

# MEDIUM VOLTAGE CABLES

Cu or Al - XLPE - Cu - ATA or AWA - PVC or PE  
Single Core Cable  
Armoured - XLPE Insulation - IEC 60502-2

## APPLICATION

Cable for power distribution and power supply stations used in Utility and Industrial applications, for rated voltages up to 18/30kV. Suitable for fixed installations, directly buried. Good mechanical protection.

## CABLE DESIGNATION

- A:** Cu / XLPE / Cu Wire screen / Aluminium Tape armour / PVC or PE
- B:** Cu / XLPE / Cu Tape screen / Aluminium Tape armour / PVC or PE
- C:** Al / XLPE / Cu Wire screen / Aluminium Wire armour / PVC or PE
- D:** Al / XLPE / Cu Tape screen / Aluminium Wire armour / PVC or PE
- E:** Al / XLPE / Cu Tape screen / Aluminium Tape armour / PVC or PE
- F:** Al / XLPE / Cu Wire screen / Aluminium Tape armour / PVC or PE
- G:** Cu / XLPE / Cu Tape screen / Aluminium Wire armour / PVC or PE
- H:** Cu / XLPE / Cu Wire screen / Aluminium Wire armour / PVC or PE

## CONSTRUCTION CHARACTERISTICS

### Conductor

Plain annealed Copper or Aluminium, circular, stranded, class 2 as per IEC 60228.

### Insulation

Semi-conductive screen over the conductor, XLPE (cross-linked polyethylene) insulation and semi conductive screen over the insulation (strippable<sup>1</sup>), applied by simultaneous extrusion in just one operation

### Metallic Screen

**Copper wire screen** – annealed copper wires helically wound and an equalising copper tape applied in an open counter-helix.

A wrapping Poly Propylene tape is applied over the screen.

Or **Copper tape screen** – a copper tape, helically applied with overlap.

### Inner Sheath

Extruded PVC.

### Armour

Two aluminium tapes helically applied.

Or Aluminium wires, helically applied, tightened with Poly Propylene tapes.

### Oversheath

Extruded PVC, or PE.



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## GENERAL CHARACTERISTICS

|                                                          |                                                                                                                   |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Construction and test standards                          | IEC 60228 · IEC 60502-2                                                                                           |
| Rated voltage $U_0 / U(U_m)$                             | 3.6/6 (7.2) kV · 6/10 (12) kV · 8.7/15 (17.5) kV · 12/20 (24) kV · 18/30 (36) kV                                  |
| Standard cross-section of wire screen (mm <sup>2</sup> ) | 16 · 25 · 35                                                                                                      |
| Test voltage                                             | 3.5 x $U_0$                                                                                                       |
| Conductor maximum operating temperature                  | 90°C                                                                                                              |
| Maximum short-circuit temperature                        | 250°C (t ≤ 5s)                                                                                                    |
| Minimum bending radius – during installation (mm)        | 20 x d                                                                                                            |
| Minimum bending radius – after installation (mm)         | 15 x d                                                                                                            |
| Maximum pulling force over conductor (N)                 | Copper – 50 x S · Aluminium – 30 x S                                                                              |
| Flame retardant (for PVC oversheath)                     | IEC 60332-1-2 · EN 60332-1-2 (cable vertically mounted, length of charred cable ≤ 540 mm)                         |
| Fire retardant (for PVC oversheath. upon agreement)      | IEC 60332-3-24 · EN 60332-3-24 (bunch of cables vertically mounted on a ladder, length of charred cable ≤ 2.5 cm) |

S – conductor cross-section (mm<sup>2</sup>) · d – cable outer diameter (mm)

