

**CIRCULAR PVC**

3C + E

COPPER

circularpvc3c_E00001

3c+ecircross

**STANDARD** AS/NZS 5000:2

**VOLTAGE** 450/750V

**CONDUCTOR** Copper 1.5 – 6.0mm2

**STANDARD** AS/NZS 5000.1

**VOLTAGE** 600/1000V

**CONDUCTOR** Copper 10 - 240mm2

**INSULATION** PVC, V-90

Red, Black, Blue & Green/Yellow

**SHEATH** PVC, 5V-90

Orange

**MAX. OPERATING TEMP.** 90 **°**C

## APPLICATION

For mains, submains and subcircuits unenclosed, enclosed in conduit, buried direct or in underground ducts for buildings and industrial plants where not subject to mechanical damage.

Suitable for glanding.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item**  **Number** | Conductor | | Overall Diameter | | **Approx.**  **Mass**  **kg/km** | **Minimum**  **Installed**  **Bending Radius**  **mm** |
| **mm2** | **(No./mm)** | **Minimum**  **mm** | **Maximum**  **mm** |
| DC420 | 1.5 | 7/0.50 | 9.03 | 9.23 | 190 | 70 |
| DC440 | 2.5 | 7/0.67 | 10.95 | 11.15 | 250 | 80 |
| DC450 | 4 | 7/0.85 | 12.30 | 12.50 | 350 | 90 |
| DC460 | 6 | 7/1.04 | 13.33 | 13.53 | 420 | 100 |
| DC470 | 10 | 7/1.35 | 17.33 | 17.78 | 585 | 110 |
| DC480 | 16 | 7/1.70 | 19.58 | 20.80 | 810 | 120 |
| DC490 | 25 | 19/1.35 | 23.30 | 23.80 | 1150 | 135 |
| DC4100 | 35 | 19/1.53 | 25.50 | 26.0 | 1530 | 145 |
| DC4110 | 50 | 19/1.78 | 29.32 | 29.82 | 2040 | 180 |
| DC4120 | 70 | 19/2.14 | 34.14 | 34.64 | 2960 | 210 |
| DC4130 | 95 | 37/1.78 | 38.38 | 38.84 | 3760 | 235 |
| DC4140 | 120 | 37/2.03 | 42.32 | 42.77 | 4650 | 280 |
| DC4150 | 150 | 37/2.25 | 47.15 | 47.80 | 5760 | 335 |
| DC4160 | 185 | 37/2.52 | 52.77 | 53.72 | 7260 | 375 |
| DC4170 | 240 | 61/2.25 | 60.01 | 60.71 | 9880 | 425 |

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|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CONDUCTOR | **CURRENT RATING (a)** | | | **ELECTRICAL CHARACTERISTICS** | | | |
| **Nominal Area**  **mm2** | **Unenclosed In Air**    **A** | **Non-metallic wiring enclosure in air**  **3C+E_NONMETENCL**  **A** | **Buried In Ducts**    **A** | **Maximum**  **DC Resistance @20°C**  **Ω/km** | **Maximum AC Resistance @90°C**  **Ω/km** | **Equivalent Star Reactance**  **Ω/km** | **3 Phase Voltage Drop**  **@90°C**  **mV/Am (b)** |
| 1.5 | 16 | 14 | 18 | 13.6 | 17.3 | 0.111 | 30.0 |
| 2.5 | 23 | 20 | 25 | 7.41 | 9.45 | 0.102 | 16.4 |
| 4 | 31 | 25 | 33 | 4.61 | 5.88 | 0.102 | 10.2 |
| 6 | 40 | 33 | 42 | 3.08 | 3.93 | 0.0967 | 6.80 |
| 10 | 54 | 44 | 55 | 1.83 | 2.33 | 0.0906 | 4.05 |
| 16 | 72 | 58 | 96 | 1.15 | 1.47 | 0.0861 | 2.55 |
| 25 | 97 | 76 | 125 | 0.727 | 0.927 | 0.0853 | 1.61 |
| 35 | 120 | 94 | 150 | 0.524 | 0.669 | 0.0826 | 1.17 |
| 50 | 146 | 112 | 178 | 0.387 | 0.494 | 0.0797 | 0.868 |
| 70 | 185 | 142 | 219 | 0.268 | 0.343 | 0.077 | 0.609 |
| 95 | 228 | 177 | 263 | 0.193 | 0.248 | 0.0766 | 0.45 |
| 120 | 265 | 202 | 300 | 0.153 | 0.197 | 0.0743 | 0.366 |
| 150 | 303 | 228 | 336 | 0.124 | 0.160 | 0.0745 | 0.307 |
| 185 | 348 | 263 | 379 | 0.0991 | 0.129 | 0.0744 | 0.259 |
| 240 | 412 | 316 | 438 | 0.0754 | 0.0998 | 0.0735 | 0.216 |

(a) Based on 40**°**C ambient air temperature and where applicable, burial depth of 0.5m, soil temperature of 25**°**C and soil resistivity of 1.2**°**C.m/W. (b) For single phase voltage drop, multiply by 1.155.

The above information is from the following sources: AS/NZS 3008.1.1:2009 (tables 13, 30, 35, 42)

AS 1125:2001 (table 2.3)

For installation with thermal insulation refer to AS/NZS 3008 for de-rating factors.

Do not put in direct contact with polystyrene, polyurethane or similar thermal insulation materials.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ACTIVE / CONDUCTOR** | | | **EARTH CONDUCTOR** | | |
| **Nominal Area**  **mm2** | **Nominal Diameter**  **mm** | **Minimum Insulation Thickness**  **mm** | **Nominal Area**  **mm2** | **Number & Diameter of Wires No/mm** | **Minimum Insulation Thickness**  **mm** |
| 1.5 | 1.5 | 0.6 | 1.5 | 7/0.50 | 0.6 |
| 2.5 | 2.0 | 0.7 | 2.5 | 7/0.67 | 0.7 |
| 4 | 2.55 | 0.8 | 2.5 | 7/0.67 | 0.7 |
| 6 | 3.12 | 0.8 | 2.5 | 7/0.67 | 0.7 |
| 10 | 4.05 | 1.0 | 4.0 | 7/0.85 | 1.0 |
| 16 | 5.10 | 1.0 | 6.0 | 7/1.04 | 1.0 |
| 25 | 6.75 | 1.2 | 6.0 | 7/1.04 | 1.0 |
| 35 | 7.65 | 1.2 | 6.0 | 7/1.04 | 1.0 |
| 50 | 8.90 | 1.4 | 16 | 7/1.70 | 1.0 |
| 70 | 10.70 | 1.4 | 25 | 19/1.35 | 1.2 |
| 95 | 12.46 | 1.6 | 25 | 19/1.35 | 1.2 |
| 120 | 14.21 | 1.6 | 35 | 19/1.53 | 1.2 |
| 150 | 15.75 | 1.8 | 50 | 19/1.78 | 1.4 |
| 185 | 17.64 | 2.0 | 70 | 19/2.14 | 1.4 |
| 240 | 20.25 | 2.2 | 95 | 37/1.78 | 1.6 |

***DOMINION WIRE & CABLES LTD.***

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