

N2XRY Cu/XLPE/PVC/SWA/PVC 0.6/1kV Cable



APPLICATION

European name of the BS5467 cable. Multi-core PVC cable with steel wire armour (SWA). Power and auxiliary control cables for use in power networks, underground, outdoor and indoor applications and for use in cable ducting.

STANDARDS

BS 5467, IEC/EN 60502-1, IEC/EN 60228
Flame Retardant according to IEC/EN 60332-1-2

CHARACTERISTICS

Voltage Rating U₀/U
0.6/1kV

Temperature Rating
Fixed: -25°C to +90°C

Minimum Bending Radius
1.5mm² to 16mm² - Fixed: 6 x overall diameter
25mm² and above - Fixed: 8 x overall diameter

THE CABLE TEST

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

CONSTRUCTION

Conductor
Class 2 stranded copper conductor

Insulation
XLPE (Cross-Linked Polyethylene)

Bedding
PVC (Polyvinyl Chloride)

Armour
SWA (Steel Wire Armour)

Sheath
PVC (Polyvinyl Chloride)

SUSTAINABILITY COMMITMENT

We have world-class testing facility, and made rigorous testing regime, every meter of cable before leaving the factory must go through strict testing, testing qualified products will be shipped to customers, effectively ensure product quality and meet customer requirements.

DIMENSIONS

| NO. OF CORES | NOMINAL CROSS SECTIONAL AREA mm ² | NOMINAL THICKNESS OF INSULATION mm | NOMINAL OVERALL DIAMETER mm | | NOMINAL WEIGHT kg/km | BW / CW GLAND | WRAPAROUND CLEATS |
|--------------|--|------------------------------------|-----------------------------|---------|----------------------|---------------|-------------------|
| | | | UNDER ARMOUR | OVERALL | | | |
| 2 | 1.5 | 0.6 | 7.3 | 12.1 | 302 | 20 | CC5 |
| 2 | 2.5 | 0.7 | 8.5 | 13.6 | 346 | 20 | CC6 |
| 2 | 4 | 0.7 | 9.4 | 14.7 | 410 | 20S | CC7 |
| 2 | 6 | 0.7 | 10.5 | 15.9 | 499 | 20 | CC7 |
| 2 | 10 | 0.7 | 12.3 | 18 | 648 | 20 | CC8 |
| 2 | 16 | 0.7 | 14.3 | 20.4 | 978 | 20 | CC9 |
| 2 | 25 | 0.9 | 14.7 | 20.4 | 1290 | 25 | CC9 |
| 2 | 35 | 0.9 | 16.8 | 23.3 | 1500 | 25 | CC10 |
| 2 | 50 | 1 | 19 | 25.8 | 1890 | 25 | CC11 |
| 2 | 70 | 1.1 | 22 | 29 | 2450 | 32 | CC12 |
| 2 | 95 | 1.1 | 25.1 | 33.1 | 3300 | 32 | CC14 |
| 2 | 120 | 1.2 | 27.9 | 36.1 | 4020 | 40 | CC16 |
| 2 | 150 | 1.4 | 30.9 | 39.3 | 4750 | 40 | CC16 |
| 3 | 1.5 | 0.6 | 7.8 | 12.6 | 330 | 20 | CC5 |
| 3 | 2.5 | 0.7 | 9.2 | 14.1 | 390 | 20S | CC6 |
| 3 | 4 | 0.7 | 10 | 15.3 | 464 | 20S | CC7 |
| 3 | 6 | 0.7 | 11.2 | 16.6 | 568 | 20 | CC7 |
| 3 | 10 | 0.7 | 13.1 | 19.5 | 866 | 20 | CC8 |
| 3 | 16 | 0.7 | 15.3 | 21.6 | 1152 | 25 | CC9 |
| 3 | 25 | 0.9 | 18.9 | 23.6 | 1800 | 25 | CC11 |
| 3 | 35 | 0.9 | 21.3 | 25.7 | 2230 | 32 | CC12 |
| 3 | 50 | 1 | 21.7 | 28.5 | 2490 | 32 | CC12 |
| 3 | 70 | 1.1 | 25.2 | 32.2 | 3290 | 32 | CC14 |
| 3 | 95 | 1.1 | 28.8 | 37 | 4440 | 40 | CC16 |
| 3 | 120 | 1.2 | 32 | 40.4 | 5470 | 40 | CC16 |
| 3 | 150 | 1.4 | 35.9 | 45.5 | 6930 | 50S | CC18 |
| 3 | 185 | 1.6 | 40 | 49.8 | 8350 | 63S | CC20 |
| 3 | 240 | 1.7 | 44.9 | 55.1 | 10400 | 63S | - |
| 3 | 300 | 1.8 | 49.8 | 60.2 | 12600 | 63S | - |
| 3 | 400 | 2 | 55.8 | 66.6 | 14600 | 75S | - |
| 4 | 1.5 | 0.6 | 8.5 | 13.3 | 365 | 20S | CC6 |
| 4 | 2.5 | 0.7 | 9.9 | 15 | 438 | 20 | CC6 |
| 4 | 4 | 0.7 | 11 | 16.4 | 532 | 20 | CC7 |
| 4 | 6 | 0.7 | 12.3 | 18.7 | 764 | 20 | CC8 |
| 4 | 10 | 0.7 | 14.5 | 21.1 | 1013 | 25 | CC9 |
| 4 | 16 | 0.7 | 17 | 23.4 | 1360 | 25 | CC10 |
| 4 | 25 | 0.9 | 21 | 26.1 | 2160 | 32 | CC11 |
| 4 | 35 | 0.9 | 23.6 | 28.6 | 2690 | 32 | CC12 |
| 4 | 50 | 1 | 25 | 32 | 3130 | 32 | CC14 |
| 4 | 70 | 1.1 | 29.5 | 37.7 | 4500 | 40 | CC16 |
| 4 | 95 | 1.1 | 33.3 | 41.7 | 5600 | 50S | CC18 |
| 4 | 120 | 1.2 | 37.5 | 47.1 | 7400 | 50 | CC20 |
| 4 | 150 | 1.4 | 41.6 | 51.4 | 8780 | 50 | - |
| 4 | 185 | 1.6 | 46.4 | 56.6 | 10630 | 63S | - |
| 4 | 240 | 1.7 | 52.6 | 63 | 13390 | 63 | - |