## ELECTRICAL AND DIMENSIONAL CHARACTERISTICS

Copper conductor constructions

Cu / XLPE / Cu Wire screen / Aluminium Tape armour or AWA / PVC

| Voltage                 |         | Conductor cross-<br>-section | Diameter over insulation | Approx. outer diameter | Approx. weight B-PVC | Current carrying capacity  |            | Cond. max. short-circuit current, t=1s | Max symmetrical short-circuit for 3 second | Cond. DC resistance @ 20°C | Inductance  | Capacitance |
|-------------------------|---------|------------------------------|--------------------------|------------------------|----------------------|---------------------------------------------------------------------------------------------------------------|------------|----------------------------------------|--------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------|-------------|
| U <sub>0</sub> / U (kV) | Um (kV) |                              |                          |                        |                      | In air (A)                                                                                                    | Buried (A) |                                        |                                            |                            |                                                                                                |             |
| Copper conductor        |         |                              |                          |                        |                      |                                                                                                               |            |                                        |                                            |                            |                                                                                                |             |
| 3.6/6                   | 7.2     | 25                           | 13.8                     | 25                     | 890                  | 157                                                                                                           | 144        | 3.6                                    | 2.0                                        | 0.7270                     | 0.41                                                                                           | 0.27        |
|                         |         | 35                           | 14.8                     | 26                     | 1010                 | 190                                                                                                           | 171        | 5.0                                    | 2.9                                        | 0.5240                     | 0.39                                                                                           | 0.30        |
|                         |         | 50                           | 16.0                     | 27                     | 1180                 | 229                                                                                                           | 202        | 7.1                                    | 4.1                                        | 0.3870                     | 0.37                                                                                           | 0.33        |
|                         |         | 70                           | 17.6                     | 29                     | 1460                 | 286                                                                                                           | 246        | 10.0                                   | 5.8                                        | 0.2680                     | 0.35                                                                                           | 0.38        |
|                         |         | 95                           | 19.4                     | 31                     | 1780                 | 350                                                                                                           | 293        | 13.6                                   | 7.8                                        | 0.1930                     | 0.33                                                                                           | 0.43        |
|                         |         | 120                          | 20.8                     | 33                     | 2140                 | 406                                                                                                           | 332        | 17.2                                   | 9.9                                        | 0.1530                     | 0.32                                                                                           | 0.48        |
|                         |         | 150                          | 22.3                     | 35                     | 2500                 | 461                                                                                                           | 372        | 21.4                                   | 12.3                                       | 0.1240                     | 0.31                                                                                           | 0.51        |
|                         |         | 185                          | 23.8                     | 37                     | 2920                 | 526                                                                                                           | 418        | 26.5                                   | 15.3                                       | 0.0991                     | 0.30                                                                                           | 0.54        |
|                         |         | 240                          | 26.6                     | 39                     | 3580                 | 630                                                                                                           | 483        | 34.3                                   | 19.8                                       | 0.0754                     | 0.29                                                                                           | 0.60        |
|                         |         | 300                          | 28.6                     | 42                     | 4310                 | 731                                                                                                           | 542        | 42.9                                   | 24.8                                       | 0.0601                     | 0.28                                                                                           | 0.63        |
|                         |         | 400                          | 32.6                     | 47                     | 5440                 | 851                                                                                                           | 608        | 57.2                                   | 33.0                                       | 0.0470                     | 0.28                                                                                           | 0.66        |
|                         |         | 500                          | 36.0                     | 51                     | 6600                 | 956                                                                                                           | 675        | 71.5                                   | 41.2                                       | 0.0366                     | 0.27                                                                                           | 0.69        |
|                         |         | 630                          | 40.0                     | 55                     | 8170                 | 1095                                                                                                          | 753        | 90.1                                   | 52.0                                       | 0.0283                     | 0.27                                                                                           | 0.76        |

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Single Core Cable  
Armoured - XLPE Insulation - IEC 60502-2

