

# 6.35/11kV Triplex Cu/XLPE/CWS/PVC/HDPE



- 1 Compacted Cu conductor
- 2 Conductor screen
- 3 XLPE insulation
- 4 Insulation screen
- 5 Semi conductive water-blocking tape
- 6 Copper wire screen
- 7 Non-hygroscopic tape
- 8 PVC inner sheath
- 9 HDPE outer sheath

### Properties:

|  |                                       |
|--|---------------------------------------|
| Rated voltage  | 6.35/11kV                             |
| Max. operating temperature of conductor                                  | 90°C                                  |
| Max. short-circuit operation temperature of conductor (5s Max. duration) | 250°C                                 |
| Ambient temperature range for operating                                  | from -40°C to +50°C                   |
| Relative air humidity at temperature lower than +35°C                    | up to 95%                             |
| Min. temperature for installing without preheating                       | +0°C                                  |
| Standard   | AS/NZS 1429.1                         |
| Fault Level  | up to 10kA/s or customer requirements |

### Application:

Cables are designed for fixed installation, for laying in the ground, for indoor application and in cable ducts.

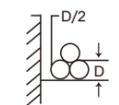
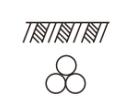
### Structural Parameters:

| Nominal conductor area | Approx. diameter of conductor | Nominal thickness of insulation | Nominal diameter over insulation | Nominal screen area | No. & diameter of screen wire | Nominal diameter over wire screen | Nominal thickness of outer sheath |             | Approx. overall diameter of cable | Max. overall diameter of cable | Approx. weight of cable | Max. allowable pulling force of conductor | Min. bending radius (bundled cable) |           |
|------------------------|-------------------------------|---------------------------------|----------------------------------|---------------------|-------------------------------|-----------------------------------|-----------------------------------|-------------|-----------------------------------|--------------------------------|-------------------------|---|-------------------------------------|-----------|
|                        |                               |                                 |                                  |                     |                               |                                   | Inner layer                       | Outer layer |                                   |                                |                         |   | During installation                 | Installed |
|                        |                               |                                 |                                  |                     |                               |                                   |                                   |             |                                   |                                |                         |   |                                     |           |
| 16                     | 4.8                           | 3.4                             | 14.5                             | 15.3                | 27/0.85                       | 17.1                              | 1.0                               | 1.0         | 24.1                              | 51.6                           | 2.0                     | 3.4                                       | 770                                 | 520       |
| 25                     | 6.0                           | 3.4                             | 15.7                             | 23.8                | 42/0.85                       | 18.3                              | 1.0                               | 1.0         | 25.3                              | 54.2                           | 2.6                     | 5.3                                       | 810                                 | 540       |
| 35                     | 7.0                           | 3.4                             | 16.7                             | 34.0                | 40/1.04                       | 19.7                              | 1.0                               | 1.0         | 26.7                              | 57.1                           | 3.2                     | 7.4                                       | 860                                 | 570       |
| 50                     | 8.1                           | 3.4                             | 17.8                             | 49.5                | 28/1.5                        | 21.7                              | 1.0                               | 1.0         | 28.7                              | 61.5                           | 4.1                     | 10.5                                      | 920                                 | 620       |
| 70                     | 9.8                           | 3.4                             | 19.5                             | 68.9                | 39/1.5                        | 23.4                              | 1.0                               | 1.0         | 30.4                              | 65.1                           | 5.3                     | 14.7                                      | 980                                 | 650       |
| 95                     | 11.4                          | 3.4                             | 21.1                             | 68.9                | 39/1.5                        | 25.0                              | 1.0                               | 1.0         | 32.0                              | 68.5                           | 6.2                     | 20.0                                      | 1030                                | 690       |
| 120                    | 12.9                          | 3.4                             | 22.6                             | 68.9                | 39/1.5                        | 26.5                              | 1.0                               | 1.0         | 33.5                              | 71.7                           | 7.0                     | 25.2                                      | 1080                                | 720       |
| 150                    | 14.4                          | 3.4                             | 24.1                             | 68.9                | 39/1.5                        | 28.0                              | 1.0                               | 1.0         | 35.0                              | 74.9                           | 7.8                     | 31.5                                      | 1120                                | 750       |
| 185                    | 16.0                          | 3.4                             | 25.7                             | 68.9                | 39/1.5                        | 29.6                              | 1.0                               | 1.0         | 36.6                              | 78.4                           | 8.9                     | 38.9                                      | 1180                                | 780       |
| 240                    | 18.4                          | 3.4                             | 28.1                             | 68.9                | 39/1.5                        | 32.0                              | 1.0                               | 1.1         | 39.0                              | 83.5                           | 10.1                    | 50.4                                      | 1250                                | 840       |
| 300                    | 20.6                          | 3.4                             | 30.3                             | 68.9                | 39/1.5                        | 34.2                              | 1.0                               | 1.1         | 41.2                              | 88.2                           | 12.5                    | 63.0                                      | 1320                                | 880       |
| 400                    | 23.4                          | 3.4                             | 33.1                             | 68.9                | 39/1.5                        | 37.0                              | 1.1                               | 1.2         | 44.0                              | 94.2                           | 14.9                    | 84.0                                      | 1410                                | 940       |
| 500                    | 26.2                          | 3.4                             | 36.3                             | 68.9                | 39/1.5                        | 40.2                              | 1.1                               | 1.2         | 47.2                              | 101.0                          | 18.2                    | 105.0                                     | 1520                                | 1010      |

