



## PRODUCT DATA

### Network Rail – Class II Enhanced Un-armoured NMR PVC Power cable to NR/L2/ELP/27408 for Signalling Power Distribution – CU XLPE / FGT / PVC 600/1000V

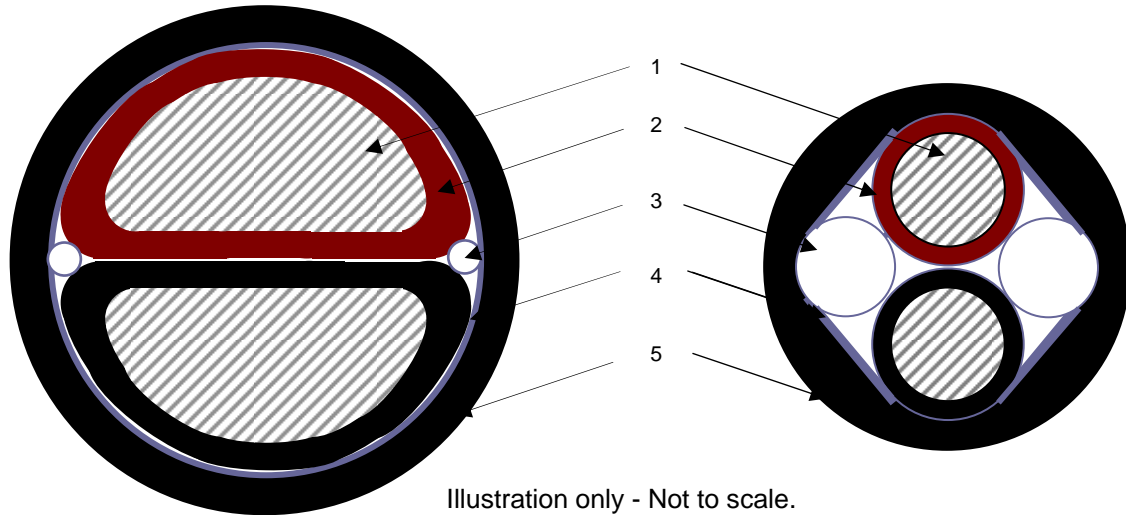


Illustration only - Not to scale.

#### Construction and testing to the following standards:-

- Network Rail NR/L2/ELP/27408
- BS EN 60228
- BS 7655-1.3 and BS 7655-4.2
- IEC 60502-1

#### 1 – Conductors.

Stranded, Class 2 annealed Cu to BS EN 60228. Incorporating a BASEC registered Black-Red-White-Blue, Network Rail identification thread (Certificate No. THD-1147-001 attached).  
Circular ( $\leq 16\text{mm}^2$ ) or Shaped ( $\geq 25\text{mm}^2$ )

#### 2 – Insulation.

XLPE to type GP8 to BS 7655 -1.3.

#### 3 – Cores laid-up.

##### 3a – Fillers.

Non-hygroscopic, Polypropylene strings in each interstice. (No separate fillers in the  $6.0\text{mm}^2$  cable)

##### 3b – Identification tape. (not drawn)

YELLOW polyester identification tape, applied over the laid up cores.  $5.0 \times 0.05\text{mm}$ . Printed with the legend "PROPERTY OF NETWORK RAIL – DRAKA - YEAR".

#### 4 – Rodent protection

2 X  $0.3\text{mm}$  thick, Fibre Glass Woven tapes applied at 20% overlap. Combined weight of both tapes  $> 640 \text{g/m}^2$  approx.

#### 5 – Outer sheath.

PVC type 9 to BS 7655-4.2

#### Rated Voltage ( $U_0/U$ )

600/1000V

Whilst this cable is designated 600/1000V the insulation thickness has been increased to  $2.0\text{mm}$  primarily for mechanical reasons.

Because of this insulation level is in fact suitable for  **$U_0/U 1000/1730\text{V}$** , should you be able to make use of this.

#### Conductor Identification

Brown, Black

#### Outer sheath Colour

Black or other colours available on request.

