BT Cables

TRACKSIDE COMMUNICATIONS CABLE LUL SPECIFICATION G7622 Types 1 & 2

Type 1: PACW/Cellular Polyethylene Insulation/Moisture Barrier/Polyethylene Sheath/PVC Outer Sheath
Type 2: PACW/Cellular Polyethylene Insulation/Moisture Barrier/Halogen Free Flame Retardant Sheath

Applications:

Type 1

This cable is designed for installation in trackside bracket runs and for use within railway equipment rooms located in open locations.

Type 2

This cable is designed for installation in trackside bracket runs and for use within railway equipment rooms located in subsurface tunnels and stations.

Product Descriptions

Type 1: Plain copper wire conductors, cellular polyethylene insulation, assembled into quads which are stranded into concentric layers, polyester core wrap, black polyethylene sheath incorporating a longitudinally applied aluminium/polyethylene moisture barrier, an oversheath of violet coloured PVC is applied over the inner polyethylene sheath.

Type 2: Plain copper wire conductors, cellular polyethylene insulation, assembled into quads which are stranded into concentric layers, polyester core wrap, and violet halogen free flame retardant sheath incorporating a longitudinally applied aluminium/polyethylene moisture barrier.

Type 1: Table of Dimensions & Electrical Properties

Number of Pairs	Conductor Size (mm)	Nominal Insulated Diameter (mm)	Maximum Average Resistance per kilometre at 20°C (ohms)	Maximum Average Mutual Capacitance per kilometre (nanofarads)	Maximum Diameter over 1st Sheath	Maximum Overall Diameter over 2nd Sheath (mm)
8	0.63	1.0	59	59	14.5	20.5
14	0.63	1.0	59	59	16.0	22.0
20	0.63	1.0	59	59	17.5	23.5
28	0.63	1.0	59	59	19.5	25.5
38	0.63	1.0	59	59	21.5	27.5
54	0.63	1.0	59	59	23.5	29.5
74	0.63	1.0	59	59	25.5	31.5
104	0.63	1.0	59	59	29.0	35.0
160	0.63	1.0	59	59	34.0	40.0
228	0.63	1.0	59	59	39.0	45.0
308	0.63	1.0	59	59	43.5	49.5
8	0.9	1.5	29	59	17.5	23.5
14	0.9	1.5	29	59	20.0	26.0
20	0.9	1.5	29	59	22.5	28.5
28	0.9	1.5	29	59	24.5	30.5
38	0.9	1.5	29	59	25.5	31.5
54	0.9	1.5	29	59	29.0	35.0
74	0.9	1.5	29	59	32.5	38.5
108	0.9	1.5	29	59	37.5	43.5

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Type 2: Table of Dimensions & Electrical Properties

Number of Pairs	Conductor Size (mm)	Nominal Insulated Diameter (mm)	Maximum Average Resistance per kilometre at 20°C (ohms)	Maximum Average Mutual Capacitance per kilometre (nanofarads)	Maximum Diameter over Sheath
8	0.63	1.0	59	59	14.5
14	0.63	1.0	59	59	16.0
20	0.63	1.0	59	59	17.5
28	0.63	1.0	59	59	19.5
38	0.63	1.0	59	59	21.5
54	0.63	1.0	59	59	23.5
74	0.63	1.0	59	59	25.5
104	0.63	1.0	59	59	29.0
160	0.63	1.0	59	59	34.0
228	0.63	1.0	59	59	39.0
308	0.63	1.0	59	59	43.5
8	0.9	1.5	29	59	17.5
14	0.9	1.5	29	59	20.0
20	0.9	1.5	29	59	22.5
28	0.9	1.5	29	59	24.5
38	0.9	1.5	29	59	25.5
54	0.9	1.5	29	59	29.0
74	0.9	1.5	29	59	32.5
108	0.9	1.5	29	59	37.5

Quad Colours in Centre and Even Layers

Position of Quad In Layer	Centre and Even Layers				Quad Whipping Colours
	A-Wire	B-Wire	C-Wire	D-Wire	
1st Quad (Marker)	ORANGE	WHITE	BLUE	GREY	WHITE and ORANGE
Even Quads	RED	WHITE	VIOLET	YELLOW	WHITE
Odd Quads	BROWN	WHITE	GREEN	GREY	WHITE
Last Quad (reference	ORANGE	WHITE	RED	GREEN	WHITE and ORANGE

Quad Colours in Odd Layers

Position of Quad In Layer	Odd Layers				Quad Whipping Colours
	A-Wire	B-Wire	C-Wire	D-Wire	
1st Quad (Marker)	ORANGE	BLACK	BLUE	GREY	BLACK and ORANGE
Even Quads	RED	BLACK	VIOLET	YELLOW	BLACK
Odd Quads	BROWN	BLACK	GREEN	GREY	BLACK
Last Quad (reference	ORANGE	BLACK	RED	GREEN	BLACK and ORANGE

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Make-up of Cable

Number Of Pairs	Number of Quads in centre and successive layers						
	Centre	1st Layer	2nd Layer	3rd Layer	4th Layer	5th Layer	6th Layer
8	4	-	-	-	-	-	-
14	1	6	-	-	-	-	-
20	2	8	-	-	-	-	-
28	4	10	-	-	-	-	-
38	1	6	12	-	-	-	-
54	3	9	15	-	-	-	-
74	1	6	12	18	-	-	-
104	4	10	16	22	-	-	-
160	4	10	16	22	28	-	-
228	4	10	16	22	28	34	-
308	4	10	16	22	28	34	40

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 Measurement and Correction Factor

Maximum average capacitance unbalance between pairs within same quad shall not exceed 50pF/460m.

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