



## Cu(Al) 3.8/6.6 kV – Single Core Heavy Duty Screened Unarmoured MV CABLE

### APPLICATION:

Cables for electricity distribution networks are commonly employed as the main power supply for commercial, industrial, and urban residential grids. They are suitable for high fault-level systems with a rating of up to 10kA/1sec.

### CABLE STRUCTURE:

#### Conductor:

Stranded compacted conductor(copper or aluminum)

#### Semi-conductive conductor screen:

Extruded cross-linked compound

#### Insulation: XLPE

#### Semi-conductive insulation screen:

Extruded hand strippable semi-conductive cross-linked compound

#### Metallic screen:

Copper wire screen

(nominal 10kA for 1 second)

#### Outer sheath:

PVC. Optional: HDPE, halogen-free, flame-retardant, plus termite protection (nylon, double brass tape or chemical additive).

### STANDARDS:

#### Product:

AS/NZS 1429.1

Electric cables - Polymeric insulated

For working voltages 1.9/3.3 (3.6) kV up to and including 19/33 (36) kV

#### Conductor:

AS/NZS 1125

Conductors in insulated electric cables and flexible cords

#### Insulation & Sheath:

AS/NZS 3808

Insulating and sheathing materials for electric cables

### TECHNICAL DATA:

#### Rated volatge:

3.8/6.6 kV

#### Temperature range:

Minimum installation temperature: 0°C

Maximum operating temperature: +90°C

Minimum operating temperature: -25°C

#### Fault level:

Up to 10kA for 1 sec

#### Bending radius:

Installed cables:

12D (PVC only)    15D (HDPE)

During installation:

18D (PVC only)    25D (HDPE)

### CERTIFICATES:

We hold SAA certifications for our product categories. Additionally, we possess authoritative certifications recognized in other countries and regions.





**Cu(Al) 3.8/6.6 kV – Single Core Heavy Duty Screened Unarmoured MV CABLE**

Physical Character Sheet (AL Conductor)

| Nominal conductor area | Nominal insulation thickness | Diameter over insulation | Number of screen wires and diameter of screen wires | Overall Diameter | Approx. weight | Maximum pulling tension | Minimum Bending Radius During installation | Minimum Bending Radius Installed |
|------------------------|------------------------------|--------------------------|-----------------------------------------------------|------------------|----------------|-------------------------|--------------------------------------------|----------------------------------|
| mm <sup>2</sup>        | mm                           | mm                       | nb x mm ∅                                           | mm               | kg/km          | kN                      | mm                                         | mm                               |
| 1 × 50                 | 2.5                          | 14.5                     | 23/1.35                                             | 22.9             | 758            | 2.5                     | 390                                        | 260                              |
| 1 × 70                 | 2.5                          | 16                       | 32/1.35                                             | 24.4             | 1000           | 3.5                     | 420                                        | 280                              |
| 1 × 95                 | 2.5                          | 17.6                     | 43/1.35                                             | 26               | 1250           | 4.8                     | 450                                        | 300                              |
| 1 × 120                | 2.5                          | 19.2                     | 48/1.35                                             | 27.6             | 1400           | 6                       | 470                                        | 320                              |
| 1 × 150                | 2.5                          | 20.5                     | 48/1.35                                             | 29.1             | 1500           | 7.5                     | 500                                        | 330                              |
| 1 × 185                | 2.5                          | 22.3                     | 48/1.35                                             | 30.9             | 1650           | 9.3                     | 530                                        | 360                              |
| 1 × 240                | 2.6                          | 24.7                     | 48/1.35                                             | 33.5             | 1850           | 12                      | 580                                        | 380                              |
| 1 × 300                | 2.8                          | 27.3                     | 48/1.35                                             | 36.3             | 2100           | 15                      | 630                                        | 420                              |
| 1 × 400                | 3                            | 30.8                     | 48/1.35                                             | 40.1             | 2450           | 20                      | 700                                        | 470                              |

Electrical Data Sheet (AL Conductor)

| Nominal conductor area | Max. conductor DC resistance at 20°C | Conductor AC resistance at 50Hz and 90°C | Inductive reactance at 50Hz and 90°C | Min insulation resistance at 20°C | Current rating at core temp. 90°C in ground | Current rating at core temp. 90°C in air |
|------------------------|--------------------------------------|------------------------------------------|--------------------------------------|-----------------------------------|---------------------------------------------|------------------------------------------|
| mm <sup>2</sup>        | Ohm/km                               | Ohm/km                                   | Ohm/km                               | MOhm/km                           | A                                           | A                                        |
| 1 × 50                 | 0.641                                | 0.821                                    | 0.135                                | 7600                              | 160                                         | 155                                      |
| 1 × 70                 | 0.443                                | 0.568                                    | 0.117                                | 6900                              | 195                                         | 190                                      |
| 1 × 95                 | 0.32                                 | 0.411                                    | 0.113                                | 6100                              | 230                                         | 225                                      |
| 1 × 120                | 0.253                                | 0.325                                    | 0.109                                | 5600                              | 260                                         | 255                                      |
| 1 × 150                | 0.206                                | 0.265                                    | 0.105                                | 5100                              | 295                                         | 285                                      |
| 1 × 185                | 0.164                                | 0.211                                    | 0.102                                | 4600                              | 330                                         | 320                                      |
| 1 × 240                | 0.125                                | 0.161                                    | 0.0981                               | 4300                              | 385                                         | 365                                      |
| 1 × 300                | 0.100                                | 0.13                                     | 0.102                                | 4100                              | 435                                         | 410                                      |
| 1 × 400                | 0.0778                               | 0.102                                    | 0.0929                               | 3800                              | 495                                         | 465                                      |



