 0.727 | 157 | 124 | 152 |
| 2*35 | 0.9 | 0.20 | 1.8 | 24.9 | 1305 | 0.524 | 187 | 154 | 183 |
| 3*6 | 0.7 | 0.20 | 1.8 | 16.1 | 485 | 3.080 | 64 | 51 | 55 |
| 3*10 | 0.7 | 0.20 | 1.8 | 18.1 | 655 | 1.830 | 84 | 69 | 75 |
| 3*16 | 0.7 | 0.20 | 1.8 | 20.1 | 885 | 1.150 | 109 | 87 | 98 |
| 3*25 | 0.9 | 0.20 | 1.8 | 24.1 | 1280 | 0.727 | 145 | 117 | 133 |
| 3*35 | 0.9 | 0.20 | 1.8 | 26.3 | 1630 | 0.524 | 174 | 139 | 159 |
| 3*10+6 | 0.7 | 0.20 | 1.8 | 18.9 | 735 | 1.83/3.08 | 84 | 69 | 75 |
| 3*16*+10 | 0.7 | 0.20 | 1.8 | 21.3 | 1005 | 0.15/1.83 | 109 | 87 | 98 |
| 3*25+16 | 0.9/0.7 | 0.20 | 1.8 | 25 | 1495 | 0.727/1.15 | 145 | 117 | 133 |
| 3*35+16 | 0.9/0.7 | 0.20 | 1.8 | 27 | 1800 | 0.524/1.15 | 174 | 139 | 159 |
| 4*6 | 0.7 | 0.20 | 1.8 | 17.3 | 575 | 3.080 | 64 | 51 | 55 |
| 4*10 | 0.7 | 0.20 | 1.8 | 18.6 | 675 | 1.830 | 84 | 69 | 75 |
| 4*16 | 0.7 | 0.20 | 1.8 | 21.1 | 955 | 1.150 | 109 | 87 | 98 |
| 4*25 | 0.9 | 0.20 | 1.8 | 25.3 | 1435 | 0.727 | 145 | 117 | 133 |
| 4*35 | 0.9 | 0.20 | 1.8 | 27.9 | 1860 | 0.524 | 174 | 139 | 159 |
| 5*4 | 0.7 | 0.20 | 1.8 | 16.3 | 430 | 4.610 | 50 | 41 | 44 |
| 5*6 | 0.7 | 0.20 | 1.8 | 17.8 | 600 | 3.0800 | 64 | 51 | 55 |

P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE ROUND CONDUCTORS CU / XLPE / SWA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / SWA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6 / 1 KV
 Conductor : Soft annealed stranded copper wires
 Insulation : XLPE compound (or PVC or LSHF)
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Tape
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section | Nominal Insulation Thickness | Nominal Diameter of S.Wire | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|----------------------------|--------------------------|-------------------------|---------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | | Laid Direct in ground | Laid in Ducts | Laid in Free Air |
| NR x mm ² | mm | mm | mm | mm | kg/km | ohm/km | A | A | A |
| | ph/N | | | | | ph/N | | | |
| 2*1.5 | 0.7 | 0.9 | 1.8 | 13.3 | 345 | 12.100 | 35 | 30 | 29 |
| 2*2.5 | 0.7 | 0.9 | 1.8 | 14.2 | 395 | 7.410 | 43 | 39 | 39 |
| 2*4 | 0.7 | 0.9 | 1.8 | 15.2 | 470 | 4.610 | 58 | 48 | 53 |
| 2*6 | 0.7 | 0.9 | 1.8 | 16.4 | 555 | 3.080 | 73 | 62 | 68 |
| 2*10 | 0.7 | 0.9 | 1.8 | 18.2 | 700 | 1.830 | 95 | 82 | 89 |
| 2*16 | 0.7 | 0.9 | 1.8 | 20.2 | 905 | 1.150 | 122 | 98 | 118 |
| 2*25 | 0.9 | 1.60 | 1.8 | 25.1 | 1545 | 0.727 | 160 | 126 | 156 |
| 2*35 | 0.9 | 1.60 | 1.8 | 27.0 | 1845 | 0.524 | 192 | 158 | 187 |
| 3*1.5 | 0.7 | 0.9 | 1.8 | 13.8 | 385 | 12.100 | 31 | 28 | 26 |
| 3*2.5 | 0.7 | 0.9 | 1.8 | 14.7 | 435 | 7.410 | 41 | 35 | 37 |
| 3*4 | 0.7 | 0.9 | 1.8 | 15.9 | 525 | 4.610 | 52 | 43 | 47 |
| 3*6 | 0.7 | 0.9 | 1.8 | 17.1 | 635 | 3.080 | 66 | 54 | 57 |
| 3*10 | 0.7 | 0.9 | 1.8 | 19.1 | 825 | 1.830 | 87 | 71 | 77 |
| 3*16 | 0.7 | 0.9 | 1.8 | 21.3 | 1085 | 1.150 | 112 | 89 | 101 |
| 3*25 | 0.9 | 1.60 | 1.8 | 26.5 | 1825 | 0.727 | 148 | 121 | 136 |
| 3*35 | 0.9 | 1.60 | 1.8 | 28.8 | 2220 | 0.524 | 180 | 143 | 164 |
| 3*10+6 | 0.7 | 0.9 | 1.8 | 20.0 | 1000 | 1.83/3.08 | 87 | 71 | 77 |
| 3*16+10 | 0.7 | 1.60 | 1.8 | 22.2 | 1205 | 1.15/1.83 | 112 | 89 | 101 |
| 3*25+16 | 0.9/0.7 | 1.60 | 1.8 | 27.4 | 1920 | 727/1.15 | 148 | 121 | 136 |
| 3*35+16 | 0.9/0.7 | 1.60 | 1.8 | 29.13 | 2485 | 24/1.15 | 180 | 143 | 164 |
| 4*1.5 | 0.7 | 0.9 | 1.8 | 14.6 | 420 | 12.100 | 31 | 28 | 26 |
| 4*2.5 | 0.7 | 0.9 | 1.8 | 15.6 | 495 | 7.410 | 41 | 35 | 37 |
| 4*4 | 0.7 | 0.9 | 1.8 | 16.19 | 605 | 4.610 | 52 | 43 | 47 |
| 4*6 | 0.7 | 0.9 | 1.8 | 18.13 | 735 | 3.080 | 66 | 54 | 57 |
| 4*10 | 0.7 | 0.9 | 1.8 | 20.5 | 935 | 1.830 | 87 | 71 | 77 |
| 4*16 | 0.7 | 1.60 | 1.8 | 24.13 | 1505 | 1.150 | 112 | 89 | 101 |
| 4*25 | 0.9 | 1.60 | 1.8 | 28.5 | 2075 | 0.727 | 148 | 121 | 136 |
| 4*35 | 0.9 | 1.60 | 1.8 | 31.3 | 2570 | 0.524 | 180 | 143 | 164 |
| 5*1.5 | 0.7 | 0.9 | 1.8 | 15.4 | 450 | 12.100 | 31 | 28 | 26 |
| 5*2.5 | 0.7 | 0.9 | 1.8 | 16.6 | 535 | 7.410 | 41 | 35 | 37 |
| 5*4 | 0.7 | 0.9 | 1.8 | 18.1 | 700 | 4.610 | 52 | 43 | 47 |
| 5*6 | 0.7 | 0.9 | 1.8 | 19.6 | 855 | 3.080 | 66 | 54 | 57 |

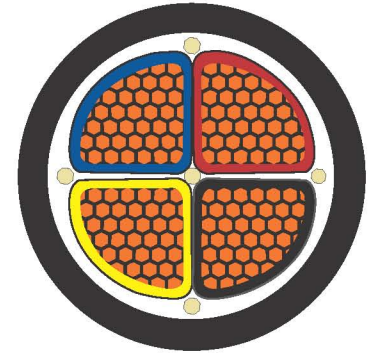


P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE SHAPED CONDUCTORS CU / XLPE / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6 / 1 KV
 Conductor : Soft annealed stranded copper wires
 Insulation : XLPE compound (or PVC)
 Bedding : PVC compound (LSHF or PE)
 Jacketing : PVC compound (LSHF or PE)



TECHNICAL INFORMATION



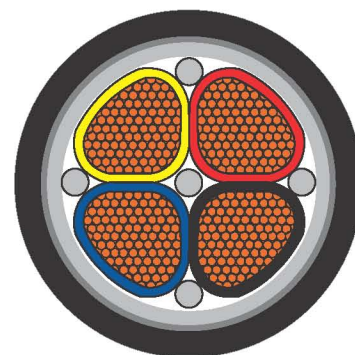
| Nominal Cross Section NR x mm ² | Nominal Insulation Thickness mm ph/N | Nominal Sheath Thickness mm | Approx overall Diameter mm | Approx Cable Weight kg/km | Max DC Resistance at 20°C ohm/km ph/N | CURRENT RATING | | |
|---|--|--------------------------------|-------------------------------|------------------------------|---|----------------------------|--------------------|-----------------------|
| | | | | | | Laid Direct in ground A | Laid in Ducts A | Laid in Free Air A |
| 3*50+25 | 1.0/0.9 | 1.8 | 25.8 | 1845 | 0.3870/0.727 | 211 | 170 | 199 |
| 3*70+35 | 1.1/0.9 | 1.9 | 29.6 | 2565 | 0.268/0.524 | 251 | 211 | 240 |
| 3*95+50 | 1.1/1.0 | 2.1 | 33.5 | 3465 | 0.1930/0.387 | 302 | 246 | 298 |
| 3*120+70 | 1.2/1.1 | 2.2 | 37.4 | 4385 | 0.153/0.268 | 348 | 287 | 345 |
| 3*150+70 | 1.4/1.1 | 2.3 | 41.2 | 5280 | 0.124/0.268 | 382 | 322 | 392 |
| 3*185+95 | 1.6/1.1 | 2.5 | 46.1 | 6645 | 0.0991/0.93 | 428 | 363 | 450 |
| 3*240+120 | 1.7/1.2 | 2.7 | 51.6 | 8610 | 0.0754/0.153 | 496 | 427 | 538 |
| 3*300+150 | 1.8/1.4 | 2.9 | 56.9 | 10720 | 0.0601/0.124 | 559 | 474 | 626 |
| 3*400+185 | 2.0/1.6 | 3.1 | 64.6 | 13635 | 0.0470/0.0991 | 638 | 544 | 720 |
| 3*500+240 | 2.2/1.7 | 3.3 | 71.8 | 17115 | 0.0336/0.0754 | 718 | 620 | 819 |
| 4*50 | 1.0 | 1.8 | 27 | 2010 | 0.387 | 211 | 170 | 199 |
| 4*70 | 1.1 | 2.0 | 31.3 | 2850 | 0.268 | 251 | 211 | 240 |
| 4*95 | 1.1 | 2.1 | 34.6 | 3885 | 0.193 | 302 | 246 | 298 |
| 4*120 | 1.2 | 2.3 | 39.6 | 4905 | 0.153 | 348 | 287 | 345 |
| 4*150 | 1.4 | 2.4 | 43.6 | 5055 | 0.124 | 382 | 322 | 392 |
| 4*185 | 1.6 | 2.6 | 48.6 | 7495 | 0.0991 | 428 | 363 | 440 |
| 4*240 | 1.7 | 2.8 | 54.4 | 9785 | 0.0754 | 496 | 427 | 538 |
| 4*300 | 1.8 | 3.0 | 60.0 | 12205 | 0.0601 | 559 | 474 | 626 |
| 4*400 | 2.0 | 3.3 | 68.6 | 155540 | 0.0470 | 638 | 544 | 720 |
| 4*500 | 2.2 | 3.5 | 76.2 | 19415 | 0.0366 | 718 | 620 | 819 |