### Electrical Characteristics:

| Nominal conductor area | Max. DC resistance of conductor at 20°C | Max. AC resistance of conductor at 90°C |               |             | Fault current carrying of conductor for 1 second | Fault current carrying of screen for 1 second | Insulation resistance at 20°C | Conductor to screen capacitance | Charging current per phase | Dielectric loss per phase | Maximum dielectric stress | Inductive reactance at 50Hz and 90°C |               |             | Screen DC resistance at 20°C | Zero sequence resistance at 20°C | Zero sequence reactance at 50Hz |
|------------------------|---|---|---------------|-------------|--|---|-------------------------------|---------------------------------|----------------------------|---------------------------|---------------------------|--------------------------------------|---------------|-------------|------------------------------|----------------------------------|---------------------------------|
|                        |   | Trefoil touching                        | Flat touching | Flat spaced |  |   |                               |                                 |                            |                           |                           | Trefoil touching                     | Flat touching | Flat spaced |                              |                                  |                                 |
| 16                     | 1.15                                    | 1.47                                    | 1.47          | 1.47        | 2.3  | 2.3   | 12700                         | 0.190                           | 0.379                      | 9.63                      | 2.75                      | 0.161                                | 0.175         | 0.219       | 1.24                         | 2.39                             | 0.0969                          |
| 25                     | 0.727                                   | 0.927                                   | 0.927         | 0.927       | 3.6  | 3.5   | 11200                         | 0.216                           | 0.430                      | 10.9                      | 2.62                      | 0.150                                | 0.164         | 0.208       | 0.796                        | 1.52                             | 0.0854                          |
| 35                     | 0.524                                   | 0.668                                   | 0.668         | 0.668       | 5.0  | 5.0   | 10200                         | 0.237                           | 0.472                      | 12.0                      | 2.54                      | 0.143                                | 0.158         | 0.201       | 0.558                        | 1.08                             | 0.0796                          |
| 50                     | 0.387                                   | 0.494                                   | 0.494         | 0.494       | 7.2  | 7.4   | 9300                          | 0.260                           | 0.518                      | 13.2                      | 2.47                      | 0.139                                | 0.153         | 0.197       | 0.383                        | 0.770                            | 0.0760                          |
| 70                     | 0.268                                   | 0.342                                   | 0.342         | 0.342       | 10.0   | 10.2  | 8100                          | 0.295                           | 0.589                      | 15.0                      | 2.39                      | 0.130                                | 0.145         | 0.189       | 0.275                        | 0.543                            | 0.0678                          |
| 95                     | 0.193                                   | 0.247                                   | 0.247         | 0.246       | 13.6   | 10.2  | 7300                          | 0.329                           | 0.656                      | 16.7                      | 2.33                      | 0.124                                | 0.139         | 0.182       | 0.275                        | 0.468                            | 0.0631                          |
