

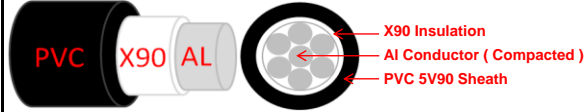


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Australia Pacific Electric Cables Pty Ltd
ABN 23 068 447 763

Cables Technical Specification - Single Core ALU Conductor Cables XLPE (X90) Insulated PVC sheathed AS/NZS 5000.1

Cable drawing



Cable Configuration:

Aluminium Conductor Class 2/X90/PVC 0.6/1kV

Cable Construction:

Conductor: AI Class 2 to AS/NZS 1125 (Compacted)
Insulation: X90 to AS/NZS 3808
Sheath: PVC 5V-90 to AS/NZS 3808

Colour Identification:

Insulation: White/Nature
Sheath: Black

Operating Temperature:

Max continuous conductor operating Temp: 90°C
Emergency conductor temperature: 105°C
Short Circuit (5 secs) 250°C

The minimum ambient temperature is 0°C after insulation and only when cables in a fixed position

Electrical Characteristics:

Electrical characteristics are calculate based on ambient air temperature 40°C

| | |
|---|----------|
| Voltage Rating: | 0.6/1kV |
| HV Test (A.C.) for 5 mins: | 3.5kV |
| HV Test (D.C.) for 5 mins: | 8.5kV |
| Max. allowable operating voltage (A.C.): | 1.2kV |
| Max. allowable operating voltage (D.C.): | 1.5kV |
| Min. Insulation Resistance constant @20°C: | 3000GΩ.m |
| Min. Insulation Resistance constant @90°C: | 3GΩ.m |

Cable Markings:

Example: = METER MARKING = APEC CURRENT YEAR X90 ELECTRIC CABLE 0.6/1 KV 150 SQMM CU AS/NZS 5000.1 = METER MARKING =

Standard Compliance:

AS/NZS 5000.1:2005 Part 1: For working voltages up to and including 0.6/1 (1.2kV)
AS/NZS 3808:2000 Insulation and sheathing materials for electric cables
AS/NZS 3008.1.1:2009 Electrical installations - Selection of cables - Cables for alternating voltages up to and including 0.6 1 kV - Typical Australian installation conditions
AS 2848.1:1998 Aluminium and aluminium alloys - Compositions and designations - Wrought products
AS/NZS 1660 Test methods for electric cables, cords and conductors
AS 1531:1991 Conductors - Bare overhead - Aluminium and aluminium alloy
AS/NZS 1125:2001 Conductors in insulated electric cables and flexible cords

Technical data

| Construction & Raw material description | Unit | Average Value | | | | | | | | | | | | | |
|--|-----------------|---------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | | XV016A01 | XV025A01 | XV035A01 | XV050A01 | XV070A01 | XV095A01 | XV120A01 | XV150A01 | XV185A01 | XV240A01 | XV300A01 | XV400A01 | XV500A01 | XV630A01 |
| Product code | - | | | | | | | | | | | | | | |
| No. of cores | - | Single Core | | | | | | | | | | | | | |
| Conductor Cross section Area (CSA) | mm ² | 16 | 25 | 35 | 50 | 70 | 95 | 120 | 150 | 185 | 240 | 300 | 400 | 500 | 630 |
| No. of Wires | - | 7 | 7 | 7 | 7 | 19 | 19 | 19 | 19 | 37 | 37 | 37 | 60 | 60 | 60 |
| Wire diameter (Compacted conductor) | mm | 1.7 | 2.14 | 2.5 | 2.92 | 2.16 | 2.5 | 2.8 | 3.15 | 2.5 | 2.87 | 3.24 | 2.92 | 3.24 | 3.67 |
| Conductor nominal diameter | mm | 5.0 | 6.0 | 7.0 | 8.3 | 10.0 | 11.5 | 13.0 | 14.5 | 16.2 | 18.3 | 20.6 | 23.7 | 26.7 | 30.3 |
| Insulation Thickness | mm | 0.7 | 0.9 | 0.9 | 1.0 | 1.1 | 1.1 | 1.2 | 1.4 | 1.6 | 1.7 | 1.8 | 2.0 | 2.2 | 2.4 |
| Min. point thickness of insulation | mm | 0.53 | 0.71 | 0.71 | 0.80 | 0.89 | 0.89 | 0.98 | 1.16 | 1.34 | 1.43 | 1.52 | 1.70 | 1.88 | 2.06 |
| Approximate diameter over insulation | mm | 6.5 | 7.9 | 8.9 | 10.4 | 12.3 | 13.8 | 15.5 | 17.4 | 19.6 | 21.9 | 24.4 | 27.9 | 31.3 | 35.3 |
| Sheath Thickness | mm | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.5 | 1.5 | 1.6 | 1.7 | 1.8 | 1.8 | 2.0 | 2.1 | 2.2 |
| Approx. Overall Diameter (±10%) | mm | 10.1 | 11.6 | 12.5 | 14.0 | 16.4 | 18.2 | 19.9 | 22.0 | 24.4 | 26.9 | 29.4 | 33.4 | 37.0 | 41.3 |
| Max DC resistance of conductor @ 20 °C | Ω/km | 1.91 | 1.2 | 0.868 | 0.641 | 0.443 | 0.32 | 0.253 | 0.206 | 0.164 | 0.125 | 0.1 | 0.0778 | 0.0605 | 0.0469 |
| Approx weight of cable | kg/km | 110 | 150 | 185 | 239 | 320 | 412 | 497 | 615 | 756 | 964 | 1166 | 1532 | 1891 | 2348 |
| Min. bending radii - fixed | mm | 162 | 186 | 200 | 224 | 262 | 291 | 318 | 352 | 390 | 430 | 470 | 534 | 592 | 661 |
| Min. bending radii - during installation | mm | 202 | 232 | 250 | 280 | 328 | 364 | 398 | 440 | 488 | 538 | 588 | 668 | 740 | 826 |
| Max. safe pulling tension | kN | 0.63 | 0.98 | 1.37 | 1.96 | 2.74 | 3.72 | 4.7 | 5.88 | 7.25 | 9.41 | 11.76 | 15.68 | 19.6 | 24.7 |
| Current carrying capacity (terfoil) | A | 71 | 94 | 115 | 140 | 180 | 220 | 260 | 300 | 350 | 414 | 485 | 570 | 670 | 790 |
| Core spark test voltage | kV a.c. | 6 | 6 | 6 | 6 | 10 | 10 | 10 | 10 | 15 | 15 | 15 | 15 | 20 | 20 |
| Cable voltage test kV/5min (5min in water) | kV a.c. | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |

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