

**1. Design guidelines.**

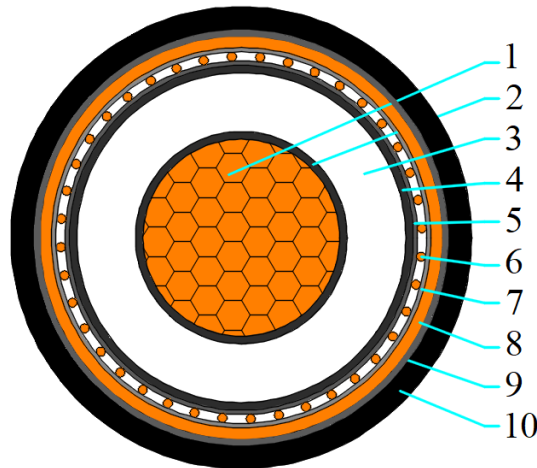
|               |   |
|---------------|---|
| AS/NZS 1429.1 | Electric cables-Polymeric insulated Part 1: For working voltages 1.9/3.3(3.6) kV up to and including 19/33(36) kV |
| AS/NZS 1125   | Conductors in insulated electric cables and flexible cords  |
| AS/NZS 3808   | Insulating and sheathing 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 - 120mm<sup>2</sup> x 1 core Cu(WBY)/TR-XLPE/WBT/CWS(13.1kA)/WBT/PVC/NY/HDPE(Graphite) - HCA286054PWC**



|    |                   |   |
|----|-------------------|---|
| 1  | Conductor         | Class 2, plain annealed circular compacted Copper 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 coating  |

**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<br>120mm <sup>2</sup> 1 core Cu(WBY) TR-XLPE WBT CWS(13.1kA) WBT PVC NY HDPE(Graphite) XXXXm |

**5. Construction parameters.**

| Description                                      | Unit            | Values             |
|--|-----------------|--------------------|
| <b>Active Conductor</b>                          |                 |                    |
| Material   | -               | Copper             |
| Nominal cross-sectional area                     | mm <sup>2</sup> | 120                |
| Conductor shape                                  | /               | Circular Compacted |
| Approx. diameter of active conductor             | mm              | 13.1               |
| <b>Conductor screen</b>                          |                 |                    |
| Min. thickness at any point                      | mm              | 0.3                |
| Approx. diameter of conductor screen             | mm              | 15.1               |
| <b>Active Insulation</b>                         |                 |                    |
| Material   | -               | TR-XLPE            |
| Nominal thickness/Min. thickness at any point    | mm              | 5.5/4.85           |
| Approx. diameter over insulation                 | mm              | 26.1               |
| <b>Insulation screen</b>                         |                 |                    |
| Type   | -               | Hand-strippable    |
| Min. thickness at any point                      | mm              | 0.6                |
| Approx. diameter of insulation screen            | mm              | 27.6               |
| <b>Metallic screen</b>                           |                 |                    |
| No. & Diameter of copper wires per phase         | No./mm          | 50/1.53            |
| Approx. diameter of metallic screen              | mm              | 31.5               |
| <b>Inner sheath</b>                              |                 |                    |
| Material   | -               | 5V-90              |
| Nominal thickness/Min. thickness at any point    | mm              | 1.0/0.60           |
| Approx. diameter of inner sheath                 | mm              | 36.9               |
| <b>Insect protection</b>                         |                 |                    |
| Material   | -               | Nylon 12           |
| Min. thickness at any point                      | mm              | 0.50               |
| Approx. diameter over Insect protection          | mm              | 38.5               |
| <b>Outer sheath</b>                              |                 |                    |
| Material   | -               | HDPE               |
| Nominal thickness/Min. thickness at any point    | mm              | 2.0/1.40           |
| Approx. diameter of outer sheath                 | mm              | 42.7               |
| <b>Max. diameter of cable</b>                    | mm              | 44.8               |
| <b>Approx. mass of cable</b>                     | kg/km           | 3,138              |
| <b>Electrical data</b>                           |                 |                    |
| Max. D.C. resistance of active conductor at 20°C | Ω/km            | 0.153              |
| Max. A.C. resistance of conductor at 90°C        | Ω/km            | 0.1957             |
| Fault current carrying capacity of conductor     | kA/1sec         | 17.2               |
| Fault current carrying of screen                 | kA/1sec         | 13.2               |



**TECHNICAL DATA SHEET  
HENG TONG CABLE AUSTRALIA**

Doc No.:  
GD/TC/4120001-2023

Rev: 1

**12.7/22(24) kV PWC**

Date: 5/18/2023

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| Description                             | Unit | Values |
|---|------|--------|
| <b>Mechanical data</b>                  |      |        |
| Maximum pulling tension of conductor    | kN   | 8.2    |
| Min. bending radius during installation | mm   | 1150   |
| Min. bending radius after installed     | mm   | 770    |