| Voltage                    |            | Conductor cross-<br>-section | Diameter over<br>insulation | Approx.<br>outer<br>diameter | Approx.<br>weight<br>B-PVC | Current carrying<br>capacity |               | Cond. max.<br>short-circuit<br>current, t=1s | Max<br>symmetrical<br>short-circuit<br>for 3 second | Cond. DC<br>resistance<br>@ 20°C | Inductance | Capacitance |
|----------------------------|------------|------------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|---------------|----------------------------------------------|-----------------------------------------------------|----------------------------------|------------|-------------|
| U <sub>0</sub> / U<br>(kV) | Um<br>(kV) |                              |                             |                              |                            | In air<br>(A)                | Buried<br>(A) |                                              |                                                     |                                  |            |             |
| Copper conductor           |            |                              |                             |                              |                            |                              |               |                                              |                                                     |                                  |            |             |
| 6/10                       | 12         | 25                           | 15.6                        | 27                           | 1020                       | 170                          | 155           | 3.6                                          | 2.0                                                 | 0.7270                           | 0.47       | 0.23        |
|                            |            | 35                           | 16.6                        | 28                           | 1120                       | 205                          | 180           | 5.0                                          | 2.9                                                 | 0.5240                           | 0.44       | 0.25        |
|                            |            | 50                           | 17.8                        | 30                           | 1310                       | 245                          | 215           | 7.1                                          | 4.1                                                 | 0.3870                           | 0.42       | 0.28        |
|                            |            | 70                           | 19.4                        | 31                           | 1580                       | 310                          | 260           | 10.0                                         | 5.8                                                 | 0.2680                           | 0.39       | 0.31        |
|                            |            | 95                           | 21.2                        | 34                           | 2000                       | 375                          | 315           | 13.6                                         | 7.8                                                 | 0.1930                           | 0.38       | 0.35        |
|                            |            | 120                          | 22.6                        | 36                           | 2310                       | 435                          | 355           | 17.2                                         | 9.9                                                 | 0.1530                           | 0.36       | 0.38        |
|                            |            | 150                          | 24.1                        | 38                           | 2640                       | 495                          | 395           | 21.4                                         | 12.3                                                | 0.1240                           | 0.35       | 0.41        |
|                            |            | 185                          | 25.8                        | 39                           | 3080                       | 570                          | 450           | 26.5                                         | 15.3                                                | 0.0991                           | 0.34       | 0.45        |
|                            |            | 240                          | 28.2                        | 42                           | 3740                       | 670                          | 520           | 34.3                                         | 19.8                                                | 0.0754                           | 0.33       | 0.50        |
|                            |            | 300                          | 30.4                        | 44                           | 4440                       | 770                          | 580           | 42.9                                         | 24.8                                                | 0.0601                           | 0.32       | 0.54        |
|                            |            | 400                          | 33.4                        | 48                           | 5520                       | 890                          | 650           | 57.2                                         | 33.0                                                | 0.0470                           | 0.31       | 0.60        |
|                            |            | 500                          | 36.4                        | 52                           | 6670                       | 1020                         | 740           | 71.5                                         | 41.2                                                | 0.0366                           | 0.30       | 0.66        |
| 630                        | 40.5       | 56                           | 8220                        | 1190                         | 830                        | 90.1                         | 52.0          | 0.0283                                       | 0.26                                                | 0.78                             |            |             |
| 8.7/15                     | 17.5       | 25                           | 17.8                        | 30                           | 1130                       | 170                          | 155           | 3.6                                          | 2.0                                                 | 0.7270                           | 0.47       | 0.18        |
|                            |            | 35                           | 18.8                        | 31                           | 1220                       | 205                          | 180           | 5.0                                          | 2.9                                                 | 0.5240                           | 0.44       | 0.20        |
|                            |            | 50                           | 20.0                        | 33                           | 1410                       | 245                          | 215           | 7.1                                          | 4.1                                                 | 0.3870                           | 0.42       | 0.22        |
|                            |            | 70                           | 21.6                        | 35                           | 1770                       | 310                          | 260           | 10.0                                         | 5.8                                                 | 0.2680                           | 0.39       | 0.25        |
|                            |            | 95                           | 23.4                        | 37                           | 2120                       | 375                          | 315           | 13.6                                         | 7.8                                                 | 0.1930                           | 0.38       | 0.27        |
|                            |            | 120                          | 24.8                        | 39                           | 2440                       | 435                          | 355           | 17.2                                         | 9.9                                                 | 0.1530                           | 0.36       | 0.30        |