P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE SHAPED CONDUCTORS CU / XLPE / STA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / STA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/1 KV
 Conductor : Soft annealed stranded copper wires
 Insulation : XLPE compound (or PVC)
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Tape
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section | Nominal Insulation Thickness | Nominal Diameter of S.Tape | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|----------------------------|--------------------------|-------------------------|---------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | | Laid Direct in ground | Laid in Ducts | Laid in Free Air |
| NR x mm ² | mm | mm | mm | mm | kg/km | kg/km | A | A | A |
| | ph/N | | | | | ph/N | | | |
| 3*50+25 | 1.0/0.9 | 0.20 | 1.9 | 28.8 | 2145 | 0.387/0.727 | 211 | 170 | 199 |
| 3*70+35 | 1.1/0.9 | 0.20 | 2.0 | 33.0 | 2945 | 0.268/0.524 | 251 | 211 | 240 |
| 3*95+50 | 1.1/1.0 | 0.20 | 2.2 | 38.1 | 4255 | 0.193/0.387 | 302 | 246 | 298 |
| 3*120+70 | 1.2/1.1 | 0.50 | 2.3 | 42.0 | 5240 | 0.153/0.268 | 348 | 287 | 345 |
| 3*150+70 | 1.4/1.1 | 0.50 | 2.4 | 46.2 | 6280 | 0.124/0.268 | 382 | 322 | 392 |
| 3*185+95 | 1.6/1.1 | 0.50 | 2.6 | 51.1 | 7750 | 0.0991/0.193 | 428 | 363 | 450 |
| 3*240+120 | 1.7/1.2 | 0.50 | 2.8 | 57 | 9905 | 0.0754/0.153 | 496 | 427 | 538 |
| 3*300+150 | 1.8/1.4 | 0.50 | 3.0 | 62.3 | 12140 | 0.0607/0.124 | 559 | 474 | 626 |
| 3*400+185 | 2.0/1.6 | 0.50 | 3.2 | 70.0 | 15090 | 0.0475/0.0991 | 638 | 544 | 720 |
| 3*500+240 | 2.2/1.7 | 0.50 | 3.2 | 77.2 | 18855 | 0.0366 | 718 | 620 | 819 |
| 4*50 | 1.0 | 0.20 | 1.9 | 30.0 | 2375 | 0.3870 | 211 | 170 | 199 |
| 4*70 | 1.1 | 0.20 | 2.1 | 34.7 | 3270 | 0.2680 | 251 | 211 | 240 |
| 4*95 | 1.1 | 0.50 | 2.2 | 39.6 | 4705 | 0.1930 | 302 | 246 | 298 |
| 4*120 | 1.2 | 0.50 | 2.4 | 43.7 | 5805 | 0.1530 | 348 | 287 | 345 |
| 4*150 | 1.4 | 0.50 | 2.6 | 48.8 | 7125 | 0.1240 | 382 | 322 | 392 |
| 4*185 | 1.6 | 0.50 | 2.7 | 53.6 | 8650 | 0.0991 | 428 | 363 | 450 |
| 4*240 | 1.7 | 0.50 | 2.9 | 60.2 | 11190 | 0.0754 | 496 | 427 | 538 |
| 4*300 | 1.8 | 0.50 | 3.1 | 65.4 | 13720 | 0.0601 | 559 | 474 | 626 |
| 4*400 | 2.0 | 0.50 | 3.4 | 74.8 | 17280 | 0.0470 | 638 | 544 | 720 |
| 4*500 | 2.2 | 0.50 | 3.7 | 82.2 | 21330 | 0.036 | 718 | 620 | 816 |

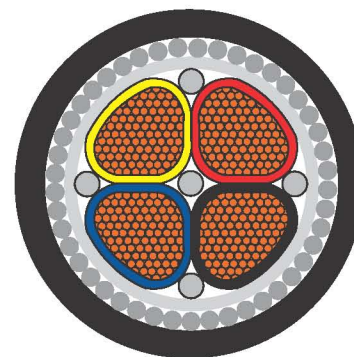


P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE SHAPED CONDUCTORS CU / XLPE / SWA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : CU / XLPE / SWA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6 /1 KV
 Conductor : Soft annealed stranded copper wires
 Insulation : XLPE compound (or PVC or LSHF)
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Wires
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION



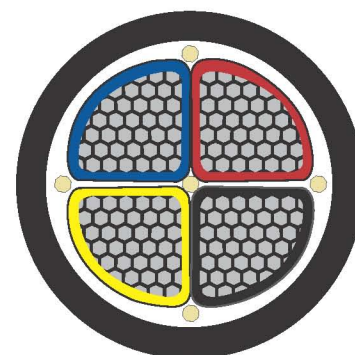
| Nominal Cross Section NR x mm ² | Nominal Insulation Thickness mm ph/N | Nominal Diameter of S.Wire mm | Nominal Sheath Thickness mm | Approx overall Diameter kg/km | Approx Cable Weight ohm/km | Max DC Resistance at 20°C kg/km ph/N | CURRENT RATING | | |
|---|--|----------------------------------|--------------------------------|----------------------------------|-------------------------------|--|----------------------------|--------------------|-----------------------|
| | | | | | | | Laid Direct in ground A | Laid in Ducts A | Laid in Free Air A |
| 3*50+25 | 1.0/0.9 | 1.6 | 1.9 | 31.6 | 2805 | 0.387/0.727 | 211 | 170 | 205 |
| 3*70+35 | 1.1/0.9 | 2.00 | 2.1 | 36.4 | 3950 | 0.268/0.524 | 251 | 211 | 246 |
| 3*95+50 | 1.1/1.0 | 2.00 | 2.2 | 40.1 | 5000 | 0.193/0.387 | 302 | 246 | 304 |
| 3*120+70 | 1.2/1.1 | 2.0 | 2.3 | 44.0 | 6115 | 0.153/0.268 | 348 | 287 | 351 |
| 3*150+70 | 1.4/1.1 | 2.50 | 2.5 | 49.4 | 7690 | 0.124/0.268 | 382 | 322 | 398 |
| 3*185+95 | 1.6/1.1 | 2.50 | 2.7 | 54.6 | 9265 | 0.0991/0.193 | 428 | 363 | 456 |
| 3*240+120 | 1.7/1.2 | 2.50 | 2.9 | 60.2 | 11600 | 0.0754/0.153 | 496 | 427 | 544 |
| 3*300+150 | 1.8/1.4 | 2.50 | 3.0 | 65.3 | 13940 | 0.0601/0.124 | 559 | 474 | 632 |
| 3*400+185 | 2.0/1.6 | 3.15 | 3.4 | 76.1 | 18370 | 0.0470/0.0991 | 638 | 544 | 725 |
| 3*500+240 | 2.2/1.7 | 3.15 | 3.6 | 82.3 | 22150 | 0.0366/0.0754 | 718 | 620 | 825 |
| 4*50 | 1.0 | 1.60 | 2.0 | 32.6 | 3035 | 0.3870 | 211 | 170 | 205 |
| 4*70 | 1.1 | 2.00 | 2.2 | 38.1 | 4315 | 0.2680 | 251 | 211 | 246 |
| 4-95 | 1.1 | 2.00 | 2.3 | 41.8 | 5530 | 0.1930 | 302 | 246 | 304 |
| 4*120 | 1.2 | 2.50 | 2.5 | 46.9 | 71112 | 0.1530 | 348 | 287 | 351 |
| 4*150 | 1.4 | 2.50 | 2.6 | 51.8 | 8555 | 0.1240 | 382 | 322 | 398 |
| 4*185 | 1.6 | 2.50 | 2.8 | 56.8 | 10250 | 0.0991 | 428 | 363 | 456 |
| 4*240 | 1.7 | 2.50 | 3.0 | 63.0 | 12945 | 0.0754 | 496 | 427 | 544 |
| 4*300 | 1.8 | 2.50 | 3.2 | 68.6 | 15675 | 0.0601 | 559 | 474 | 632 |
| 4*400 | 2.0 | 3.15 | 3.5 | 79.3 | 20630 | 0.0470 | 638 | 544 | 725 |
| 4*500 | 2.2 | 3.15 | 3.8 | 87.1 | 25120 | 0.0366 | 718 | 620 | 825 |