| NO. OF CORES | NOMINAL CROSS SECTIONAL AREA mm ² | NOMINAL THICKNESS OF INSULATION mm | NOMINAL OVERALL DIAMETER mm | | NOMINAL WEIGHT kg/km | BW / CW GLAND | WRAPAROUND CLEATS |
|--------------|--|------------------------------------|-----------------------------|---------|----------------------|---------------|-------------------|
| | | | UNDER ARMOUR | OVERALL | | | |
| 4 | 300 | 1.8 | 58 | 68.8 | 16290 | 75S | - |
| 4 | 400 | 2 | 65.4 | 78.1 | 19800 | 90 | - |
| 5 | 1.5 | 0.6 | 9.7 | 14.3 | 410 | 20S | CC6 |
| 5 | 2.5 | 0.7 | 11.7 | 16.1 | 470 | 20 | CC7 |
| 5 | 4 | 0.7 | 13 | 17.8 | 710 | 20 | CC7 |
| 5 | 6 | 0.7 | 14.5 | 20 | 876 | 25 | CC8 |
| 5 | 10 | 0.7 | 17.2 | 22.9 | 1165 | 25 | CC10 |
| 5 | 16 | 0.7 | 20 | 26.6 | 1742 | 32 | CC11 |
| 5 | 25 | 0.9 | 24.7 | 31.5 | 2323 | 32 | CC14 |
| 5 | 35 | 0.9 | 27.8 | 34.8 | 2932 | 40 | CC14 |
| 5 | 50 | 1 | 32.4 | 40.4 | 4192 | 50S | CC16 |
| 5 | 70 | 1.1 | 35.8 | 43.0 | 5500 | 50S | CC18 |
| 5 | 95 | 1.1 | 42.1 | 49.0 | 7145 | 50S | CC20 |
| 7 | 1.5 | 0.6 | 10.2 | 15.2 | 470 | 20S | CC6 |
| 7 | 2.5 | 0.7 | 12.3 | 17.1 | 600 | 20 | CC7 |
| 7 | 4 | 0.7 | 13.6 | 19.1 | 881 | 20 | CC8 |
| 12 | 1.5 | 0.6 | 13.7 | 19.4 | 780 | 20 | CC8 |
| 12 | 2.5 | 0.7 | 16.3 | 22.4 | 1000 | 25 | CC9 |
| 19 | 1.5 | 0.6 | 16.2 | 22.2 | 1000 | 25 | CC9 |
| 19 | 2.5 | 0.7 | 19.9 | 26.6 | 1540 | 25 | CC11 |
| 27 | 1.5 | 0.6 | 20 | 26.7 | 1500 | 32 | CC11 |
| 27 | 2.5 | 0.7 | 24 | 30.7 | 1950 | 32 | CC14 |
| 37 | 1.5 | 0.6 | 22.3 | 29 | 1800 | 32 | CC12 |
| 37 | 2.5 | 0.7 | 26.9 | 33.8 | 2350 | 40 | CC14 |