#### Marking on outer sheath

The outer sheath will be embossed with two primary lines spaced approximately  $180^\circ$  apart. A third line carrying the Railway catalogue number, will be printed, as follows:-

Line 1 - PROPERTY OF NETWORK RAIL PVC CU NMR  
Line 2 - DRAKA UK (B or W) ELECTRIC CABLE 600/1000V  
NR/L2/ELP/27408 (year No.) x (CSA  $\text{mm}^2$ )

Line 3 - XXXX/XXXX

The distance between one element of the mark and the beginning of the next identical element of the marking is  $\leq 550\text{mm}$ .



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#### Technical Characteristics:-

Cable Designation		2XY-GT2X	2XY-GT2X	2XY-GT2X	2XY-GT2X	2XY-GT2X	2XY-GT2X	2XY-GT2X	2XY-GT2X
Voltage U0/U	kV	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1	0.6/1
No of cores x conductor size	mm <sup>2</sup>	2 x 10	2 x 16	2 x 25	2 x 35	2 x 50	2 x 70	2 x 95	2 x 120
Conductor class and material		Class 2 Circ Cu	Class 2 Circ Cu	Class 2 Shpd Cu	Class 2 Shpd Cu	Class 2 Shpd Cu	Class 2 Shpd Cu	Class 2 Shpd Cu	Class 2 Shpd Cu
Maximum conductor d.c. resistance at 20°C	Ω/km	1.83	1.15	0.727	0.524	0.387	0.268	0.193	0.153
Maximum conductor a.c. resistance at 90°C	Ω/km	2.335	1.4665	0.9272	0.6684	0.4937	0.3421	0.2467	0.1959
Approximate core to core capacitance (1)	nF/km	62	72	83	92	110	126	139	150
Nominal core to earth capacitance	μF/km	No earth / screen	No earth / screen	No earth / screen	No earth / screen	No earth / screen	No earth / screen	No earth / screen	No earth / screen
Positive sequence impedance at 20°C, 50Hz	Ω/km	1.8301 + J.0.1121	1.1501 + J.0.1048	0.7272 + J.0.0984	0.0243 + J.0.094	0.3874 + J.0.0878	0.2685 + J.0.0841	0.1938 + J.0.8812	0.154 + J.0.0787
Negative sequence impedance at 20°C, 50Hz	Ω/km	1.8301 + J.0.1121	1.1501 + J.0.1048	0.7272 + J.0.0984	0.0243 + J.0.094	0.3874 + J.0.0878	0.2685 + J.0.0841	0.1938 + J.0.8812	0.154 + J.0.0787
Zero sequence impedance	Ω/km	Unearthed	Unearthed	Unearthed	Unearthed	Unearthed	Unearthed	Unearthed	Unearthed
Inductance at 50 Hz	mH/km	0.3567	0.3336	0.3132	0.2994	0.2794	0.2678	0.2467	0.2505
Reactance at 50 Hz	mH/km	0.1121	0.1048	0.0984	0.0940	0.0878	0.0841	0.0812	0.0787
Impedance at 50 Hz, 90°C	mH/km	2.3362	1.4702	0.9324	0.6750	0.5014	0.3523	0.2597	0.2111
Short circuit fault rating, 1 sec. Temp Rise 90 – 250°C	kA	1.43	2.28	3.57	5.00	7.15	10.0	13.58	17.16
Insulation material		XLPE GP8	XLPE GP8	XLPE GP8	XLPE GP8	XLPE GP8	XLPE GP8	XLPE GP8	XLPE GP8
Insulation thickness	mm	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Core identification		BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK
Sheath material		PVC type 9	PVC type 9	PVC type 9	PVC type 9	PVC type 9	PVC type 9	PVC type 9	PVC type 9
Sheath thickness minimum Average	mm	2.4	2.4	2.4	2.6	2.7	2.7	3.0	3.2
Rodent Protection		FGT	FGT	FGT	FGT	FGT	FGT	FGT	FGT
Internal identifying tape		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ID thread inside conductors		No	No	No	No	Yes	Yes	Yes	Yes
Approximate overall diameter (D)	mm	23.0	25.0	24.0	25.0	30.0	33.0	33.0	36.0
Minimum (mm)		4D (90)	4D (98)	8D (190)	8D (205)	8D (220)	8D (245)	8D (270)	8D (285)
Approx weight of cable	kg/km	600	800	840	1080	1560	2070	2400	2900
Maximum drum length	m	5000	4000	4000	4000	2500	2000	2500	2500
Maximum pulling force	kN	1.0	1.6	2.5	3.5	5.0	7.0	9.5	12