*P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.*

MULTICORE SHAPED CONDUCTORS AL / XLPE / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : AL / XLPE / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6 / 1 KV
 Conductor : Drawn Aluminum wires
 Insulation : XLPE compound (or PVC or LSHF)
 Bedding : PVC compound (or LSHF or PE)
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section | Nominal Insulation Thickness | Nominal Sheath Thickness | Approx overall Diameter | Approx. Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|--------------------------|-------------------------|----------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | Laid Direct in ground | Laid in Ducts | Laid in Free Air |
| NR x mm ² | mm | mm | mm | kg/km | ohm/km | A | A | A |
| | ph/N | | | | ph/N | | | |
| 3*50+25 | 1.0/0.9 | 1.8 | 25.8 | 805 | 0.641/1.20 | 165 | 129 | 152 |
| 3*70+35 | 1.1/0.9 | 1.9 | 29.6 | 1105 | 0.443/0.868 | 200 | 164 | 187 |
| 3*95+50 | 1.1/1.0 | 2.1 | 33.5 | 1425 | 0.320/0.641 | 239 | 193 | 228 |
| 3*120+70 | 1.2/1.1 | 2.2 | 37.8 | 1795 | 0.253/0.443 | 268 | 222 | 263 |
| 3*150+70 | 1.4/1.1 | 2.3 | 41.9 | 2300 | 0.206/0.443 | 302 | 252 | 310 |
| 3*185+95 | 1.6/1.1 | 2.5 | 46.1 | 2670 | 0.164/0.320 | 331 | 281 | 351 |
| 3*240+120 | 1.7/1.2 | 2.7 | 51.6 | 3395 | 0.125/0.253 | 388 | 328 | 421 |
| 3*300+150 | 1.8/1.4 | 2.8 | 57.1 | 4175 | 0.100/0.206 | 445 | 369 | 497 |
| 3*400+185 | 2.0/1.6 | 3.1 | 65.0 | 5300 | 0.0778/0.164 | 513 | 433 | 573 |
| 3*500+240 | 2.2/1.7 | 3.4 | 71.8 | 7220 | 0.0605/0.125 | 581 | 497 | 655 |
| 4*50 | 1.0 | 1.8 | 27.0 | 860 | 0.6410 | 165 | 129 | 152 |
| 4*70 | 1.1 | 2.0 | 31.3 | 1100 | 0.4430 | 200 | 164 | 187 |
| 4-95 | 1.1 | 2.1 | 35.0 | 1565 | 0.3200 | 239 | 193 | 228 |
| 4*120 | 1.2 | 2.3 | 39.5 | 2020 | 0.2530 | 268 | 222 | 263 |
| 4*150 | 1.4 | 2.4 | 43.6 | 2470 | 0.2060 | 302 | 252 | 310 |
| 4*185 | 1.6 | 2.5 | 48.4 | 2965 | 0.1640 | 331 | 281 | 351 |
| 4*240 | 1.7 | 2.8 | 54.4 | 3825 | 0.1250 | 388 | 328 | 421 |
| 4*300 | 1.8 | 3.0 | 60.0 | 4685 | 0.1000 | 4445 | 369 | 497 |
| 4*400 | 2.0 | 3.3 | 72.2 | 6280 | 0.0778 | 513 | 433 | 573 |
| 4*500 | 2.2 | 3.5 | 76.5 | 7615 | 0.0605 | 581 | 497 | 655 |

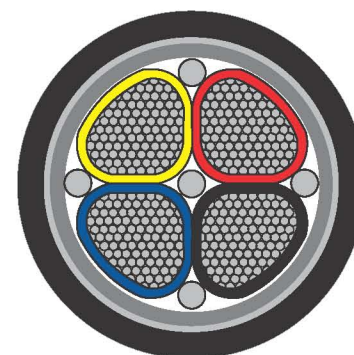


P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE SHAPED CONDUCTORS AL / XLPE / STA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : AL / XLPE / STA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6 /1 KV
 Conductor : Drawn Aluminum Wires
 Insulation : XLPE compound (or PVC or LSHF)
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Tape
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION



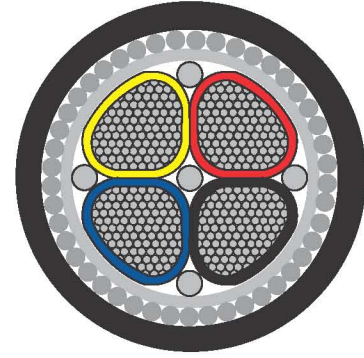
| Nominal Cross Section | Nominal Insulation Thickness | Nominal Diameter of S.Tape | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|----------------------------|--------------------------|-------------------------|---------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | | Laid Direct in ground | Laid in Ducts | Laid in Free Air |
| NR x mm ² | mm | mm | mm | mm | kg/km | ohm/km | A | A | A |
| | ph/N | | | | | ph/N | | | |
| 3*50 | 1.0 | 0.20 | 1.8 | 27.0 | 1000 | 0.641 | 165 | 129 | 152 |
| 3*70 | 1.1 | 0.20 | 2.0 | 30.4 | 1210 | 0.443 | 200 | 164 | 187 |
| 3*95 | 1.1 | 0.20 | 2.1 | 34.2 | 1650 | 0.320 | 239 | 193 | 228 |
| 3*120 | 1.2 | 0.50 | 2.3 | 38.8 | 2340 | 0.253 | 268 | 222 | 263 |
| 3*150 | 1.4 | 0.50 | 2.4 | 42.5 | 2770 | 0.206 | 302 | 252 | 310 |
| 3*185 | 1.6 | 0.50 | 2.5 | 47.2 | 3350 | 0.1640 | 331 | 281 | 351 |
| 3*240 | 1.7 | 0.50 | 2.7 | 52.2 | 4280 | 0.1250 | 388 | 328 | 421 |
| 3*300 | 1.8 | 0.50 | 2.9 | 57.6 | 5020 | 0.1000 | 445 | 369 | 497 |
| 3*400 | 2.0 | 0.50 | 3.2 | 64.4 | 6230 | 0.0778 | 513 | 433 | 573 |
| 3*500 | 2.2 | 0.50 | 3.4 | 71.0 | 7540 | 0.0605 | 581 | 497 | 655 |
| 3*50+25 | 1.0/0.9 | 0.20 | 1.9 | 29.5 | 1200 | 0.641/1.20 | 165 | 129 | 152 |
| 3*70+35 | 1.1/0.9 | 0.20 | 2.0 | 33.5 | 1500 | 0.443/0.868 | 200 | 164 | 187 |
| 3*95+50 | 1.1/1.0 | 0.50 | 2.3 | 38.3 | 1970 | 0.320/0.641 | 239 | 193 | 228 |
| 3*120+70 | 1.2/1.1 | 0.50 | 2.4 | 42.2 | 2710 | 0.253/0.443 | 268 | 222 | 263 |
| 3*150+70 | 1.4/1.1 | 0.50 | 2.4 | 46.7 | 3180 | 0.206/0.443 | 302 | 252 | 310 |
| 3*185+95 | 1.6/1.1 | 0.50 | 2.6 | 51.4 | 3530 | 0.164/0.320 | 331 | 281 | 351 |
| 3*240+120 | 1.7/1.2 | 0.50 | 2.8 | 57.0 | 4600 | 0.125/0.253 | 388 | 328 | 421 |
| 3*300+150 | 1.8/1.4 | 0.50 | 3.0 | 62.8 | 5920 | 0.100/0.206 | 445 | 369 | 497 |
| 3*400+185 | 2.0/1.6 | 0.50 | 3.3 | 70.4 | 7200 | 0.0778/0.164 | 513 | 433 | 573 |
| 3*500+240 | 2.0/1.7 | 0.50 | 3.5 | 77.0 | 9040 | 0.0605/0.125 | 581 | 497 | 655 |
| 4*50 | 1.0 | 0.20 | 1.9 | 30.4 | 1210 | 0.6410 | 165 | 129 | 152 |
| 4*70 | 1.1 | 0.20 | 2.1 | 34.7 | 1595 | 0.4430 | 200 | 164 | 187 |
| 4*95 | 1.1 | 0.50 | 2.3 | 40.4 | 2540 | 0.3200 | 239 | 193 | 228 |
| 4*120 | 1.2 | 0.50 | 2.4 | 43.8 | 3020 | 0.2530 | 268 | 222 | 263 |
| 4*150 | 1.4 | 0.50 | 2.6 | 49.0 | 3670 | 0.2060 | 302 | 252 | 310 |
| 4*185 | 1.6 | 0.50 | 2.7 | 53.6 | 4380 | 0.1640 | 331 | 281 | 351 |
| 4*240 | 1.7 | 0.50 | 2.9 | 60.0 | 4430 | 0.1250 | 388 | 328 | 421 |
| 4*300 | 1.8 | 0.50 | 3.1 | 65.4 | 6125 | 0.1000 | 449 | 369 | 497 |
| 4*400 | 2.0 | 0.50 | 3.4 | 73.6 | 7550 | 0.0778 | 513 | 433 | 573 |
| 4*500 | 2.3 | 0.50 | 3.7 | 81.6 | 9990 | 0.0605 | 581 | 497 | 655 |

P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

MULTICORE SHAPED CONDUCTORS AL / XLPE / SWA / PVC, 0.6/1KV

For outdoor and indoor installations in damp and wet locations

Type : AL / XLPE / SWA / PVC
 Standard : IEC 60502-1
 Rated Voltage : 0.6/1 KV
 Conductor : Drawn Aluminum Wires
 Insulation : XLPE compound (or PVC or LSHF)
 Bedding : PVC compound (or LSHF or PE)
 Armoring : Steel Wires
 Jacketing : PVC compound (or LSHF or PE)