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### Physical Character Sheet (CU Conductor)

| Nominal conductor area | Nominal insulation thickness | Diameter over insulation | Number of screen wires and diameter of screen wires | Overall Diameter | Approx. weight | Maximum pulling tension | Minimum Bending Radius During installation | Minimum Bending Radius Installed |
|------------------------|------------------------------|--------------------------|-----------------------------------------------------|------------------|----------------|-------------------------|--------------------------------------------|----------------------------------|
| mm <sup>2</sup>        | mm                           | mm                       | nb x mm ∅                                           | mm               | kg/km          | kN                      | mm                                         | mm                               |
| 1 × 35                 | 2.5                          | 13.2                     | 24/1.35                                             | 21.6             | 930            | 2.5                     | 390                                        | 260                              |
| 1 × 50                 | 2.5                          | 14.5                     | 28/1.50                                             | 23.2             | 1200           | 3.5                     | 410                                        | 280                              |
| 1 × 70                 | 2.5                          | 16                       | 30/1.70                                             | 25.1             | 1650           | 4.9                     | 460                                        | 300                              |
| 1 × 95                 | 2.5                          | 17.6                     | 30/1.70                                             | 26.7             | 1900           | 6.7                     | 490                                        | 320                              |
| 1 × 120                | 2.5                          | 19.2                     | 48/1.35                                             | 27.6             | 2150           | 8.4                     | 500                                        | 330                              |
| 1 × 150                | 2.5                          | 20.5                     | 48/1.35                                             | 29.1             | 2450           | 11                      | 520                                        | 350                              |
| 1 × 185                | 2.5                          | 22.3                     | 48/1.35                                             | 30.9             | 2750           | 13                      | 560                                        | 370                              |
| 1 × 240                | 2.6                          | 24.7                     | 48/1.35                                             | 33.5             | 3350           | 17                      | 610                                        | 400                              |
| 1 × 300                | 2.8                          | 27.3                     | 48/1.35                                             | 36.3             | 4000           | 21                      | 660                                        | 440                              |
| 1 × 400                | 3                            | 30.8                     | 48/1.35                                             | 40.1             | 5000           | 25                      | 730                                        | 490                              |

### Electrical Data Sheet (CU Conductor)

| Nominal conductor area | Max. conductor DC resistance at 20°C | Conductor AC resistance at 50Hz and 90°C | Inductive reactance at 50Hz and 90°C | Min insulation resistance at 20°C | Current rating at core temp. 90°C in ground | Current rating at core temp. 90°C in air |
|------------------------|--------------------------------------|------------------------------------------|--------------------------------------|-----------------------------------|---------------------------------------------|------------------------------------------|
| mm <sup>2</sup>        | Ohm/km                               | Ohm/km                                   | Ohm/km                               | MOhm/km                           | A                                           | A                                        |
| 1 × 35                 | 0.524                                | 0.668                                    | 0.142                                | 8800                              | 175                                         | 180                                      |
| 1 × 50                 | 0.387                                | 0.494                                    | 0.135                                | 8000                              | 205                                         | 210                                      |
| 1 × 70                 | 0.268                                | 0.342                                    | 0.127                                | 6900                              | 250                                         | 265                                      |
| 1 × 95                 | 0.193                                | 0.247                                    | 0.12                                 | 6100                              | 295                                         | 320                                      |
| 1 × 120                | 0.153                                | 0.196                                    | 0.114                                | 5500                              | 335                                         | 365                                      |
| 1 × 150                | 0.124                                | 0.16                                     | 0.11                                 | 5100                              | 370                                         | 415                                      |
| 1 × 185                | 0.0991                               | 0.128                                    | 0.107                                | 4600                              | 415                                         | 475                                      |
| 1 × 240                | 0.0754                               | 0.098                                    | 0.104                                | 4200                              | 475                                         | 555                                      |
| 1 × 300                | 0.0601                               | 0.079                                    | 0.101                                | 4000                              | 530                                         | 635                                      |
| 1 × 400                | 0.047                                | 0.063                                    | 0.099                                | 3800                              | 595                                         | 730                                      |