

Network Rail Telecommunications Cable

PACW/ solid polyethylene insulation/moisture barrier/PJ filled/polyethylene sheathed External Telephone Cable(Complies with Specifications NR/PS/TEL/00015 and TS0886/T1822) Network Rail certificate of acceptance - PA05/06233



External trackside telecoms cable armoured

Application

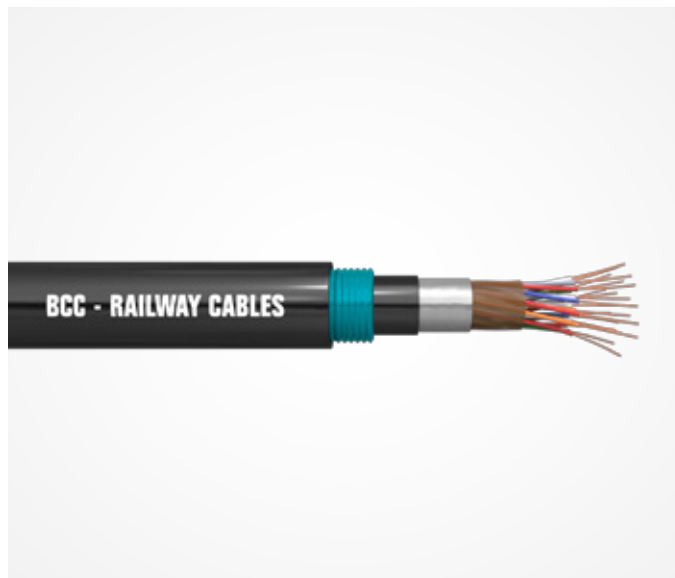
The cable is designed primarily for track-side railway installation. It is a petroleum jelly filled, twisted pair cable suitable for duct installation with a bonded moisture barrier sheath, and for buried or open channel installation, with an additional protection of a bonded corrugated steel tape and sheath. The additional protection provides protection against rodent attack. The product satisfies the requirements of Network Rail Specification NR/PS/TEL/00015 (formerly GK/RT 0315) and Specifications TS0886 and BR1822.

Construction

Twisted pairs in 10 Pair Units. The pair range is 2 – 100.

Product description

Plain annealed solid copper wire, solid polyethylene insulation, twisted pairs, petroleum jelly filling, water swellable tape, paper core wrap, black polyethylene sheath incorporating a longitudinally applied aluminium/polyethylene moisture barrier, and corrugated steel tape armour bonded to a black polyethylene sheath.



Number Pairs	BCC P/N	Nominal Cdr Size (mm)	Minimum Elongation (%)	Nominal Ins. Diameter (mm)	Duct / Inner Sheath Cable		Armoured Cable		Min Bend Radius (mm)	Cable Weight (kg/km)
					Min. Radial (mm)	Diameter Max. (mm)	Min. Radial (mm)	Diameter Max. (mm)		
2	10181083	0.63	15	1.15	1.6	10.5	1.60	18.0	360	222
5	10187107	0.63	15	1.15	1.6	12.0	1.60	19.5	390	296
10	10180976	0.63	15	1.15	1.6	13.8	1.60	20.3	406	383
20	10180704	0.63	15	1.15	1.6	16.3	1.60	23.8	476	504
30	10187108	0.63	15	1.15	1.6	18.6	1.60	26.1	522	606
50	10181181	0.63	15	1.15	1.6	22.4	1.60	29.9	598	903
75	10187109	0.63	15	1.15	1.6	26.4	1.60	33.9	678	1202
100	10180836	0.63	15	1.15	1.6	29.2	1.60	36.7	734	1463
2	10180703	0.90	15	1.50	1.6	11.5	1.60	19.0	380	250
5	10181572	0.90	15	1.50	1.6	13.8	1.60	21.3	426	370
10	10181062	0.90	15	1.50	1.6	16.3	1.60	23.8	476	508
20	10181078	0.90	15	1.50	1.6	20.1	1.60	27.6	552	782
30	10180702	0.90	15	1.50	1.6	23.4	1.60	30.9	618	1000
50	10180701	0.90	15	1.50	1.6	28.2	1.60	35.7	714	1402
75	10181521	0.90	15	1.50	1.6	34.0	1.60	41.5	830	2055
100	10180705	0.90	15	1.50	1.6	37.3	1.60	44.8	896	2550

Cable Size	Cu Size (mm)	Mutual Capacitance (nF/km)		Conductor Resistance @ 20°C (ohms)	
		Max Average	99%	Max Average	99%
20 Pairs or less	0.63	70.0	79	58.0	60.0
	0.90	79.0	85	28.0	30.0
More than 20 pairs	0.63	67.0	75.0	58.0	60.0
	0.90	75.0	81.0	28.0	30.0

Attenuation & Near -End Crosstalk	Cu Size (mm)	Measurement Frequency		
		1.0 kHz	2.4 kHz	1.024 MHz
Attenuation dB/km (Max Ave)	0.63	1.40	2.15	18.70
	0.90	0.95	1.46	14.60
NEXTA (dB Minimum)		70.00	65.00	Within Unit
				40.00
				Between Unit
				47.00

Insulation resistance

Insulation resistance measurements shall be made with not less than 500 volts D.C. After steady electrification for one minute the insulation resistance measured between each conductor and the remaining conductors connected together shall be not less than 1500 megohms per 1000 metres at 20°C.

Capacitance unbalance

Not more than 1% of the corrected capacitance unbalance measurements between adjacent pairs shall exceed the following values: Two-Pair (Quad) Cable 800pF. All other sizes 275pF.

Pair colour scheme, unit binder colours and cable make-up

Cabling Element No.	a-wire	b-wire	Unit Number	Binder Colour	Cable Size	No. and Pair Size of Unit in Centre and 1st Layer	
						Centre	1st layer
1	WHITE	BLUE	1	BLUE	2	1 x 2	-
2	WHITE	ORANGE	2	ORANGE	5	1 x 5	-
3	WHITE	GREEN	3	GREEN	10	1 x 10	-
4	WHITE	BROWN	4	BROWN	20	4 x 5	-
5	WHITE	Grey	5	Grey		2 x 10	-
6	RED	BLUE	6	WHITE	30	6 x 5	-
7	RED	ORANGE	7	RED		3 x 10	-
8	RED	GREEN	8	BLACK	50	5 x 10	-
9	RED	BROWN	9	YELLOW		1 x 10	4 x 10
10	RED	Grey	10	VIOLET	75	3 x 5	6 x 10
					100	2 x 10	8 x 10
						3 x 10	7 x 10
						4 x 5	8 x 10



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