|                            |            | 150                          | 26.3                        | 40                           | 2780                       | 495                          | 395           | 21.4                                         | 12.3                                                | 0.1240                           | 0.35       | 0.32        |
|                            |            | 185                          | 28.0                        | 42                           | 3220                       | 570                          | 450           | 26.5                                         | 15.3                                                | 0.0991                           | 0.34       | 0.34        |
|                            |            | 240                          | 30.4                        | 45                           | 3900                       | 670                          | 520           | 34.3                                         | 19.8                                                | 0.0754                           | 0.33       | 0.38        |
|                            |            | 300                          | 32.6                        | 48                           | 4760                       | 770                          | 580           | 42.9                                         | 24.8                                                | 0.0601                           | 0.32       | 0.42        |
|                            |            | 400                          | 35.6                        | 51                           | 5710                       | 890                          | 650           | 57.2                                         | 33.0                                                | 0.0470                           | 0.31       | 0.43        |
|                            |            | 500                          | 38.6                        | 55                           | 6880                       | 1020                         | 740           | 71.5                                         | 41.2                                                | 0.0366                           | 0.30       | 0.47        |
| 630                        | 42.6       | 59                           | 8460                        | 1190                         | 830                        | 90.1                         | 52.0          | 0.0283                                       | 0.28                                                | 0.52                             |            |             |
| 12/20                      | 24         | 35                           | 21.2                        | 34                           | 1440                       | 198                          | 183           | 5.0                                          | 2.9                                                 | 0.5240                           | 0.46       | 0.16        |
|                            |            | 50                           | 22.4                        | 36                           | 1640                       | 238                          | 216           | 7.1                                          | 4.1                                                 | 0.3870                           | 0.44       | 0.18        |
|                            |            | 70                           | 24.0                        | 37                           | 1920                       | 296                          | 263           | 10.0                                         | 5.8                                                 | 0.2680                           | 0.42       | 0.20        |
|                            |            | 95                           | 25.8                        | 40                           | 2290                       | 361                          | 314           | 13.6                                         | 7.8                                                 | 0.1930                           | 0.41       | 0.21        |
|                            |            | 120                          | 27.2                        | 41                           | 2620                       | 417                          | 355           | 17.2                                         | 9.9                                                 | 0.1530                           | 0.40       | 0.23        |
|                            |            | 150                          | 28.7                        | 43                           | 2960                       | 473                          | 398           | 21.4                                         | 12.3                                                | 0.1240                           | 0.39       | 0.25        |
|                            |            | 185                          | 30.4                        | 45                           | 3420                       | 543                          | 448           | 26.5                                         | 15.3                                                | 0.0991                           | 0.37       | 0.27        |
|                            |            | 240                          | 32.8                        | 48                           | 4250                       | 641                          | 517           | 34.3                                         | 19.8                                                | 0.0754                           | 0.36       | 0.30        |
|                            |            | 300                          | 35.0                        | 51                           | 4990                       | 735                          | 581           | 42.9                                         | 24.8                                                | 0.0601                           | 0.35       | 0.33        |
|                            |            | 400                          | 38.0                        | 54                           | 5980                       | 845                          | 658           | 57.2                                         | 33.0                                                | 0.0470                           | 0.33       | 0.37        |
|                            |            | 500                          | 41.0                        | 57                           | 7120                       | 956                          | 740           | 71.5                                         | 41.2                                                | 0.0366                           | 0.32       | 0.40        |
|                            |            | 630                          | 45.0                        | 61                           | 8720                       | 1095                         | 829           | 90.1                                         | 52.0                                                | 0.0283                           | 0.31       | 0.45        |
| 18/30                      | 36         | 50                           | 27.8                        | 43                           | 2180                       | 248                          | 232           | 7.1                                          | 4.1                                                 | 0.3870                           | 0.48       | 0.14        |
|                            |            | 70                           | 29.4                        | 45                           | 2510                       | 307                          | 284           | 10.0                                         | 5.8                                                 | 0.2680                           | 0.46       | 0.16        |
|                            |            | 95                           | 31.2                        | 47                           | 2900                       | 373                          | 339           | 13.6                                         | 7.8                                                 | 0.1930                           | 0.44       | 0.17        |

