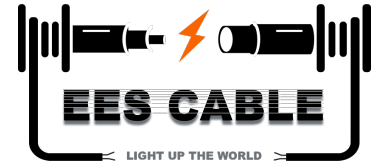
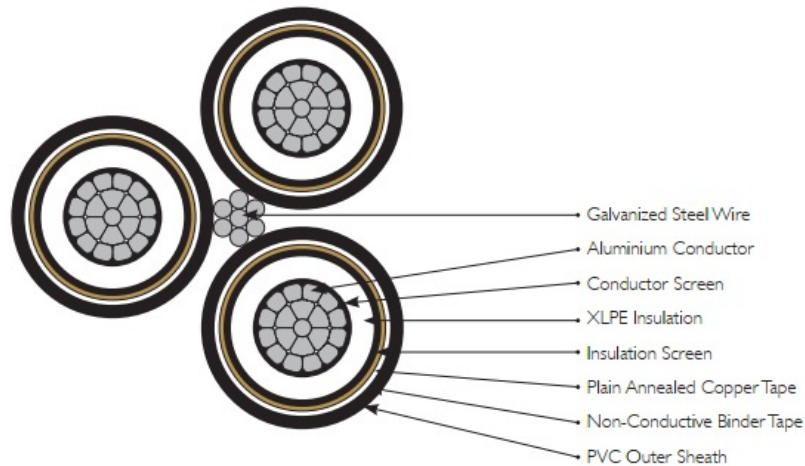


IEC 60502 & TNB

Aerial Bundled Cables Medium Voltage
(ABC MV)



IEC 60502 & TNB Specification



DESCRIPTION

Circular compacted stranded aluminium conductor, XLPE insulated, copper tape screened and PVC outer sheathed cable. The three XLPE insulated and copper tape screened single core cables are bundled around the galvanized steel wires in a right hand lay.

CONSTRUCTION

- 1 Conductor Phase conductors are circular compacted stranded H68 aluminium to BS2627.
- 2 Conductor screen Extruded layer of semi-conductive compound.
- 3 Insulation XLPE (cross-linked polyethylene) rated at 90°C.
- 4 Insulation screen
 - a Non-metallic part
Extruded layer of semi-conductive compound.
 - b Metallic part
Copper tape screen (SCT).
- 5 Colour for core identification Red, yellow and blue tapes shall be applied between non metallic and metallic part of insulation screen.
- 6 Separator Polypropylene laminated tape.
- 7 Outer sheath PVC type ST2 to IEC 60502 colour black. The outer sheath shall be embossed with figures 1, 2, 3 corresponding to red, yellow, blue phase.
- 8 Support wire The support wire shall comprise a stranded galvanized steel wires
- 9 Assembly The three XLPE insulated and copper wire screened single core cables are bundled around the galvanized steel steel wires in a right hand (Z) lay.

IEC 60502 & TNB

Aerial Bundled Cables Medium Voltage
(ABC MV)



IEC 60502 & TNB Specification

6.35/11 (12) kV

Phase conductor

| | | | | | | | | |
|---|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Nominal cross-sectional area | mm ² | 50 | 70 | 95 | 120 | 150 | 185 | 240 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 12 | 15 | 15 | 15 | 30 | 30 |
| Nominal diameter of conductor | mm | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 | 18.4 |
| Nominal thickness of XLPE insulation | mm | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Metallic screening approx. thickness of copper tape | mm | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal thickness of outer sheath | mm | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Nominal diameter over sheathing | mm | 23.0 | 24.6 | 26.3 | 27.8 | 29.2 | 30.9 | 33.3 |
| Max. dc resistance at 20°C | ohm/km | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 | 0.125 |
| Earth fault current carrying capacity of metallic screen at | | | | | | | | |
| -1 second (1 Core) | kA | 1.57 | 1.72 | 1.88 | 2.01 | 2.14 | 2.30 | 2.52 |
| -3 seconds (1 Core) | kA | 0.90 | 0.99 | 1.08 | 1.16 | 1.23 | 1.33 | 1.45 |