TECHNICAL INFORMATION

| Nominal Cross Section | Nominal Insulation Thickness | Nominal Diameter of S.Wire | Nominal Sheath Thickness | Approx overall Diameter | Approx Cable Weight | Max DC Resistance at 20°C | CURRENT RATING | | |
|-----------------------|------------------------------|----------------------------|--------------------------|-------------------------|---------------------|---------------------------|-----------------------|---------------|------------------|
| | | | | | | | Laid Direct in ground | Laid In Ducts | Laid In Free Air |
| NR x mm ² | mm | mm | mm | mm | kg/km | ohm/km | A | A | A |
| | ph/N | | | | | ph/N | | | |
| 3*50+25 | 1.0/0.9 | 2.00 | 1.9 | 31.6 | 1870 | 0.641/1.20 | 165 | 129 | 158 |
| 3*70+35 | 1.1/0.9 | 2.00 | 2.1 | 36.8 | 2500 | 0.443/0.868 | 200 | 164 | 193 |
| 3*95+50 | 1.1/1.0 | 2.00 | 2.2 | 40.1 | 2955 | 0.320/0.641 | 239 | 193 | 234 |
| 3*120+70 | 1.2/1.1 | 2.50 | 2.3 | 44.2 | 3690 | 0.253/0.443 | 268 | 222 | 269 |
| 3*150+70 | 1.4/1.1 | 2.50 | 2.5 | 49.8 | 4525 | 0.206/0.443 | 302 | 252 | 316 |
| 3*185+95 | 1.6/1.1 | 2.50 | 2.7 | 55.0 | 5330 | 0.164/0.320 | 331 | 281 | 357 |
| 3*240+120 | 1.7/1.2 | 2.50 | 2.9 | 60.6 | 6445 | 0.125/0.253 | 388 | 328 | 427 |
| 3*300+150 | 1.8/1.4 | 2.50 | 3.0 | 65.3 | 7400 | 0.100/0.206 | 445 | 369 | 503 |
| 3*400+185 | 2.0/1.6 | 3.15 | 3.3 | 73.4 | 9450 | 0.0778/0.164 | 513 | 433 | 579 |
| 3*500+240 | 2.2/1.7 | 3.15 | 3.6 | 81.6 | 12270 | 0.0605/0.125 | 581 | 497 | 661 |
| 4*50 | 1.0 | 1.60 | 2.0 | 32.6 | 1880 | 0.6410 | 165 | 129 | 158 |
| 4*70 | 1.1 | 2.0 | 2.2 | 38.1 | 2660 | 0.4430 | 200 | 164 | 193 |
| 4*95 | 1.1 | 2.00 | 2.3 | 41.8 | 3170 | 0.3200 | 239 | 193 | 234 |
| 4*120 | 1.2 | 2.50 | 2.5 | 46.9 | 4195 | 0.2530 | 268 | 222 | 269 |
| 4*150 | 1.4 | 2.50 | 2.6 | 51.8 | 4915 | 0.2060 | 302 | 252 | 316 |
| 4*185 | 1.6 | 2.50 | 2.8 | 56.8 | 5750 | 0.1640 | 331 | 281 | 357 |
| 4*240 | 1.7 | 2.50 | 3.0 | 63.0 | 6980 | 0.1250 | 388 | 328 | 427 |
| 4*300 | 1.8 | 2.50 | 3.2 | 68.6 | 8155 | 0.1000 | 445 | 369 | 503 |
| 4*400 | 2.0 | 3.15 | 3.6 | 80.5 | 11315 | 0.0778 | 513 | 433 | 579 |
| 4*500 | 2.2 | 3.15 | 3.7 | 86.9 | 13025 | 0.0605 | 581 | 497 | 661 |



P.S. The current ratings in the above are as per normal conditions mentioned at page 21.
 For other conditions, please check tables at page 22.

LAYING PARAMETERS

Minimum Bending Radius During Installation

During laying, the bending radius should not be smaller than values given below. The radius depends on the outer diameter (Do) of the cable.

PVC and XLPE insulated Cables up to 3.6 kV

| Conductor | Construction | Outer diameter (mm) | Min. Radius |
|-----------------------------|------------------------|---------------------|-------------|
| Stranded aluminum or copper | Armoured or Unarmoured | Any | 8 Do |

Maximum Tensile Forces During laying

| Means of Pulling | Type of Cable | Formula | Factor |
|--|---------------------|----------------------|--|
| With pulling head attached to the conductors | All types of cables | $P = \sigma \cdot A$ | $\sigma = 50 \text{ N/mm}^2$ (Copper conductor) |
| | | | $\sigma = 30 \text{ N/mm}^2$ (Al conductor) |
| with pulling stocking | Un-armoured cables | $P = \sigma \cdot A$ | $\sigma = 50 \text{ N/mm}^2$ (Copper conductor) |
| | | | $\sigma = 30 \text{ N/mm}^2$ (Al conductor) |
| | Armoured cables | $P = k \cdot d^2$ | $k = 9 \text{ N/mm}$ |

P = Pull in N

A = Total cross sectional area in mm² of all conductors

d = Outside diameter of the cable in mm

σ = Permissible tensile stress of conductor in N/mm²

k = Emperically derived factor in N/mm²

ELECTRICAL PARAMETERS OF THE CABLES

DC Resistance of Conductor

The Maximum DC resistance values of conductors at 20°C are as per “IEC 60228” standard. DC resistance per unit length of the conductor at other conductor temperature is given by:

$$R = R_0 [1 + \alpha_{20^\circ\text{C}} (t - 20^\circ\text{C})]$$

Where :

R = DC resistance at temperature t °C Ω/km

R₀ = DC resistance at temperature 20°C Ω/km (given in the relative tables for each type of cable)

t = Conductor temperature °C

α_{20°C} = Temperature coefficient at 20°C 1/°C

For copper conductor α_{20°C} = 0.00393

For aluminum conductor α_{20°C} = 0.00403

A.C. Resistance of Conductor

The AC Resistance per unit length of the conductor (effective resistance) at its maximum operating temperature is made up of the DC resistance at this temperature and the extra resistance which takes into account additional losses caused by the current displacement in the conductor (skin effect, proximity effect). The AC resistance is given in the relative tables for each type of cable.

Inductance

The values of the inductance for both multi cores and three single core cables have been calculated based on the following equation:

$$L = K + 0.2 \ln (2S / d) \text{ (mH/km)}$$

Where:

K = a constant relating to the conductor formation (mH/km).

d = the conductor diameter (mm)

S = axial spacing between conductors for cables in trefoil formation (mm)

= 1.26 x axial spacing between conductors for cables in flat formation (mm)

The values for inductance of single core cables has been calculated based on one cable diameter between cables in flat formation.

Operation Capacitance

The values of operating capacitance for cables has been calculated based on the following presumption:

$$C = \frac{\epsilon_r}{18 \ln (D / d)} \text{ (}\mu\text{f/km)}$$

Where :

ε_r = Relative permittivity of insulation

D = External diameter of insulation (mm)

d = Conductor diameter (mm)

Operation Temperature for XLPE Insulated Cables

90°C for continuous normal operation.
105°C for emergency overload conditions.
250°C for short circuit conditions.

Voltage Drop

When current flows in a cable conductor, there is a voltage drop between the ends of the conductor which is the product of the current and the impedance. The following equations should be used to calculate the voltage drop:

1 – Single phase system
 $V_d = 2(R \cos\phi + X \sin\phi)$ (Volt/amp/meter)

2 – Three phase system
 $V_d = \sqrt{3}(R \cos\phi + X \sin\phi)$ (Volt/amp/meter)

Where:

V_d = Voltage drop (V/Am)

R = AC resistance of conductor at a maximum conductor temperature (Ω/km)

X = Inductive reactance of cable (Ω/km)

$\cos\phi$ = power factor of load

* Voltage drop data for L.V cables are tabulated in tables 16 to 23.

Cable Short Circuit Capacity

The permissible short-circuit as presented in tables 12 to 15 are calculated in accordance with IEC 724, which are based on the following conditions:

- 1 – Short circuit starts from the maximum operating temperature.
- 2 – Maximum temperature during short circuit XLPE = 250°C, PVC = 160°C
- 3 – Maximum short circuit current duration is 5 seconds.

The short-circuit current (I) shall be calculated from the formula:

$$I^2 = \frac{K^2 \times S^2}{T} \times \ln \left[\frac{\theta_1 + \beta}{\theta_2 + \beta} \right]$$

Where:

I = Short circuit current (A)

T = Duration of short circuit (Second)

K = Constant for the material of the conductor

S = Area of conductor (mm^2)

θ_1 = Final temperature ($^{\circ}\text{C}$)

θ_2 = Initial temperature ($^{\circ}\text{C}$)

β = Reciprocal of the temperature coefficient of resistance (α) of the conductor.

CURRENT RATING

Recommendations For Current Rating

The current rating of power cables is defined by the maximum intensity of current (in amperes), which can flow continuously through the cable, under permanent loading conditions without any risk of damaging the insulation or deterioration of its electrical properties.

- Current carrying capacities have been calculated in accordance with IEC 60287 (calculation of the continuous current rating of cables).
- The values given in the tables are valid for one circuit in three phase system under conditions specified. For grouping cables rating factors must be used.
- It is to be observed that the current carrying capacities presented in Energya Cables SA technical data sheets are intended as a guide to assist operating engineers in selecting cables for safety and reliability.
- Basic assumptions and conditions of installation:
 - Ambient ground temperature : 20°C
 - Ambient air temperature : 30°C
 - Depth of cable burial : 1.0 m
 - Thermal resistivity of soil : 120°C. cm/W
- Cables in air are assumed to be protected from direct solar radiation.
- Single core cables are installed as indicated in the technical information tables. Spacing between cables in flat formation is assumed to be one cable diameter.
- For three and four core cables, it is usual to assume the same current carrying capacity for four cores cables as for three core cables. Our calculated values are based actually on three core cables. These values are suitable with enough accuracy also for four cores cables in most cases.
- The inner diameter of ducts has been assumed to be at least 1.5 times the diameter of the cables.