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Single Core Cable  
Armored - XLPE Insulation - IEC 60502-2

| Voltage                    |            | Conductor cross-<br>-section | Diameter over<br>insulation | Approx. outer<br>diameter | Approx. weight<br>B-PVC | Current carrying<br>capacity |               | Cond. max.<br>short-circuit<br>current, t=1s | Max<br>symmetrical<br>short-circuit<br>for 3 second | Cond. DC<br>resistance<br>@ 20°C | Inductance | Capacitance |
|----------------------------|------------|------------------------------|-----------------------------|---------------------------|-------------------------|------------------------------|---------------|----------------------------------------------|-----------------------------------------------------|----------------------------------|------------|-------------|
| U <sub>0</sub> / U<br>(kV) | Um<br>(kV) |                              |                             |                           |                         | In air<br>(A)                | Buried<br>(A) |                                              |                                                     |                                  |            |             |
| Copper conductor           |            |                              |                             |                           |                         |                              |               |                                              |                                                     |                                  |            |             |
| 18/30                      | 36         | 120                          | 32.6                        | 49                        | 3250                    | 429                          | 385           | 17.2                                         | 9.9                                                 | 0.1530                           | 0.43       | 0.18        |
|                            |            | 150                          | 34.1                        | 50                        | 3640                    | 484                          | 430           | 21.4                                         | 12.3                                                | 0.1240                           | 0.41       | 0.19        |
|                            |            | 185                          | 35.8                        | 52                        | 4120                    | 552                          | 484           | 26.5                                         | 15.3                                                | 0.0991                           | 0.40       | 0.21        |
|                            |            | 240                          | 38.2                        | 56                        | 4990                    | 649                          | 559           | 34.3                                         | 19.8                                                | 0.0754                           | 0.38       | 0.23        |
|                            |            | 300                          | 40.4                        | 58                        | 5780                    | 737                          | 627           | 42.9                                         | 24.8                                                | 0.0601                           | 0.37       | 0.25        |
|                            |            | 400                          | 43.4                        | 61                        | 6780                    | 861                          | 701           | 57.2                                         | 33.0                                                | 0.0470                           | 0.36       | 0.27        |
|                            |            | 500                          | 46.4                        | 65                        | 8000                    | 993                          | 786           | 71.5                                         | 41.2                                                | 0.0366                           | 0.35       | 0.30        |
|                            |            | 630                          | 50.4                        | 69                        | 9690                    | 1139                         | 875           | 90.1                                         | 52.0                                                | 0.0283                           | 0.33       | 0.33        |