Messenger - Galvanized steel wire

| | | | | | | | | |
|----------------------------------|-----------------|------------------|--------|--------|--------|--------|--------|--------|
| Nominal cross-sectional area | mm ² | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Stranding | No./mm | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | |
| Overall diameter | mm | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 |
| Minimum breaking load | kg | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 |
| Completed cable | | | | | | | | |
| Approx. overall diameter | mm | 55 | 59 | 62 | 65 | 67 | 71 | 75 |
| Approx. weight of cable | kg/km | 2540 | 2890 | 3300 | 3660 | 4040 | 4540 | 5290 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 500 | 500 | 500 |

IEC 60502 & TNB Specification

12.7/22 (24) kV

Phase conductor

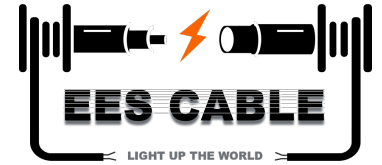
| | | | | | | | | |
|---|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Nominal cross-sectional area | mm ² | 50 | 70 | 95 | 120 | 150 | 185 | 240 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 12 | 15 | 15 | 15 | 30 | 30 |
| Nominal diameter of conductor | mm | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 | 18.4 |
| Nominal thickness of XLPE insulation | mm | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Metallic screening approx. thickness of copper tape | mm | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal thickness of outer sheath | mm | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Nominal diameter over sheathing | mm | 27.2 | 28.8 | 30.5 | 32.0 | 33.4 | 35.1 | 37.5 |
| Max. dc resistance at 20°C | ohm/km | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 | 0.125 |
| Earth fault current carrying capacity of metallic screen at | | | | | | | | |
| -1 second (1 Core) | kA | 1.96 | 2.11 | 2.26 | 2.40 | 2.53 | 2.68 | 2.90 |
| -3 seconds (1 Core) | kA | 1.13 | 1.21 | 1.31 | 1.38 | 1.46 | 1.55 | 1.67 |

Messenger - Galvanized steel wire

| | | | | | | | | |
|----------------------------------|-----------------|------------------|--------|--------|--------|--------|--------|--------|
| Nominal cross-sectional area | mm ² | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Stranding | No./mm | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | |
| Overall diameter | mm | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 |
| Minimum breaking load | kg | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 |
| Completed cable | | | | | | | | |
| Approx. overall diameter | mm | 64 | 67 | 70 | 73 | 75 | 78 | 83 |
| Approx. weight of cable | kg/km | 3150 | 3540 | 3980 | 4360 | 4770 | 5300 | 6100 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 500 | 250 | 250 |

IEC 60502 & TNB

Aerial Bundled Cables Medium Voltage
(ABC MV)



IEC 60502 & TNB Specification

19/33 (36) kV

Phase conductor

| | | | | | | | | |
|---|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Nominal cross-sectional area | mm ² | 50 | 70 | 95 | 120 | 150 | 185 | 240 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 12 | 15 | 15 | 15 | 30 | 30 |
| Nominal diameter of conductor | mm | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 | 18.4 |
| Nominal thickness of XLPE insulation | mm | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| Metallic screening approx. thickness of copper tape | mm | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Nominal thickness of outer sheath | mm | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| Nominal diameter over sheathing | mm | 32.2 | 33.8 | 35.5 | 37.0 | 38.4 | 40.1 | 42.5 |
| Max. dc resistance at 20°C | ohm/km | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 | 0.125 |
| Earth fault current carrying capacity of metallic screen at | | | | | | | | |
| -1 second (1 Core) | kA | 2.41 | 2.56 | 2.72 | 2.86 | 2.99 | 3.14 | 3.36 |
| -3 seconds (1 Core) | kA | 1.39 | 1.48 | 1.57 | 1.65 | 1.72 | 1.81 | 1.94 |

Messenger - Galvanized steel wire

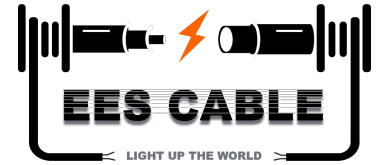
| | | | | | | | | |
|----------------------------------|-----------------|------------------|--------|--------|--------|--------|--------|--------|
| Nominal cross-sectional area | mm ² | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Stranding | No./mm | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 | 7/3.15 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | |
| Overall diameter | mm | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 | 9.45 |
| Minimum breaking load | kg | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 | 6270 |