To obtain the maximum current carrying capacity of a cable operating at different conditions from the standards, you have to multiply the values of the current given in the technical information for the corresponding cable by the rating factors mentioned in the tables from 1 to 11, as follows:

$$I_a = K_t I_s \text{ in amperes}$$

where:

- I_a : Current rating at actual operating conditions (amperes)
- I_s : Current rating at standard operating conditions (amperes)
- K_t : Rating factor given in the tables 1 to 11

It has to be noted that K_t is the total rating factor: $K_t = K_1 \times K_2 \dots K_n$

You may have a multiplication of so many partial rating factors, as many as the difference of laying and operating conditions from standard conditions.

Table 1
RATING FACTORS K FOR VARIATION IN GROUND TEMPERATURE

| GROUND TEMPERATURE °C | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|------------------------|------|------|------|------|------|------|------|------|
| PVC cables rated 70°C | 1.00 | 0.95 | 0.90 | 0.84 | 0.78 | 0.71 | 0.63 | 0.54 |
| PVC cables rated 85°C | 1.00 | 0.96 | 0.92 | 0.87 | 0.83 | 0.78 | 0.73 | 0.67 |
| XLPE cables rated 90°C | 1.00 | 0.96 | 0.92 | 0.88 | 0.84 | 0.79 | 0.75 | 0.70 |

Table 2
RATING FACTORS K FOR VARIATION IN AIR TEMPERATURE

| AIR TEMPERATURE °C | 25 | 30 | 35 | 40 | 45 | 50 | 55 |
|------------------------|------|------|------|------|------|------|------|
| PVC cables rated 70°C | 1.07 | 1.00 | 0.93 | 0.87 | 0.79 | 0.70 | 0.61 |
| PVC cables rated 85°C | 1.04 | 1.00 | 0.95 | 0.90 | 0.85 | 0.80 | 0.74 |
| XLPE cables rated 90°C | 1.04 | 1.00 | 0.96 | 0.91 | 0.87 | 0.82 | 0.76 |

Table 3
RATING FACTORS K FOR VARIATION IN GROUND DEPTH

| DEPTH OF LAYING (m) | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 | 1.1 | 1.2 |
|---------------------|------|------|------|------|-----|------|------|
| k | 1.05 | 1.03 | 1.02 | 1.01 | 1.0 | 0.99 | 0.98 |

Table 4
RATING FACTORS K FOR VARIATION IN SOIL RESISTIVITY

| SOIL RESISTIVITY (°C. cm/W) | 80 | 90 | 100 | 120 | 150 | 200 | 250 |
|-----------------------------|------|------|------|-----|------|------|------|
| k | 1.17 | 1.12 | 1.07 | 1.0 | 0.91 | 0.80 | 0.73 |

Table 5
RATING FACTORS K FOR VARIATION OF MAX. OPERATING TEMPERATURES FOR PVC INSULATING CABLES

| PVC RATED TEMPERATURE | 70 | 85 | 105 |
|-----------------------|------|------|------|
| RATING FACTOR | 0.84 | 1.00 | 1.18 |

Table 6

TREFOIL OR FLAT FORMATION DERATING FACTORS FOR THREE SINGLE CORE CABLES LAID DIRECT IN GROUND



| NUMBER OF CIRCUITS | SPACING | | | SPACING | | |
|--------------------|--|------|------------------|--|------------------|------|
| |  TREFOIL FORMATION | | |  TREFOIL FORMATION | | |
| | TOUCHING | | SPACING = 0.15 M | | SPACING = 0.30 M | |
| NR | TREFOIL | FLAT | TREFOIL | FLAT | TREFOIL | FLAT |
| 2 | 0.77 | 0.80 | 0.82 | 0.85 | 0.88 | 0.91 |
| 3 | 0.66 | 0.69 | 0.73 | 0.76 | 0.80 | 0.83 |
| 4 | 0.60 | 0.63 | 0.68 | 0.71 | 0.74 | 0.77 |
| 5 | 0.56 | 0.59 | 0.64 | 0.67 | 0.72 | 0.75 |
| 6 | 0.53 | 0.57 | 0.61 | 0.64 | 0.70 | 0.73 |

Table 7

TREFOIL OR FLAT FORMATION DERATING FACTORS FOR MULTI-CORE CABLES LAID DIRECT IN GROUND



| NUMBER OF CABLES |  TREFOIL FORMATION | | |  FLAT FORMATION | | |
|------------------|--|---------|------------------|---|------------------|---------|
| | TOUCHING | | SPACING = 0.15 M | | SPACING = 0.30 M | |
| | NR | TREFOIL | FLAT | TREFOIL | FLAT | TREFOIL |
| 2 | 0.81 | 0.81 | 0.87 | 0.87 | 0.91 | 0.91 |
| 3 | 0.69 | 0.70 | 0.76 | 0.78 | 0.82 | 0.84 |
| 4 | 0.62 | 0.63 | 0.72 | 0.74 | 0.77 | 0.81 |
| 5 | 0.58 | 0.60 | 0.66 | 0.70 | 0.73 | 0.78 |
| 6 | 0.54 | 0.56 | 0.63 | 0.67 | 0.70 | 0.76 |

Table 8

FLAT FORMATION DERATING FACTORS FOR THREE SINGLE CORE CABLES LAID IN FREE AIR

| Clearance = Cable diameter (d) | | Number of circuits | | | |
|------------------------------------|-------------------|--------------------|------|------|------|
| Clearance from the wall 2 cm | | 1 | 2 | 3 | |
| Laid on the Floor | | 0.92 | 0.89 | 0.88 | |
| Laid cables | Number of troughs | | | | |
| | 1 | 0.92 | 0.89 | 0.88 | |
| | 2 | 0.87 | 0.84 | 0.83 | |
| | 3 | 0.84 | 0.82 | 0.81 | |
| (circulation of air is restricted) | | 6 | 0.82 | 0.80 | 0.79 |
| Laid on cable racks | | Number of racks | | | |
| | 1 | 1.00 | 0.97 | 0.96 | |
| | 2 | 0.97 | 0.94 | 0.93 | |
| | 3 | 0.96 | 0.93 | 0.92 | |
| | 6 | 0.94 | 0.91 | 0.90 | |
| Arranged near the wall | | 0.94 | 0.91 | 0.89 | |
| Arranged on the wall | | 0.89 | 0.86 | 0.84 | |

Table 9

TREFOIL TOUCHING FORMATION DERATING FACTORS FOR THREE SINGLE CORE CABLES IN FREE AIR

| Clearance = 2 (d) | | Number of circuits | | | |
|--|-------------------|--------------------|------|------|------|
| Clearance from the wall 2 cm | | 1 | 2 | 3 | |
| Laid on the Floor | | 0.95 | 0.90 | 0.88 | |
| Laid cables | Number of troughs | | | | |
| | 1 | 0.95 | 0.90 | 0.88 | |
| | 2 | 0.80 | 0.85 | 0.83 | |
| | 3 | 0.88 | 0.83 | 0.81 | |
| (circulation of air is restricted) | | 6 | 0.86 | 0.81 | 0.79 |
| Laid on cable racks | | Number of racks | | | |
| | 1 | 1.00 | 0.97 | 0.96 | |
| | 2 | 0.97 | 0.94 | 0.93 | |
| | 3 | 0.96 | 0.93 | 0.92 | |
| | 6 | 0.94 | 0.91 | 0.90 | |
| Arrangements for which reduction of the current is not necessary | | | | | |

Table 10

HORIZONTAL OR VERTICAL FORMATION DERATING FACTORS FOR MULTI-CORE CABLES LAID IN FREE AIR

| Clearance = Cable diameter (d) | | Number of Cables | | | | | |
|--|---|--------------------------------|------|-------------------------------|------|------|--|
| Clearance from the wall ≥ 2 cm | | 1 | 2 | 3 | 6 | 9 | |
| Laid on the Floor | | 0.95 | 0.90 | 0.88 | 0.85 | 0.84 | |
| Number of troughs | | | | | | | |
| Laid cables | 1 | 0.95 | 0.90 | 0.88 | 0.85 | 0.84 | |
| troughs | 2 | 0.90 | 0.85 | 0.83 | 0.81 | 0.80 | |
| (circulation of air is restricted) | | | | | | | |
| Number of racks | | | | | | | |
| Laid cables | 1 | 1.00 | 0.98 | 0.96 | 0.93 | 0.92 | |
| on cable racks | 2 | 1.00 | 0.95 | 0.93 | 0.90 | 0.89 | |
| | | | | | | | |
| Arranged near the wall | | 1.00 | 0.93 | 0.90 | 0.87 | 0.86 | |
| Arrangements for which reduction of the current is not necessary | | Clearance from the wall ≥ 2 cm | | Clearance between cables ≥ 2d | | | |

Table 11

DERATING FACTORS FOR MULTI-CORE CABLES TOUCHING AND IN CONTACT WITH THE WALL IN FREE AIR

| Clearance touching troughs and contact with wall | | Number of Cables | | | | | |
|--|---|------------------|------|------|------|------|--|
| | | 1 | 2 | 3 | 6 | 9 | |
| Laid on the ground | | 0.90 | 0.84 | 0.80 | 0.75 | 0.73 | |
| Number of troughs | | | | | | | |
| Laid cables | 1 | 0.95 | 0.84 | 0.80 | 0.75 | 0.73 | |
| troughs | 2 | 0.95 | 0.80 | 0.76 | 0.71 | 0.69 | |
| (circulation of air is restricted) | | | | | | | |
| Number of racks | | | | | | | |
| Laid | 1 | 0.95 | 0.84 | 0.80 | 0.75 | 0.73 | |
| on cable racks | 2 | 0.95 | 0.80 | 0.76 | 0.71 | 0.69 | |
| | | | | | | | |
| Arranged near the wall | | 0.95 | 0.78 | 0.73 | 0.68 | 0.66 | |