## Aluminium conductor constructions

Al / XLPE / Cu Wire screen / Aluminium Wire armour / PVC

| Voltage                    |            | Conductor cross-<br>-section | Diameter over<br>insulation | Approx. outer<br>diameter | Approx. weight<br>B-PVC | Current carrying<br>capacity ⚡ |               | Cond. max.<br>short-circuit<br>current, t=1s | Max<br>symmetrical<br>short-circuit<br>for 3 second | Cond. DC<br>resistance<br>@ 20°C | Inductance<br>⚡ | Capacitance |
|----------------------------|------------|------------------------------|-----------------------------|---------------------------|-------------------------|--------------------------------|---------------|----------------------------------------------|-----------------------------------------------------|----------------------------------|-----------------|-------------|
| U <sub>0</sub> / U<br>(kV) | Um<br>(kV) |                              |                             |                           |                         | In air<br>(A)                  | Buried<br>(A) |                                              |                                                     |                                  |                 |             |
| Aluminium conductor        |            |                              |                             |                           |                         |                                |               |                                              |                                                     |                                  |                 |             |
| 3.6/6                      | 7.2        | 25                           | 13.8                        | 25                        | 760                     | 121                            | 111           | 2.3                                          | 1.3                                                 | 1.2000                           | 0.41            | 0.27        |
|                            |            | 35                           | 14.8                        | 26                        | 800                     | 147                            | 132           | 3.2                                          | 1.9                                                 | 0.8680                           | 0.39            | 0.30        |
|                            |            | 50                           | 16.0                        | 27                        | 910                     | 176                            | 156           | 4.7                                          | 2.7                                                 | 0.6410                           | 0.37            | 0.33        |
|                            |            | 70                           | 17.6                        | 29                        | 1020                    | 221                            | 191           | 6.5                                          | 3.8                                                 | 0.4430                           | 0.35            | 0.38        |
|                            |            | 95                           | 19.4                        | 31                        | 1180                    | 270                            | 227           | 8.9                                          | 5.1                                                 | 0.3200                           | 0.33            | 0.42        |
|                            |            | 120                          | 20.8                        | 33                        | 1400                    | 315                            | 260           | 11.2                                         | 6.5                                                 | 0.2530                           | 0.32            | 0.47        |
|                            |            | 150                          | 22.3                        | 35                        | 1570                    | 357                            | 290           | 14.1                                         | 8.1                                                 | 0.2060                           | 0.31            | 0.51        |
|                            |            | 185                          | 23.8                        | 37                        | 1740                    | 411                            | 326           | 17.4                                         | 10                                                  | 0.1640                           | 0.30            | 0.55        |
|                            |            | 240                          | 26.6                        | 39                        | 2040                    | 489                            | 378           | 22.5                                         | 13                                                  | 0.1250                           | 0.29            | 0.60        |
|                            |            | 300                          | 28.6                        | 42                        | 2400                    | 571                            | 426           | 28.1                                         | 16.3                                                | 0.1000                           | 0.28            | 0.63        |
|                            |            | 400                          | 32.6                        | 47                        | 2990                    | 670                            | 484           | 37.6                                         | 21.8                                                | 0.0778                           | 0.28            | 0.66        |
|                            |            | 500                          | 36.0                        | 51                        | 3510                    | 782                            | 544           | 47.0                                         | 27.2                                                | 0.0605                           | 0.27            | 0.69        |
| 630                        | 40.0       | 55                           | 4170                        | 925                       | 617                     | 59.2                           | 34.3          | 0.0469                                       | 0.26                                                | 0.79                             |                 |             |
| 6/10                       | 12         | 25                           | 15.6                        | 27                        | 860                     | 130                            | 115           | 2.3                                          | 1.3                                                 | 1.2000                           | 0.47            | 0.23        |
|                            |            | 35                           | 16.6                        | 28                        | 900                     | 155                            | 140           | 3.2                                          | 1.9                                                 | 0.8680                           | 0.44            | 0.25        |
|                            |            | 50                           | 17.8                        | 30                        | 1010                    | 185                            | 165           | 4.7                                          | 2.7                                                 | 0.6410                           | 0.42            | 0.28        |
|                            |            | 70                           | 19.4                        | 31                        | 1150                    | 235                            | 200           | 6.5                                          | 3.8                                                 | 0.4430                           | 0.39            | 0.31        |
|                            |            | 95                           | 21.2                        | 34                        | 1400                    | 285                            | 240           | 8.9                                          | 5.1                                                 | 0.3200                           | 0.38            | 0.33        |
|                            |            | 120                          | 22.6                        | 36                        | 1550                    | 330                            | 275           | 11.2                                         | 6.5                                                 | 0.2530                           | 0.36            | 0.38        |
|                            |            | 150                          | 24.1                        | 38                        | 1700                    | 375                            | 305           | 14.1                                         | 8.1                                                 | 0.2060                           | 0.35            | 0.41        |
|                            |            | 185                          | 25.8                        | 39                        | 1910                    | 430                            | 345           | 17.4                                         | 10                                                  | 0.1640                           | 0.34            | 0.45        |
|                            |            | 240                          | 28.2                        | 42                        | 2200                    | 510                            | 400           | 22.5                                         | 13                                                  | 0.1250                           | 0.33            | 0.50        |
|                            |            | 300                          | 30.4                        | 44                        | 2510                    | 585                            | 450           | 28.1                                         | 16.3                                                | 0.1000                           | 0.32            | 0.54        |
|                            |            | 400                          | 33.4                        | 48                        | 3070                    | 710                            | 520           | 37.6                                         | 21.8                                                | 0.0778                           | 0.31            | 0.60        |
|                            |            | 500                          | 36.4                        | 52                        | 3570                    | 810                            | 590           | 47.0                                         | 27.2                                                | 0.0605                           | 0.30            | 0.66        |
| 630                        | 40.5       | 56                           | 4210                        | 960                       | 670                     | 59.2                           | 34.3          | 0.0469                                       | 0.28                                                | 0.78                             |                 |             |