Completed cable

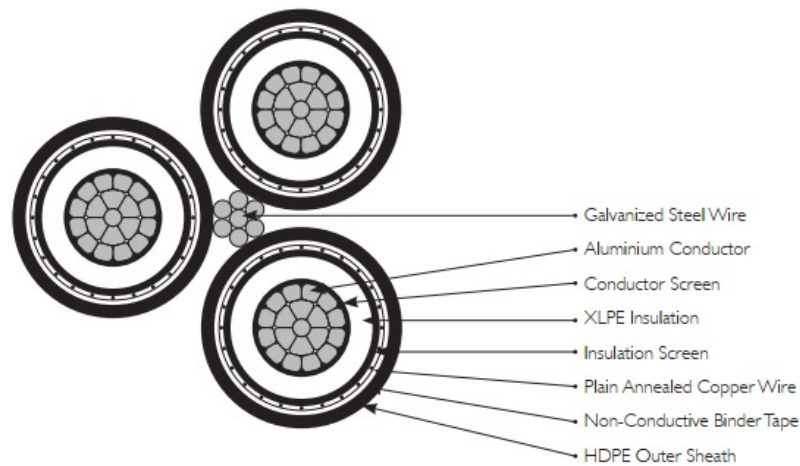
| | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|
| Approx. overall diameter | mm | 73 | 76 | 79 | 82 | 84 | 87 | 91 |
| Approx. weight of cable | kg/km | 3980 | 4400 | 4880 | 5300 | 5740 | 6310 | 7160 |
| Packing length | m/drum | 500 | 500 | 500 | 250 | 250 | 250 | 250 |

AS/NZS 3599.1

Aerial Bundled Cables Medium Voltage
(ABC MV)



AS/NZS 3599.1



DESCRIPTION

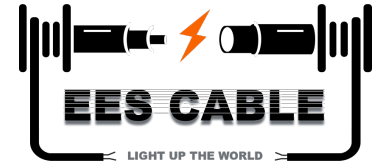
Circular compacted stranded aluminium conductor, XLPE insulated, copper wire screened and HDPE outer sheathed cable. The three XLPE insulated and copper wire screened single core cables are bundled around the galvanized steel wires in a right hand lay.

CONSTRUCTION

- 1 Conductor Phase conductors are circular compacted stranded H68 aluminium to BS2627.
- 2 Conductor screen Extruded layer of semi-conductive compound.
- 3 Insulation XLPE (cross-linked polyethylene) rated at 90°C.
- 4 Insulation screen
 - a Non-metallic part
Extruded layer of semi-conductive compound.
 - b Metallic part
Copper wire screen (SCW).
- 5 Separator Non conductive swellable binder tape Note :A semi-conductive swellable tape may be applied in between the non-metallic and metallic part.
- 6 Outer sheath High density polyethylene (HDPE) colour black. The outer sheath shall be printed with figures 1 ONE, 2 TWO, 3 THREE which corresponding to the three different phases.
- 7 Support wire The support wire shall comprise a stranded galvanized steel wires.
- 8 Assembly The three XLPE insulated and copper wire screened single core cables are bundled around the galvanized steel wires in a right hand (Z) lay.

AS/NZS 3599.1

Aerial Bundled Cables Medium Voltage (ABC MV)



AS/NZS 3599.1 (Light Duty Screen)

6.35/11 (12) kV

| Phase conductor | | | | | | | | | |
|--|-----------------|------------------|---------|---------|---------|---------|---------|---------|---------|
| Nominal cross-sectional area | mm ² | 35 | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 7.0 | 8.1 | 9.7 | 14.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Minimum thickness of insulation screen | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| No. and diameter of metallic screening approx. of copper wire | no./mm | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 |
| Nominal thickness of outer sheath | mm | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 |
| Nominal diameter over sheathing | mm | 24.2 | 24.2 | 25.1 | 26.7 | 28.4 | 29.9 | 31.3 | 33.2 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at | | | | | | | | | |
| Ambient temperature = 30°C | A | 185 | 185 | 210 | 260 | 315 | 365 | 415 | 475 |
| Ambient temperature = 40°C | A | 155 | 155 | 185 | 230 | 280 | 325 | 370 | 425 |
| Solar radiation = 1000w/m ² | | | | | | | | | |
| Wind speed = 1m/s | | | | | | | | | |
| Earth fault current carrying capacity of metallic screen at -1 second (1 core) | kA | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Messenger - Galvanized steel wire | | | | | | | | | |
| Stranding | No./mm | 7/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | | |
| Overall diameter | mm | 6.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Completed cable | | | | | | | | | |
| Approx. overall diameter | mm | 54.4 | 58.4 | 60.1 | 63.4 | 66.8 | 69.8 | 72.6 | 76.4 |
| Approx. weight of cable | kg/km | 1890 | 2190 | 2320 | 2610 | 2960 | 3260 | 3590 | 4060 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 500 | 500 | 250 | 250 |