Table 12**SHORT CIRCUIT CURRENT FOR COPPER CONDUCTORS - XLPE INSULATED (KA) at (90/250)°C**

| Area (mm ²) | TIME (s) | | | | | | | | | |
|----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 1 | 2 | 3 | 4 | 5 |
| 16 | 7.24 | 5.12 | 4.18 | 3.62 | 3.24 | 2.29 | 1.62 | 1.32 | 1.14 | 1.02 |
| 25 | 11.31 | 8.00 | 6.53 | 5.66 | 5.06 | 3.58 | 2.53 | 2.07 | 1.79 | 1.60 |
| 35 | 15.84 | 11.20 | 9.14 | 7.92 | 7.08 | 5.01 | 3.54 | 2.89 | 2.50 | 2.24 |
| 50 | 22.62 | 16.00 | 13.06 | 11.31 | 10.11 | 7.15 | 5.06 | 4.13 | 3.58 | 3.20 |
| 70 | 31.67 | 22.40 | 18.29 | 15.84 | 14.16 | 10.02 | 7.08 | 5.78 | 5.01 | 4.48 |
| 95 | 42.98 | 30.39 | 24.82 | 21.49 | 19.22 | 13.59 | 9.61 | 7.85 | 6.80 | 6.08 |
| 120 | 54.30 | 38.39 | 31.34 | 27.15 | 24.28 | 17.17 | 12.14 | 9.91 | 8.59 | 7.68 |
| 150 | 67.87 | 47.99 | 39.19 | 33.94 | 30.35 | 21.46 | 15.18 | 12.39 | 10.73 | 9.60 |
| 185 | 83.71 | 59.19 | 48.33 | 41.85 | 37.42 | 26.47 | 18.72 | 15.28 | 13.24 | 11.94 |
| 240 | 108.59 | 76.79 | 62.70 | 54.30 | 48.56 | 34.34 | 24.28 | 19.83 | 17.17 | 15.36 |
| 300 | 135.74 | 95.98 | 78.37 | 67.87 | 60.71 | 42.93 | 30.35 | 24.78 | 21.46 | 19.20 |

Table 13**SHORT CIRCUIT CURRENT FOR ALUMINIUM CONDUCTORS - XLPE INSULATED (KA) at (90/250)°C**

| Area (mm ²) | TIME (s) | | | | | | | | | |
|----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 1 | 2 | 3 | 4 | 5 |
| 16 | 4.78 | 3.38 | 2.76 | 2.39 | 2.14 | 1.51 | 1.07 | 0.87 | 0.76 | 0.68 |
| 25 | 7.47 | 5.28 | 4.31 | 3.73 | 3.34 | 2.36 | 1.67 | 1.36 | 1.18 | 1.06 |
| 35 | 10.46 | 7.40 | 6.04 | 5.23 | 4.68 | 3.31 | 2.34 | 1.91 | 1.65 | 1.48 |
| 50 | 14.94 | 10.56 | 8.63 | 7.47 | 6.68 | 4.72 | 3.34 | 2.73 | 2.36 | 2.11 |
| 70 | 20.91 | 14.79 | 12.08 | 10.46 | 9.35 | 6.61 | 4.68 | 3.82 | 3.31 | 2.96 |
| 95 | 28.38 | 20.07 | 16.39 | 14.19 | 12.69 | 8.98 | 6.35 | 5.18 | 4.49 | 4.01 |
| 120 | 35.85 | 25.35 | 20.70 | 17.93 | 16.03 | 11.34 | 8.02 | 6.55 | 5.67 | 5.07 |
| 150 | 44.82 | 31.69 | 25.88 | 22.41 | 20.04 | 14.17 | 10.02 | 8.18 | 7.09 | 6.34 |
| 185 | 55.28 | 39.09 | 31.91 | 27.64 | 24.72 | 17.48 | 12.36 | 10.09 | 8.74 | 7.82 |
| 240 | 71.71 | 50.71 | 41.40 | 35.85 | 32.07 | 22.68 | 16.03 | 13.09 | 11.34 | 10.14 |
| 300 | 89.64 | 63.38 | 51.75 | 44.82 | 40.09 | 28.35 | 20.04 | 16.37 | 14.17 | 12.68 |

Table 14**SHORT CIRCUIT CURRENT FOR COPPER CONDUCTORS - PVC INSULATED (TYPE 5), AS PER TABLE 1 OF BS 6746 (KA) at (85/160)°C**

| Area (mm ²) | TIME (s) | | | | | | | | | |
|----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 1 | 2 | 3 | 4 | 5 |
| 16 | 5.25 | 3.71 | 3.03 | 2.63 | 2.35 | 1.66 | 1.17 | 0.96 | 0.83 | 0.74 |
| 25 | 8.20 | 5.80 | 4.74 | 4.10 | 3.67 | 2.59 | 1.83 | 1.50 | 1.30 | 1.16 |
| 35 | 11.49 | 8.12 | 6.63 | 5.74 | 5.14 | 3.63 | 2.57 | 2.10 | 1.82 | 1.62 |
| 50 | 16.41 | 11.60 | 9.47 | 8.20 | 7.34 | 5.19 | 3.67 | 3.00 | 2.59 | 2.32 |
| 70 | 22.97 | 16.24 | 13.26 | 11.49 | 10.27 | 7.26 | 5.14 | 4.19 | 3.63 | 3.25 |
| 95 | 31.18 | 22.05 | 18.00 | 15.59 | 13.94 | 9.86 | 6.97 | 5.69 | 4.93 | 4.41 |
| 120 | 39.38 | 27.85 | 22.74 | 19.69 | 17.61 | 12.45 | 8.81 | 7.19 | 6.23 | 5.57 |
| 150 | 49.23 | 34.81 | 28.42 | 24.61 | 22.01 | 15.57 | 11.01 | 8.99 | 7.78 | 6.96 |
| 185 | 60.71 | 42.93 | 35.05 | 30.36 | 27.15 | 19.20 | 13.58 | 11.08 | 9.60 | 8.59 |
| 240 | 78.76 | 55.69 | 45.47 | 39.38 | 35.22 | 24.91 | 17.61 | 14.38 | 12.45 | 11.14 |
| 300 | 98.45 | 69.62 | 56.84 | 49.23 | 44.03 | 31.13 | 22.01 | 17.97 | 15.57 | 13.92 |

Table 15**SHORT CIRCUIT CURRENT FOR ALUMINUM CONDUCTORS - PVC INSULATED (TYPE 5) as per TABLE 1 OF BS 6746 (KA) at (85/165) °C**

| Area (mm ²) | TIME (s) | | | | | | | | | |
|----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 1 | 2 | 3 | 4 | 5 |
| 16 | 3.47 | 2.45 | 2.00 | 1.74 | 1.55 | 1.10 | 0.78 | 0.63 | 0.55 | 0.49 |
| 25 | 5.42 | 3.83 | 3.13 | 2.71 | 2.43 | 1.71 | 1.21 | 0.99 | 0.86 | 0.77 |
| 35 | 7.59 | 5.37 | 4.38 | 3.80 | 3.40 | 2.40 | 1.70 | 1.39 | 1.20 | 1.07 |
| 50 | 10.85 | 7.67 | 6.26 | 5.42 | 4.85 | 3.43 | 2.43 | 1.98 | 1.71 | 1.53 |
| 70 | 15.18 | 10.74 | 8.77 | 7.59 | 6.79 | 4.80 | 3.40 | 2.77 | 2.40 | 2.15 |
| 95 | 20.61 | 14.57 | 11.90 | 10.30 | 9.22 | 6.52 | 4.61 | 3.76 | 3.26 | 2.91 |
| 120 | 26.03 | 18.41 | 15.03 | 13.01 | 11.64 | 8.23 | 5.82 | 4.75 | 4.12 | 3.68 |
| 150 | 32.54 | 23.01 | 18.79 | 16.27 | 14.55 | 10.29 | 7.28 | 5.94 | 5.14 | 4.60 |
| 185 | 40.13 | 28.38 | 23.17 | 20.06 | 17.95 | 12.69 | 8.97 | 7.33 | 6.34 | 5.68 |
| 240 | 52.06 | 36.81 | 30.06 | 26.03 | 23.28 | 16.46 | 11.64 | 9.50 | 8.23 | 7.36 |
| 300 | 65.07 | 46.01 | 37.57 | 32.54 | 29.10 | 20.58 | 14.55 | 11.88 | 10.29 | 9.20 |

Table 16

0.6/1 KV Cables
Single Core Cables, With Stranded Circular Copper Conductor,
XLPE Insulated and PVC Sheathed









| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | | Voltage Drop (mV/Amp/meter) | |
|--|---------------------------|---|--|---|---|
| | |  |  |  |  |
| 4 | 4.6100 | 5.8949 | 5.8783 | 8.880 | 8.791 |
| 6 | 3.0800 | 3.9484 | 3.9274 | 6.004 | 5.909 |
| 10 | 1.8300 | 2.3576 | 2.3336 | 3.654 | 3.555 |
| 16 | 1.1500 | 1.4930 | 1.4667 | 2.373 | 2.271 |
| 25 | 0.7270 | 0.9522 | 0.9275 | 1.573 | 1.473 |
| 35 | 0.5240 | 0.6931 | 0.6689 | 1.187 | 1.088 |
| 50 | 0.3870 | 0.5156 | 0.4945 | 0.921 | 0.827 |
| 70 | 0.2680 | 0.3613 | 0.3434 | 0.691 | 0.601 |
| 95 | 0.1930 | 0.2633 | 0.2485 | 0.544 | 0.458 |
| 120 | 0.1530 | 0.2106 | 0.1983 | 0.463 | 0.382 |
| 150 | 0.1240 | 0.1717 | 0.1620 | 0.406 | 0.328 |
| 185 | 0.0991 | 0.1385 | 0.1312 | 0.356 | 0.282 |
| 240 | 0.0754 | 0.1070 | 0.1026 | 0.308 | 0.238 |
| 300 | 0.0601 | 0.0866 | 0.0846 | 0.277 | 0.210 |
| 400 | 0.0470 | 0.0693 | 0.0697 | 0.251 | 0.188 |
| 500 | 0.0366 | 0.0557 | 0.0583 | 0.230 | 0.170 |
| 630 | 0.0283 | 0.0448 | 0.0489 | 0.216 | 0.158 |