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Single Core Cable  
Armoured - XLPE Insulation - IEC 60502-2

| Voltage                    |            | Conductor cross-<br>-section | Diameter over<br>insulation | Approx.<br>outer<br>diameter | Approx.<br>weight<br>B-PVC | Current carrying<br>capacity |               | Cond. max.<br>short-circuit<br>current, t=1s | Max<br>symmetrical<br>short-circuit<br>for 3 second | Cond. DC<br>resistance<br>@ 20°C | Inductance | Capacitance |
|----------------------------|------------|------------------------------|-----------------------------|------------------------------|----------------------------|------------------------------|---------------|----------------------------------------------|-----------------------------------------------------|----------------------------------|------------|-------------|
| U <sub>0</sub> / U<br>(kV) | Um<br>(kV) |                              |                             |                              |                            | In air<br>(A)                | Buried<br>(A) |                                              |                                                     |                                  |            |             |
| Aluminium conductor        |            |                              |                             |                              |                            |                              |               |                                              |                                                     |                                  |            |             |
| 8.7/15                     | 17.5       | 25                           | 17.8                        | 30                           | 960                        | 130                          | 115           | 2.3                                          | 1.3                                                 | 1.2000                           | 0.47       | 0.18        |
|                            |            | 35                           | 18.8                        | 31                           | 1000                       | 155                          | 140           | 3.2                                          | 1.9                                                 | 0.8680                           | 0.44       | 0.20        |
|                            |            | 50                           | 20.0                        | 33                           | 1110                       | 185                          | 165           | 4.7                                          | 2.7                                                 | 0.6410                           | 0.42       | 0.22        |
|                            |            | 70                           | 21.6                        | 35                           | 1340                       | 235                          | 200           | 6.5                                          | 3.8                                                 | 0.4430                           | 0.39       | 0.25        |
|                            |            | 95                           | 23.4                        | 37                           | 1520                       | 285                          | 240           | 8.9                                          | 5.1                                                 | 0.3200                           | 0.38       | 0.27        |
|                            |            | 120                          | 24.8                        | 39                           | 1680                       | 330                          | 275           | 11.2                                         | 6.5                                                 | 0.2530                           | 0.36       | 0.30        |
|                            |            | 150                          | 26.3                        | 40                           | 1850                       | 375                          | 305           | 14.1                                         | 8.1                                                 | 0.2060                           | 0.35       | 0.32        |
|                            |            | 185                          | 28.0                        | 42                           | 2060                       | 430                          | 345           | 17.4                                         | 10                                                  | 0.1640                           | 0.34       | 0.34        |
|                            |            | 240                          | 30.4                        | 45                           | 2370                       | 510                          | 400           | 22.5                                         | 13                                                  | 0.1250                           | 0.33       | 0.36        |
|                            |            | 300                          | 32.6                        | 48                           | 2840                       | 585                          | 450           | 28.1                                         | 16.3                                                | 0.1000                           | 0.32       | 0.42        |
|                            |            | 400                          | 35.6                        | 51                           | 3260                       | 710                          | 520           | 37.6                                         | 21.8                                                | 0.0778                           | 0.31       | 0.43        |
|                            |            | 500                          | 38.6                        | 55                           | 3780                       | 810                          | 590           | 47.0                                         | 27.2                                                | 0.0605                           | 0.30       | 0.47        |
| 630                        | 42.6       | 59                           | 4460                        | 960                          | 670                        | 59.2                         | 34.3          | 0.0469                                       | 0.28                                                | 0.52                             |            |             |
| 12/20                      | 24         | 35                           | 21.2                        | 34                           | 1220                       | 159                          | 142           | 3.2                                          | 1.9                                                 | 0.8680                           | 0.44       | 0.17        |
|                            |            | 50                           | 22.4                        | 36                           | 1340                       | 190                          | 167           | 4.7                                          | 2.7                                                 | 0.6410                           | 0.42       | 0.18        |
|                            |            | 70                           | 24.0                        | 37                           | 1490                       | 235                          | 204           | 6.5                                          | 3.8                                                 | 0.4430                           | 0.40       | 0.21        |