AS/NZS 3599.1 (Heavy Duty Screen)

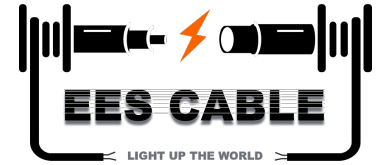
6.35/11 (12) kV

| Phase conductor | | | | | | | | | |
|--|-----------------|------------------|---------|---------|---------|---------|---------|---------|---------|
| Nominal cross-sectional area | mm ² | 35 | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 7.0 | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Minimum thickness of insulation screen | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| No. and diameter of metallic screening approx. of copper wire | no./mm | 40/0.85 | 40/0.85 | 23/1.35 | 32/1.35 | 38/1.35 | 38/1.35 | 38/1.35 | 38/1.35 |
| Nominal thickness of outer sheath | mm | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 |
| Nominal diameter over sheathing | mm | 24.2 | 24.2 | 26.1 | 27.7 | 29.4 | 30.9 | 32.3 | 34.2 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at | | | | | | | | | |
| Ambient temperature = 30°C | A | 185 | 185 | 210 | 260 | 315 | 365 | 415 | 475 |
| Ambient temperature = 40°C | A | 155 | 155 | 185 | 230 | 280 | 325 | 370 | 425 |
| Solar radiation = 1000w/m ² | | | | | | | | | |
| Wind speed = 1m/s | | | | | | | | | |
| Earth fault current carrying capacity of metallic screen at -1 second (1 Core) | kA | 3.3 * | 3.3 * | 4.8 * | 6.8 * | 8.0 | 8.0 | 8.0 | 8.0 |
| Messenger - Galvanized steel wire | | | | | | | | | |
| Stranding | No./mm | 7/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | | |
| Overall diameter | mm | 6.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Completed cable | | | | | | | | | |
| Approx. overall diameter | mm | 54.4 | 58.4 | 62.1 | 65.4 | 68.8 | 71.8 | 74.6 | 78.4 |
| Approx. weight of cable | kg/km | 2150 | 2440 | 2880 | 3540 | 4130 | 4440 | 4770 | 5240 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 500 | 500 | 250 | 250 |

* The screen earth fault current rating is limited by the short circuit current rating of conductor.

AS/NZS 3599.1

Aerial Bundled Cables Medium Voltage
(ABC MV)



AS/NZS 3599.1 (Light Duty Screen)

12.7/22 (24) kV

| Phase conductor | | | | | | | | | |
|--|-----------------|------------------|---------|---------|---------|---------|---------|---------|---------|
| Nominal cross-sectional area | mm ² | 35 | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 7.0 | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Minimum thickness of insulation screen | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| No. and diameter of metallic screening approx. of copper wire | no./mm | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 | 24/0.85 |
| Nominal thickness of outer sheath | mm | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 |
| Nominal diameter over sheathing | mm | 28.4 | 28.4 | 29.3 | 30.9 | 32.8 | 34.3 | 35.9 | 37.6 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at | | | | | | | | | |
| Ambient temperature = 30°C | A | 170 | 170 | 205 | 260 | 315 | 360 | 410 | 470 |
| Ambient temperature = 40°C | A | 150 | 150 | 185 | 230 | 280 | 320 | 365 | 415 |
| Solar radiation = 1000w/m ² | | | | | | | | | |
| Wind speed = 1m/s | | | | | | | | | |
| Earth fault current carrying capacity of metallic screen at -1 second (1 Core) | kA | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| Messenger - Galvanized steel wire | | | | | | | | | |
| Stranding | No./mm | 7/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | | |
| Overall diameter | mm | 6.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Completed cable | | | | | | | | | |
| Approx. overall diameter | mm | 62.8 | 66.8 | 68.5 | 71.8 | 75.6 | 78.6 | 81.8 | 85.2 |
| Approx. weight of cable | kg/km | 2340 | 2640 | 2780 | 3100 | 3510 | 3850 | 4240 | 4710 |
| Packing length | m/drum | 500 | 500 | 500 | 250 | 250 | 250 | 250 | 250 |

