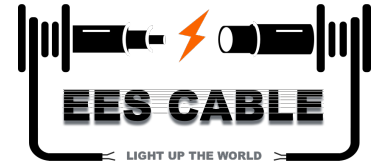
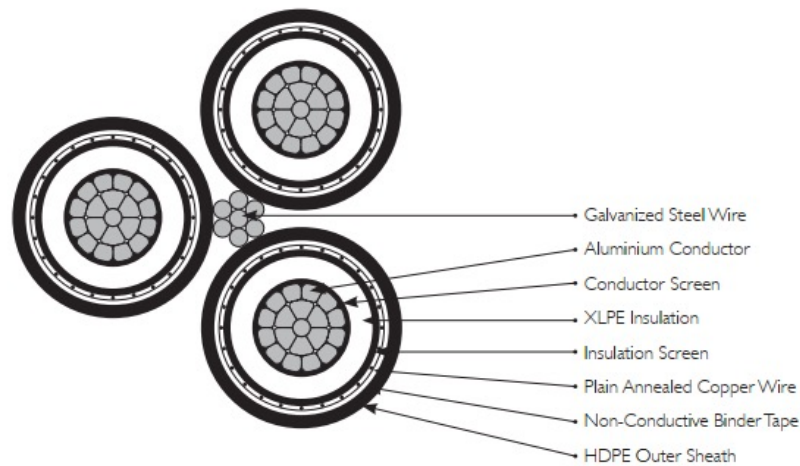


AS/NZS 3599.1

Aerial Bundled Cables Medium Voltage
(ABC MV)



AS/NZS 3599.1



DESCRIPTION

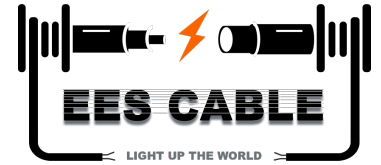
Circular compacted stranded aluminium conductor, XLPE insulated, copper wire screened and HDPE outer sheathed cable. The three XLPE insulated and copper wire screened single core cables are bundled around the galvanized steel wires in a right hand lay.

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)

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.