

**1. Design guidelines.**

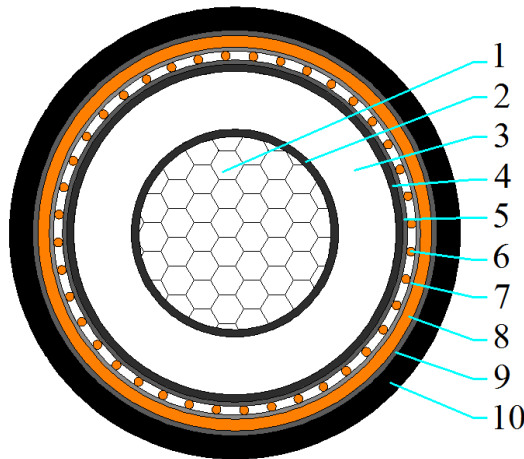
AS/NZS 1429.1	Electric cables-Polymeric insulated Part 1: For working voltages 1.9/3.3(3.6) kV up to and including 19/33(36) kV
AS/NZS 1125	Conductors in insulated electric cables and flexible cords
AS/NZS 3808	Insulating and sheathing materials for electric cables

**2. Application.**

Normal use operating temperature	90°C
Max. conductor temperature during short circuit(5s)	250°C
Lowest recommended temperature during installation	0°C

**3. Construction.**

**HCA - 400mm<sup>2</sup> x 1 core Al(WBY)/TR-XLPE/WBT/CWS(13.1kA) /WBT/PVC/NY/HDPE(Graphite) - HCA502180PWC**



1	Conductor	Class 2, circular compacted Aluminium conductor (non-conductive water-blocking yarn) A Semi-conductive tape shall be applied over the conductor
2	Conductor screen	Semi-conductive compound
3	Insulation	TR-XLPE
4	Insulation screen	Semi-conductive compound
5	Bedding tape	Semi-conductive water-blocking tape
6	Metallic screen	Plain annealed copper wire screen
7	Binder tape	Water-blocking tape
8	Inner sheath	5V-90 Orange
9	Insect protection	Nylon 12 / Blue
10	Outer sheath	HDPE Black (with Graphite on the outer surface)

**4. Core identification and mark as listed below, or as purchase order.**

Identification of core: Natural
Marking on cable: by printing in two diametrically opposed lines on the surface of outer sheath
HENG TONG CABLE AUSTRALIA "YEAR" ELECTRIC CABLE 12.7/22kV 400mm <sup>2</sup> 1 core Al(WBY) TR-XLPE WBT CWS(13.1kA) WBT PVC NY HDPE(Graphite) XXXXm

**5. Construction parameters.**

Description	Unit	Values
<b>Active Conductor</b>		
Material	-	Aluminium
Nominal cross-sectional area	mm <sup>2</sup>	400
Conductor shape	/	Circular Compacted
Approx. diameter of active conductor	mm	23.4
<b>Conductor screen</b>		
Min. thickness at any point	mm	0.3
Approx. diameter of conductor screen	mm	25.4
<b>Active Insulation</b>		
Material	-	TR-XLPE
Nominal thickness/Min. thickness at any point	mm	5.5/4.85
Approx. diameter over insulation	mm	36.4
<b>Insulation screen</b>		
Type	-	Hand-strippable
Min. thickness at any point	mm	0.6
Approx. diameter of insulation screen	mm	37.9
<b>Metallic screen</b>		
No. & Diameter of copper wires per phase	No./mm	50/1.53
Approx. diameter of metallic screen	mm	41.8
<b>Inner sheath</b>		
Material	-	5V-90
Nominal thickness/Min. thickness at any point	mm	1.2/0.76
Approx. diameter of inner sheath	mm	46.3
<b>Insect protection</b>		
Material	-	Nylon 12
Min. thickness at any point	mm	0.5
Approx. diameter over Insect protection	mm	47.9
<b>Outer sheath</b>		
Material	-	HDPE
Nominal thickness/Min. thickness at any point	mm	2.5/1.80
Approx. diameter of outer sheath	mm	52.9
<b>Max. diameter of cable</b>	mm	55.6
<b>Approx. mass of cable</b>	kg/km	3,591
<b>Electrical data</b>		
Max. D.C. resistance of active conductor at 20°C	Ω/km	0.0778
Max. A.C. resistance of conductor at 90°C	Ω/km	0.101
Fault current carrying capacity of conductor	kA/1sec	37.8
Fault current carrying of screen	kA/1sec	13.1



**TECHNICAL DATA SHEET  
HENG TONG CABLE AUSTRALIA**

Doc No.:  
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**12.7/22(24) kV PWC**

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Description	Unit	Values
<b>Mechanical data</b>		
Maximum pulling tension of conductor	kN	15.6
Min. bending radius during installation	mm	1430
Min. bending radius after installed	mm	950