CONDUCTORS

Class 2 Stranded Conductors for Single Core and Multi-Core Cables

| NOMINAL CROSS SECTIONAL AREA mm ² | MINIMUM NO. OF WIRES IN CONDUCTOR | | | | | | MAXIMUM RESISTANCE OF CONDUCTOR AT 20°C |
|--|-----------------------------------|----|--------------------|----|--------|----|---|
| | Circular | | Circular Compacted | | Shaped | | |
| | Cu | Al | Cu | Al | Cu | Al | |
| 1.5 | 7 | - | 6 | - | - | - | 12.1 |
| 2.5 | 7 | - | 6 | - | - | - | 7.41 |
| 4 | 7 | - | 6 | - | - | - | 4.61 |
| 6 | 7 | - | 6 | - | - | - | 3.08 |
| 10 | 7 | 7 | 6 | 6 | - | - | 1.83 |
| 16 | 7 | 7 | 6 | 6 | - | - | 1.15 |
| 25 | 7 | 7 | 6 | 6 | 6 | 6 | 0.727 |
| 35 | 7 | 7 | 6 | 6 | 6 | 6 | 0.524 |
| 50 | 19 | 19 | 6 | 6 | 6 | 6 | 0.387 |
| 70 | 19 | 19 | 12 | 12 | 12 | 12 | 0.268 |
| 95 | 19 | 19 | 15 | 15 | 15 | 15 | 0.193 |
| 120 | 37 | 37 | 18 | 15 | 18 | 15 | 0.153 |
| 150 | 37 | 37 | 18 | 15 | 18 | 15 | 0.124 |
| 185 | 37 | 37 | 30 | 30 | 30 | 30 | 0.0991 |
| 240 | 37 | 37 | 34 | 30 | 34 | 30 | 0.0754 |
| 300 | 61 | 61 | 34 | 30 | 34 | 30 | 0.0601 |
| 400 | 61 | 61 | 53 | 53 | 53 | 53 | 0.047 |