Table 17

0.6/1 KV Cables
Single Core Cables, With Stranded Circular Aluminum
Conductor, XLPE Insulated and PVC Sheathed

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | | Voltage Drop (mV/Amp/meter) | |
|--|---------------------------|---|--|---|---|
| | |  |  |  |  |
| 16 | 1.9100 | 2.4795 | 2.4490 | 3.806 | 3.697 |
| 25 | 1.2000 | 1.5673 | 1.5388 | 2.468 | 2.363 |
| 35 | 0.8680 | 1.1133 | 1.1130 | 1.955 | 1.891 |
| 50 | 0.6410 | 0.8506 | 0.8225 | 1.407 | 1.303 |
| 70 | 0.4430 | 0.5942 | 0.5690 | 1.029 | 0.928 |
| 95 | 0.3200 | 0.4341 | 0.4118 | 0.792 | 0.695 |
| 120 | 0.2530 | 0.3460 | 0.3263 | 0.660 | 0.568 |
| 150 | 0.2060 | 0.2832 | 0.2665 | 0.568 | 0.480 |
| 185 | 0.1640 | 0.2270 | 0.2133 | 0.485 | 0.401 |
| 240 | 0.1250 | 0.1749 | 0.1643 | 0.407 | 0.327 |
| 300 | 0.1000 | 0.1413 | 0.1333 | 0.357 | 0.282 |
| 400 | 0.0778 | 0.1113 | 0.1063 | 0.312 | 0.241 |
| 500 | 0.0605 | 0.0880 | 0.0858 | 0.277 | 0.210 |
| 630 | 0.0469 | 0.0693 | 0.0697 | 0.251 | 0.188 |

The above data are based on:

- Max. operation temperature : 90°C
- Power factor : 0.85
- Rated frequency : 60 Hz
- Distance between cables in Flat Formation : One cable Diameter

Table 18**(0.6/1 KV Cable)****Single Core Cables, With Stranded Circular Copper Conductor, PVC Sheathed Insulated and PVC Sheathed**









| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | | Voltage Drop (mV/Amp/meter) | |
|---------------------------------------|------------------------|---|--|---|---|
| | |  |  |  |  |
| 4 | 4.6100 | 5.8040 | 5.7877 | 8.746 | 8.658 |
| 6 | 3.0800 | 3.8876 | 3.8669 | 5.914 | 5.820 |
| 10 | 1.8300 | 2.3213 | 2.2976 | 3.600 | 3.502 |
| 16 | 1.1500 | 1.4700 | 1.4441 | 2.339 | 2.238 |
| 25 | 0.7270 | 0.9375 | 0.9132 | 1.552 | 1.452 |
| 35 | 0.5240 | 0.6824 | 0.6586 | 1.171 | 1.073 |
| 50 | 0.3870 | 0.5077 | 0.4869 | 0.909 | 0.815 |
| 70 | 0.2680 | 0.3557 | 0.3381 | 0.683 | 0.593 |
| 95 | 0.1930 | 0.2593 | 0.2447 | 0.538 | 0.453 |
| 120 | 0.1530 | 0.2074 | 0.1952 | 0.459 | 0.377 |
| 150 | 0.1240 | 0.1691 | 0.1595 | 0.402 | 0.324 |
| 185 | 0.0991 | 0.1363 | 0.1292 | 0.353 | 0.279 |
| 240 | 0.0754 | 0.1053 | 0.1010 | 0.305 | 0.235 |
| 300 | 0.0601 | 0.0853 | 0.0833 | 0.275 | 0.209 |
| 400 | 0.0470 | 0.0682 | 0.0686 | 0.249 | 0.186 |
| 500 | 0.0366 | 0.0548 | 0.0574 | 0.229 | 0.169 |
| 630 | 0.0283 | 0.0441 | 0.0482 | 0.215 | 0.157 |

Table 19**(0.6/1 KV Cables)****Single Core Cables, With Stranded Circular Aluminum Conductor, PVC Insulated and PVC Sheathed**

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | | Voltage Drop (mV/Amp/meter) | |
|---------------------------------------|------------------------|---|--|---|---|
| | |  |  |  |  |
| 16 | 1.9100 | 2.4405 | 2.4105 | 3.750 | 3.642 |
| 25 | 1.2000 | 1.5427 | 1.5146 | 2.433 | 2.328 |
| 35 | 0.8680 | 1.0958 | 1.0955 | 1.930 | 1.866 |
| 50 | 0.6410 | 0.8372 | 0.8096 | 1.388 | 1.284 |
| 70 | 0.4430 | 0.5849 | 0.5600 | 1.016 | 0.916 |
| 95 | 0.3200 | 0.4272 | 0.4053 | 0.782 | 0.686 |
| 120 | 0.2530 | 0.3406 | 0.3212 | 0.652 | 0.560 |
| 150 | 0.2060 | 0.2787 | 0.2623 | 0.561 | 0.474 |
| 185 | 0.1640 | 0.2235 | 0.2099 | 0.480 | 0.396 |
| 240 | 0.1250 | 0.1722 | 0.1617 | 0.403 | 0.324 |
| 300 | 0.1000 | 0.1390 | 0.1312 | 0.354 | 0.279 |
| 400 | 0.0778 | 0.1095 | 0.1046 | 0.309 | 0.238 |
| 500 | 0.0605 | 0.0866 | 0.0844 | 0.275 | 0.208 |
| 630 | 0.0469 | 0.0682 | 0.0686 | 0.250 | 0.187 |

The above data are based on :

- Max. operation temperature : 85°C
- Power factor : 0.85
- Rated frequency : 60 Hz
- Distance between cables in Flat Formation : One cable Diameter

Table 20**(0.6/1 KV Cable)****Multicore Cables, With Stranded Copper Conductor, XLPE Insulated and PVC Sheathed**

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | Voltage Drop (mV/Amp/meter) |
|---------------------------------------|------------------------|------------------------|-----------------------------|
| 1.5 | 12.1000 | 15.4287 | 22.829 |
| 2.5 | 7.4100 | 9.4485 | 14.017 |
| 4.0 | 4.6100 | 5.8783 | 8.754 |
| 6.0 | 3.0800 | 3.9275 | 5.878 |
| 10 | 1.8300 | 2.3337 | 3.526 |
| 16 | 1.1500 | 1.4669 | 2.246 |
| 25 | 0.7270 | 0.9278 | 1.453 |
| 35 | 0.5240 | 0.6693 | 1.070 |
| 50 | 0.3870 | 0.4950 | 0.811 |
| 70 | 0.2680 | 0.3440 | 0.587 |
| 95 | 0.1930 | 0.2494 | 0.446 |
| 120 | 0.1530 | 0.1992 | 0.371 |
| 150 | 0.1240 | 0.1631 | 0.318 |
| 185 | 0.0991 | 0.1325 | 0.273 |
| 240 | 0.0754 | 0.1041 | 0.230 |
| 300 | 0.0601 | 0.0864 | 0.204 |
| 400 | 0.0470 | 0.0718 | 0.182 |
| 500 | 0.0366 | 0.0606 | 0.165 |

Table 21**(0.6/1 KV Cables)****Multicore Cables, With Stranded Aluminum Conductor, XLPE Insulated and PVC Sheathed**

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | Voltage Drop (mV/Amp/meter) |
|---------------------------------------|------------------------|------------------------|-----------------------------|
| 16 | 1.9100 | 2.4491 | 3.692 |
| 25 | 1.2000 | 1.5390 | 2.353 |
| 35 | 0.8680 | 1.1136 | 1.724 |
| 50 | 0.6410 | 0.8228 | 1.293 |
| 70 | 0.4430 | 0.5694 | 0.919 |
| 95 | 0.3200 | 0.4123 | 0.686 |
| 120 | 0.2530 | 0.3269 | 0.559 |
| 150 | 0.2060 | 0.2672 | 0.471 |
| 185 | 0.1640 | 0.2141 | 0.394 |
| 240 | 0.1250 | 0.1653 | 0.320 |
| 300 | 0.1000 | 0.1345 | 0.275 |
| 400 | 0.0778 | 0.1077 | 0.235 |
| 500 | 0.0605 | 0.0875 | 0.205 |

The above data are based on:

- Max. operation temperature : 90°C
- Power factor : 0.85
- Rated Frequency : 60 Hz

Table 22**(0.6/1KV Cable)****Multicore Cables, With Stranded Copper Conductor, PVC Insulated and PVC Sheathed**

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | Voltage Drop (mV/Amp/ meter) |
|---------------------------------------|------------------------|------------------------|------------------------------|
| 1.5 | 12.1000 | 15.1910 | 22.479 |
| 2.5 | 7.4100 | 9.3029 | 13.803 |
| 4.0 | 4.6100 | 5.7877 | 8.621 |
| 6.0 | 3.0800 | 3.8669 | 5.789 |
| 10 | 1.8300 | 2.2978 | 3.473 |
| 16 | 1.1500 | 1.4443 | 2.213 |
| 25 | 0.7270 | 0.9135 | 1.432 |
| 35 | 0.5240 | 0.6590 | 1.055 |
| 50 | 0.3870 | 0.4874 | 0.799 |
| 70 | 0.2680 | 0.3387 | 0.579 |
| 95 | 0.1930 | 0.2455 | 0.440 |
| 120 | 0.1530 | 0.1962 | 0.366 |
| 150 | 0.1240 | 0.1606 | 0.314 |
| 185 | 0.0991 | 0.1305 | 0.270 |
| 240 | 0.0754 | 0.1025 | 0.228 |
| 300 | 0.0601 | 0.0851 | 0.202 |
| 400 | 0.0470 | 0.0707 | 0.180 |
| 500 | 0.0366 | 0.0597 | 0.164 |

Table 23**(0.6/1KV Cable)****Multicore Cables, With Stranded Aluminum Conductor, PVC Insulated and PVC Sheathed**

| Cross Section Area (mm ²) | D.C. Resistance (Ω/km) | A.C. Resistance (Ω/km) | Voltage Drop (mV/Amp/ meter) |
|---------------------------------------|------------------------|------------------------|------------------------------|
| 16 | 1.9100 | 2.4106 | 3.636 |
| 25 | 1.2000 | 1.5148 | 2.317 |
| 35 | 0.8680 | 1.0961 | 1.698 |
| 50 | 0.6410 | 0.8098 | 1.274 |
| 70 | 0.4430 | 0.5604 | 0.906 |
| 95 | 0.3200 | 0.4058 | 0.676 |
| 120 | 0.2530 | 0.3218 | 0.551 |
| 150 | 0.2060 | 0.2630 | 0.465 |
| 185 | 0.1640 | 0.2107 | 0.389 |
| 240 | 0.1250 | 0.1627 | 0.316 |
| 300 | 0.1000 | 0.1324 | 0.272 |
| 400 | 0.0778 | 0.1060 | 0.232 |
| 500 | 0.0605 | 0.0861 | 0.203 |

The above data are based on:

- Max. operation temperature : 85°C
- Power factor : 0.85
- Rated Frequency : 60 Hz

CONVERSION TABLE

Multiply by to obtain

WEIGHT - Imperial

| | | |
|--------------------|---------|-----------|
| Ounces | 28.3495 | grams |
| Pounds (Av) | 453.59 | grams |
| Pounds (Av) | 0.45359 | kilograms |
| Tons (short) | 907.19 | kilograms |
| Tons (long) | 1016.05 | kilograms |

WEIGHT - Metric

| | | |
|-----------------|-----------|--------------|
| Grams | 0.03527 | ounces |
| Grams | 0.002205 | pounds |
| Kilograms | 35.274 | ounces |
| Kilograms | 2.2046 | pounds |
| Kilograms | 0.001102 | tons (short) |
| Kilograms | 0.0009842 | tons (long) |

MISCELLANEOUS - Imperial

| | | |
|------------------------------|-----------|---------------------------------|
| Pounds per 1000 feet | 1.48816 | kilograms per kilometer |
| Pounds per mile | 0.28185 | kilograms per kilometer |
| Pounds per square inch | 0.0007031 | kilograms per square millimeter |
| Pounds per square inch | 0.07031 | kilograms per square centimeter |
| Feet per second | 18.288 | meters per minute |
| Feet per second | 1.09728 | kilometers per hour |
| Mils per hour | 1.60935 | kilometers per hour |
| Ohms per 1000 feet | 3.28083 | ohms per kilometer |
| Ohms per mile | 0.62137 | ohms per kilometer |
| Decibels per 1000 feet | 3.28083 | decibels per kilometer |
| Decibels per mile | 0.62137 | decibels per kilometer |
| Decibels | 0.1153 | nepers |

MISCELLANEOUS - Metric

| | | |
|---------------------------------------|---------|------------------------|
| Kilograms per kilometer | 0.67197 | pounds per 1000 feet |
| Kilograms per kilometer | 3.54795 | pounds per mile |
| Kilograms per square millimeter | 1422.34 | pounds per square inch |
| Kilograms per square centimeter | 14.2234 | pounds per square inch |
| Grams per cubic centimeter | 0.03613 | pounds per cubic inch |
| Meters per minute | 0.05468 | feet per second |
| Kilometer per hour | 0.91134 | feet per second |
| Kilometer per hour | 0.62137 | miles per hour |
| Ohms per kilometer | 0.3048 | ohms per 1000 feet |
| Ohms per kilometer | 1.6093 | ohms per mile |
| Decibels per kilometer | 0.3048 | decibels per 1000 feet |
| Decibels per kilometer | 1.6093 | decibels per mile |

TEMPERATURE

| | | |
|-------------------|---------------|-------------|
| °Fahrenheit | 5/9 (°F)-32 | °Celsius |
| °Celsius | 9/5 (°C) + 32 | °Fahrenheit |

Multiply by to obtain

LENGTH - Imperial

| | | |
|---------------------------|--------|-------------|
| Mils | 0.001 | inches |
| Mils | 0.0254 | millimeters |
| Inches | 1000 | mils |
| Inches | 25.40 | millimeters |
| Inches | 2.54 | centimeters |
| Feet | 30.48 | centimeters |
| Feet | 0.3048 | meters |
| Feet (thousands of) | 0.3048 | kilometers |
| Yards | 0.9144 | meters |
| Mils | 1.6093 | kilometers |

LENGTH - Imperial

| | | |
|-------------------|----------|--------|
| Millimeters | 39.37 | mils |
| Millimeters | 0.03937 | inches |
| Centimeters | 0.3937 | inches |
| Centimeters | 0.032808 | feet |
| Meters | 39.37 | inches |
| Meters | 3.2808 | feet |
| Meters | 1.0936 | yards |
| Kilometers | 3280.83 | feet |
| Kilometers | 0.62137 | mils |

AREA - Imperial

| | | |
|---------------------|--------------|--------------------|
| Square mils | 1.2732 | circular mils |
| Square mils | 0.000001 | square inches |
| Circular mils | 0.7854 | square mils |
| Circular mils | 0.0000007854 | square inches |
| Circular mils | 0.00050657 | square millimeters |
| Square inches | 1000000 | square mils |
| Square inches | 1273240 | circular mils |
| Square inches | 645.16 | square millimeters |
| Square inches | 6.4516 | square centimeters |
| Square inches | 0.09290 | square meters |
| Square inches | 0.8361 | square meters |

AREA - Metric

| | | |
|--------------------------|---------|---------------|
| Square millimeters | 1973.52 | circular mils |
| Square millimeters | 0.00155 | square inches |
| Square centimeters | 0.155 | square inches |
| Square meters | 10.7638 | square feet |
| Square meters | 1.19599 | square yards |

VOLUME - Imperial

| | | |
|--------------------|----------|-------------------|
| Cubic inches | 16.38716 | cubic centimeters |
| Cubic feet | 0.028317 | cubic meters |

VOLUME - U.S.

| | | |
|-----------------------|--------|-------------------|
| Quarts (liquid) | 0.9463 | cubic centimeters |
| Gallons | 3.7854 | cubic meters |

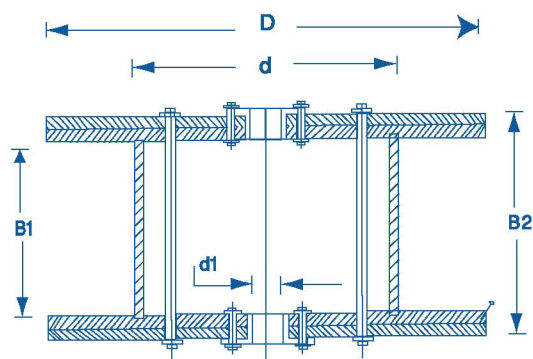
VOLUME - Metric

| | | |
|-------------------------|---------|----------------------|
| Cubic centimeters | 0.06102 | cubic inches |
| Cubic meters | 35.3145 | cubic feet |
| Litres | 1.05668 | quarts (Liquid U.S.) |
| Litres | 0.26417 | gallons (U.S.) |

PACKING

International practice is to supply cables on wooden drums or as appropriate plastic spools. At the customer's request we will also supply steel drums for improved on-site performance and handling.

The finished drums may be – when requested by our customer – closed with a continuous lagging with a wood having approximate thickness 2.00 mm.



| D | d | d1 | B1 | B2 |
|------|------|-----|------|------|
| 600 | 300 | 85 | 450 | 580 |
| 700 | 350 | 85 | 530 | 660 |
| 800 | 400 | 85 | 530 | 660 |
| 900 | 450 | 85 | 630 | 760 |
| 1000 | 500 | 85 | 630 | 772 |
| 1100 | 550 | 85 | 630 | 772 |
| 1200 | 600 | 85 | 850 | 992 |
| 1300 | 650 | 85 | 850 | 992 |
| 1400 | 700 | 85 | 850 | 992 |
| 1500 | 750 | 110 | 850 | 1020 |
| 1600 | 800 | 110 | 850 | 1020 |
| 1700 | 850 | 110 | 850 | 1020 |
| 1800 | 900 | 110 | 850 | 1032 |
| 1900 | 950 | 110 | 850 | 1032 |
| 2000 | 1000 | 110 | 980 | 1174 |
| 2100 | 1050 | 110 | 980 | 1174 |
| 2200 | 1100 | 110 | 1230 | 1274 |
| 2300 | 1150 | 110 | 1280 | 1432 |
| 2400 | 1200 | 110 | 1280 | 1482 |
| 2500 | 1250 | 110 | 1280 | 1482 |
| 2600 | 1300 | 110 | 1280 | 1432 |
| 2700 | 1350 | 110 | 1280 | 1482 |
| 2800 | 1400 | 110 | 1280 | 1482 |
| 2900 | 1450 | 110 | 1280 | 1482 |
| 3000 | 1500 | 110 | 1280 | 1482 |

Legend

- D = Flange Diameter (mm)
- d = Barrel Diameter (mm)
- d1 = Benz hole diameter (mm)
- B1 = Distance between flanges (mm)
- B2 = Overall Width (mm)

SELECTION FORM (Low Voltage Cables)

This form needs to be filled in order to help Energya Cables SA prepare the right quotation:

Standard & Specification

- IEC
- BS
- Others: _____

Conductor

Type:

- Copper
- Aluminum

Size (mm²) _____

Shape:

- Round Circular
- Round Compacted
- Compacted Sectoral

Number of Cores: _____

Insulation Type

- PVC
- XLPE
- Low Smoke Halogen Free (LSHF)

Armoring Type (If Any)

Single Core Cables:

- Al Wire Armor (AWA)
- Double Al Tape Armor (ATA)

Multi Core Cables:

- Steel Wire Armor (SWA)
- Double Steel Tape Armor (STA)

Jacket Type

- PVC
- PE
- Low Smoke Halogen Free (LSHF)

Special Requirements _____

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