AS/NZS 3599.1 (Heavy Duty Screen)

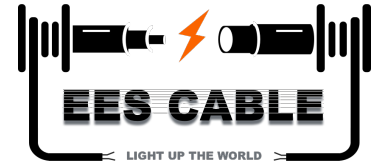
12.7/22 (24) kV

| Phase conductor | | | | | | | | | |
|--|-----------------|------------------|---------|---------|---------|---------|---------|---------|---------|
| Nominal cross-sectional area | mm ² | 35 | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 7.0 | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Minimum thickness of insulation screen | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| No. and diameter of metallic screening approx. of copper wire | no./mm | 40/0.85 | 40/0.85 | 23/1.35 | 32/1.35 | 38/1.35 | 38/1.35 | 38/1.35 | 38/1.35 |
| Nominal thickness of outer sheath | mm | 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 |
| Nominal diameter over sheathing | mm | 28.4 | 28.4 | 30.3 | 31.9 | 33.8 | 35.3 | 36.9 | 38.6 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at | | | | | | | | | |
| Ambient temperature = 30°C | A | 170 | 170 | 205 | 260 | 315 | 360 | 410 | 470 |
| Ambient temperature = 40°C | A | 150 | 150 | 185 | 230 | 280 | 320 | 365 | 415 |
| Solar radiation = 1000w/m ² | | | | | | | | | |
| Wind speed = 1m/s | | | | | | | | | |
| Earth fault current carrying capacity of metallic screen at -1 second (1 Core) | kA | 3.3 * | 3.3 * | 4.8 * | 6.8 * | 8.0 | 8.0 | 8.0 | 8.0 |
| Messenger - Galvanized steel wire | | | | | | | | | |
| Stranding | No./mm | 7/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 | 19/2.0 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | | |
| Overall diameter | mm | 6.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Completed cable | | | | | | | | | |
| Approx. overall diameter | mm | 62.8 | 66.8 | 70.5 | 73.8 | 77.6 | 80.6 | 83.8 | 87.2 |
| Approx. weight of cable | kg/km | 2600 | 2900 | 3350 | 4030 | 4680 | 5020 | 5410 | 5880 |
| Packing length | m/drum | 500 | 500 | 500 | 250 | 250 | 250 | 250 | 250 |

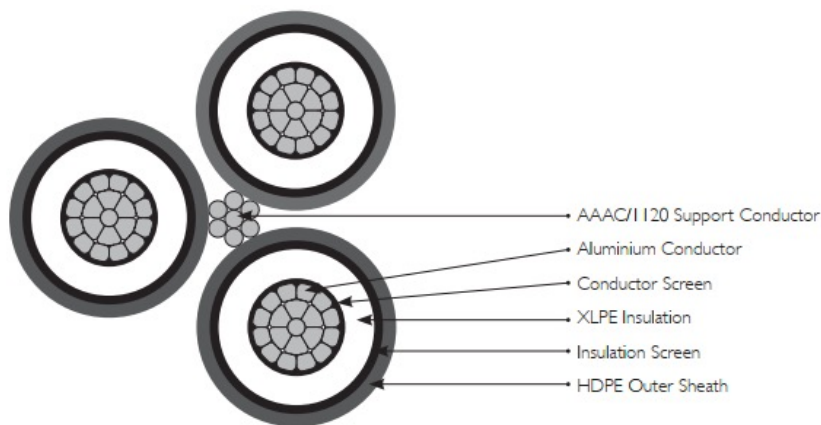
*The screen earth fault current rating is limited by the short circuit current rating of conductor.

AS/NZS 3599.2

Aerial Bundled Cables Medium Voltage
(ABC MV)



AS/NZS 3599.2



DESCRIPTION

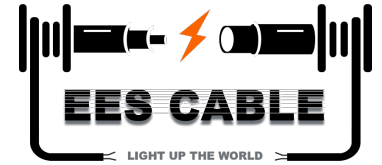
Circular compacted stranded aluminium conductor, XLPE insulated, copper wire screened and HDPE outer sheathed cable. The three XLPE insulated and copper wire screened single core cables are bundled around the AAAC/1120 support conductor in a right hand lay.