| 120                    | 0.153                                   | 0.196                                   | 0.196         | 0.196       | 17.2   | 10.2  | 6700                          | 0.360                           | 0.718                      | 18.2                      | 2.28                      | 0.119                                | 0.134         | 0.177       | 0.275                        | 0.428                            | 0.0595                          |
| 150                    | 0.124                                   | 0.159                                   | 0.159         | 0.159       | 21.5   | 10.2  | 6100                          | 0.391                           | 0.780                      | 19.8                      | 2.24                      | 0.115                                | 0.130         | 0.173       | 0.275                        | 0.399                            | 0.0564                          |
| 185                    | 0.0991                                  | 0.128                                   | 0.127         | 0.127       | 26.5   | 10.2  | 5700                          | 0.424                           | 0.846                      | 21.5                      | 2.21                      | 0.111                                | 0.126         | 0.169       | 0.275                        | 0.374                            | 0.0537                          |
| 240                    | 0.0754                                  | 0.0978                                  | 0.0975        | 0.0971      | 34.3   | 10.2  | 5100                          | 0.473                           | 0.945                      | 24.0                      | 2.17                      | 0.106                                | 0.121         | 0.165       | 0.275                        | 0.351                            | 0.0504                          |
| 300                    | 0.0601                                  | 0.0788                                  | 0.0784        | 0.0779      | 42.9   | 10.2  | 4600                          | 0.519                           | 1.04                       | 26.3                      | 2.14                      | 0.103                                | 0.117         | 0.161       | 0.275                        | 0.335                            | 0.0478                          |
| 400                    | 0.0470                                  | 0.0628                                  | 0.0623        | 0.0615      | 57.2   | 10.2  | 4100                          | 0.576                           | 1.15                       | 29.2                      | 2.11                      | 0.0990                               | 0.113         | 0.157       | 0.275                        | 0.322                            | 0.0452                          |
| 500                    | 0.0366                                  | 0.0505                                  | 0.0497        | 0.0487      | 71.5   | 10.2  | 3700                          | 0.641                           | 1.28                       | 32.5                      | 2.09                      | 0.0962                               | 0.111         | 0.154       | 0.275                        | 0.312                            | 0.0437                          |

### Current Ratings:

| Nominal conductor area | Continuous current-carrying capacity, A   |   |   |   |   |
|------------------------|---|---|---|---|---|
|                        | In air  |   |   | In ground   |   |
|                        |  |  |  |  |  |
| 16                     | 106   | 112   | 81  | 113   | 91  |
| 25                     | 138   | 145   | 104   | 145   | 116   |
| 35                     | 169   | 179   | 125   | 174   | 140   |
| 50                     | 200   | 214   | 150   | 204   | 166   |
| 70                     | 250   | 268   | 184   | 249   | 204   |
| 95                     | 301   | 320   | 219   | 295   | 241   |
| 120                    | 349   | 370   | 256   | 335   | 279   |
| 150                    | 394   | 419   | 289   | 374   | 310   |
| 185                    | 449   | 479   | 325   | 420   | 350   |
| 240                    | 525   | 563   | 375   | 483   | 403   |
| 300                    | 599   | 639   | 439   | 539   | 463   |
| 400                    | 688   | 735   | 498   | 605   | 519   |
| 500                    | 783   | 838   | 559   | 674   | 580   |