|                            |            | 95                           | 25.8                        | 40                           | 1690                       | 287                          | 244           | 8.9                                          | 5.1                                                 | 0.3200                           | 0.38       | 0.23        |
|                            |            | 120                          | 27.2                        | 41                           | 1870                       | 330                          | 277           | 11.2                                         | 6.5                                                 | 0.2530                           | 0.36       | 0.25        |
|                            |            | 150                          | 28.7                        | 43                           | 2030                       | 375                          | 309           | 14.1                                         | 8.1                                                 | 0.2060                           | 0.35       | 0.27        |
|                            |            | 185                          | 30.4                        | 45                           | 2260                       | 428                          | 350           | 17.4                                         | 10                                                  | 0.1640                           | 0.34       | 0.29        |
|                            |            | 240                          | 32.8                        | 48                           | 2720                       | 505                          | 405           | 22.5                                         | 13                                                  | 0.1250                           | 0.33       | 0.32        |
|                            |            | 300                          | 35.0                        | 51                           | 3070                       | 578                          | 455           | 28.1                                         | 16.3                                                | 0.1000                           | 0.32       | 0.35        |
|                            |            | 400                          | 38.0                        | 54                           | 3520                       | 674                          | 520           | 37.6                                         | 21.8                                                | 0.0778                           | 0.30       | 0.39        |
|                            |            | 500                          | 41.0                        | 57                           | 4030                       | 778                          | 592           | 47.0                                         | 27.2                                                | 0.0605                           | 0.30       | 0.43        |
|                            |            | 630                          | 45.0                        | 61                           | 4730                       | 896                          | 672           | 59.2                                         | 34.3                                                | 0.0469                           | 0.28       | 0.49        |
| 18/30                      | 36         | 50                           | 27.8                        | 43                           | 1890                       | 200                          | 165           | 4.7                                          | 3.5                                                 | 0.6410                           | 0.46       | 0.14        |
|                            |            | 70                           | 29.4                        | 45                           | 2080                       | 250                          | 205           | 6.5                                          | 3.8                                                 | 0.4430                           | 0.43       | 0.16        |
|                            |            | 95                           | 31.2                        | 47                           | 2300                       | 305                          | 245           | 8.9                                          | 5.1                                                 | 0.3200                           | 0.41       | 0.17        |
|                            |            | 120                          | 32.6                        | 49                           | 2500                       | 350                          | 275           | 11.2                                         | 6.5                                                 | 0.2530                           | 0.39       | 0.19        |
|                            |            | 150                          | 34.1                        | 50                           | 2710                       | 395                          | 310           | 14.1                                         | 8.1                                                 | 0.2060                           | 0.38       | 0.20        |
|                            |            | 185                          | 35.8                        | 52                           | 2960                       | 455                          | 350           | 17.4                                         | 10                                                  | 0.1640                           | 0.37       | 0.21        |
|                            |            | 240                          | 38.2                        | 56                           | 3460                       | 540                          | 410           | 22.5                                         | 13                                                  | 0.1250                           | 0.36       | 0.24        |
|                            |            | 300                          | 40.4                        | 58                           | 3860                       | 584                          | 465           | 28.1                                         | 16.3                                                | 0.1000                           | 0.34       | 0.26        |
|                            |            | 400                          | 43.4                        | 61                           | 4320                       | 681                          | 531           | 37.6                                         | 21.8                                                | 0.0778                           | 0.33       | 0.29        |
|                            |            | 500                          | 46.4                        | 65                           | 4900                       | 792                          | 605           | 47.0                                         | 27.2                                                | 0.0605                           | 0.32       | 0.31        |
|                            |            | 630                          | 50.4                        | 69                           | 5690                       | 933                          | 684           | 59.2                                         | 34.3                                                | 0.0469                           | 0.30       | 0.35        |

Current carrying capacity calculated considering the following conditions:

Maximum conductor temperature = 90°C

Cables in air: Ambient temperature = 30°C

Cables directly buried: Ground temperature = 15°C • Depth of laying = 0.5 m • Thermal resistivity of soil = 1.5 K.m/W