CONSTRUCTION

- 1 Conductor Phase conductors are circular compacted stranded H68 aluminium to BS2627.
- 2 Conductor screen Extruded layer of semi-conductive compound.
- 3 Insulation XLPE (cross-linked polyethylene) rated at 90°C.
- 4 Insulation screen Extruded layer of semi-conductive cross-linked compound.
- 5 Outer sheath Extruded layer of semi-conductive HDPE compound colour black. The outer sheath shall be printed with figures 1 ONE, 2 TWO, 3 THREE which corresponding to the three different phases.
- 6 Support conductor The support conductor shall comprise a compacted all aluminium alloy conductor (AAAC/1120).
- 7 Assembly The three XLPE insulated cores shall be bundled around the AAAC/1120 support conductor in a right hand (Z) lay.

AS/NZS 3599.2

Aerial Bundled Cables Medium Voltage
(ABC MV)



AS/NZS 3599.2

6.35/11 (12) kV

Phase conductor

| | | | | | | | | |
|--|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Nominal cross-sectional area | mm ² | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Nominal thickness of cross-linked screen layer | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Nominal thickness of semi-conductive HDPE layer | mm | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at Ambient temperature = 40°C Solar radiation = 1000w/m ² Wind speed = 1m/s | A | 165 | 200 | 245 | 300 | 345 | 390 | 450 |

Messenger - AAAC 1120

| | | | | | | | | |
|----------------------------------|--------|------------------|-------|-------|-------|---------|---------|---------|
| Stranding | No./mm | 7/5.0 | 7/5.0 | 7/5.0 | 7/5.0 | 19/3.65 | 19/3.65 | 19/3.65 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | |
| Overall diameter | mm | 14.3 | 14.3 | 14.3 | 14.3 | 17.3 | 17.3 | 17.3 |

Completed cable

| | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|
| Approx. overall diameter | mm | 52.2 | 53.5 | 56.7 | 60.2 | 66.2 | 69.0 | 72.4 |
| Approx. weight of cable | kg/km | 1470 | 1580 | 1850 | 2180 | 2640 | 2960 | 3380 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 500 | 500 | 250 |

AS/NZS 3599.2

12.7/22 (24) kV

Phase conductor

| | | | | | | | | |
|--|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Nominal cross-sectional area | mm ² | 35 | 50 | 70 | 95 | 120 | 150 | 185 |
| Number of cores | | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Minimum number of wires | | 6 | 6 | 12 | 15 | 18 | 18 | 30 |
| Nominal diameter of conductor | mm | 7.0 | 8.1 | 9.7 | 11.5 | 12.9 | 14.3 | 16.1 |
| Minimum thickness of conductor screen | mm | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Nominal thickness of XLPE insulation | mm | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 | 5.5 |
| Nominal thickness of cross-linked screen layer | mm | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Nominal thickness of semi-conductive HDPE layer | mm | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| Max. dc resistance at 20°C | ohm/km | 0.868 | 0.641 | 0.443 | 0.320 | 0.253 | 0.206 | 0.164 |
| Current rating at Ambient temperature = 40°C Solar radiation = 1000w/m ² Wind speed = 1m/s | A | 165 | 195 | 245 | 295 | 340 | 385 | 440 |

Messenger - AAAC 1120

| | | | | | | | | |
|----------------------------------|--------|------------------|-------|-------|-------|---------|---------|---------|
| Stranding | No./mm | 7/5.0 | 7/5.0 | 7/5.0 | 7/5.0 | 19/3.65 | 19/3.65 | 19/3.65 |
| Direction of the outermost layer | | Right-hand (Z) | | | | | | |
| Overall diameter | mm | 14.3 | 14.3 | 14.3 | 14.3 | 17.3 | 17.3 | 17.3 |

Completed cable

| | | | | | | | | |
|--------------------------|--------|------|------|------|------|------|------|------|
| Approx. overall diameter | mm | 60.6 | 61.9 | 65.1 | 68.6 | 74.6 | 77.4 | 80.8 |
| Approx. weight of cable | kg/km | 1890 | 2000 | 2300 | 2670 | 3160 | 3500 | 3950 |
| Packing length | m/drum | 500 | 500 | 500 | 500 | 250 | 250 | 250 |