ELECTRICAL CHARACTERISTICS XLPE/PVC/SWA/PVC

Current Carrying Capacity

| NOMINAL CROSS SECTIONAL AREA mm ² | REFERENCE METHOD C (CLIPPED DIRECT) Amps | | REFERENCE METHOD E (IN FREE AIR OR ON A PERFORATED CABLE TRAY, HORIZONTAL OR VERTICAL) Amps | | REFERENCE METHOD D (DIRECT IN GROUND OR IN DUCTING IN GROUND, IN OR AROUND BUILDINGS) Amps | |
|---|---|---|---|---|---|---|
| | 1 Two Core Cable Single-Phase AC or DC | 1 Three or 1 Four Core Cable Three-Phase AC | 1 Two Core Cable Single-Phase AC or DC | 1 Three or 1 Four Core Cable Three-Phase AC | 1 Two Core Cable Single-Phase AC or DC | 1 Three or 1 Four Core Cable Three-Phase AC |
| 1.5 | 27 | 23 | 29 | 25 | 25 | 21 |
| 2.5 | 36 | 31 | 39 | 33 | 33 | 28 |
| 4 | 49 | 42 | 52 | 44 | 43 | 36 |
| 6 | 62 | 53 | 66 | 56 | 53 | 44 |
| 10 | 85 | 73 | 90 | 78 | 71 | 58 |
| 16 | 110 | 94 | 115 | 99 | 91 | 75 |
| 25 | 146 | 124 | 152 | 131 | 116 | 96 |
| 35 | 180 | 154 | 188 | 162 | 139 | 115 |
| 50 | 219 | 187 | 228 | 197 | 164 | 135 |
| 70 | 279 | 238 | 291 | 251 | 203 | 167 |
| 95 | 338 | 289 | 354 | 304 | 239 | 197 |
| 120 | 392 | 335 | 410 | 353 | 271 | 223 |
| 150 | 451 | 386 | 472 | 406 | 306 | 251 |
| 185 | 515 | 441 | 539 | 463 | 343 | 281 |
| 240 | 607 | 520 | 636 | 546 | 395 | 324 |
| 300 | 698 | 599 | 732 | 628 | 446 | 365 |
| 400 | 787 | 673 | 847 | 728 | - | - |

Air ambient temperature: 30°C
 Ground ambient temperature: 20°C
 Conductor operating temperature: 90°C

Notes

1. Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2 of the 18th Edition of IEE Wiring Regulations).
2. Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D4A) must be used (see also Regulation 523.1 of the 18th Edition of IEE Wiring Regulations).

The above table is in accordance with Table 4E4A of the 18th Edition of IEE Wiring Regulations BS7671 and IEC 60364-5-52

Voltage Drop

| NOMINAL CROSS SECTIONAL AREA mm ² | TWO CORE CABLE DC | WO CORE CABLE SINGLE-PHASE AC mV/A/m | | | THREE OR FOUR CORE CABLE THREE-PHASE AC | | |
|---|----------------------|---|-------|-------|---|-------|-------|
| | | r | x | z | r | x | z |
| 1.5 | 31 | 31 | | | 27 | | |
| 2.5 | 19 | 19 | | | 16 | | |
| 4 | 12 | 12 | | | 10 | | |
| 6 | 7.9 | 7.9 | | | 6.8 | | |
| 10 | 4.7 | 4.7 | | | 4 | | |
| 16 | 2.9 | 2.9 | | | 2.5 | | |
| | | r | x | z | r | x | z |
| 25 | 1.85 | 1.85 | 0.160 | 1.900 | 1.600 | 0.140 | 1.650 |
| 35 | 1.35 | 1.35 | 0.155 | 1.350 | 1.150 | 0.135 | 1.150 |
| 50 | 0.98 | 0.99 | 0.155 | 1.000 | 0.860 | 0.135 | 0.870 |
| 70 | 0.67 | 0.67 | 0.150 | 0.690 | 0.590 | 0.130 | 0.600 |
| 95 | 0.49 | 0.50 | 0.150 | 0.520 | 0.430 | 0.130 | 0.450 |
| 120 | 0.39 | 0.40 | 0.145 | 0.420 | 0.340 | 0.130 | 0.370 |
| 150 | 0.31 | 0.32 | 0.145 | 0.350 | 0.280 | 0.125 | 0.300 |
| 185 | 0.25 | 0.26 | 0.145 | 0.290 | 0.220 | 0.125 | 0.260 |
| 240 | 0.195 | 0.20 | 0.140 | 0.240 | 0.175 | 0.125 | 0.210 |
| 300 | 0.155 | 0.16 | 0.140 | 0.210 | 0.140 | 0.120 | 0.185 |
| 400 | 0.12 | 0.13 | 0.140 | 0.190 | 0.115 | 0.120 | 0.165 |

Conductor operating temperature: 90°C

r = Resistive Component

x = Reactive Component

z = Impedance Value

The above table is in accordance with Table 4E4B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm² or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm², cross sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is extracted from Appendix 4 of the 17th Edition of IEE Wiring Regulations.

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances.