

TACW/Polyethylene Insulation/Metallic Tape/Halogen Free Fire Retardant Sheath

Application:

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

Tinned copper wire conductors, solid polyethylene insulation, assembled into twisted pairs which are bunched or 20 pair unit stranded, metallic barrier tape, and halogen free flame retardant sheath, coloured Grey unless otherwise specified in the order. Conductor gauges available are 0.50 and 0.60mm, and the pair range is 1 – 320.

Table of Dimensions & Electrical Properties

Number Pairs	Conductor Diameter (mm)	Minimum Radial Insulation (mm)	Maximum Insulated Diameter (mm)	Unit Size/Make-up	Minimum Sheath Radial (mm)	Maximum Overall Diameter (mm)	Resistance @ 20°C (ohms/km)	Capacitance Unbalance (pF/500m)
1	0.5	0.15	0.95	Bunched	0.8	4.1	98	500
2	0.5	0.15	0.95	Bunched	0.8	5.6	98	500
3	0.5	0.15	0.95	Bunched	0.8	5.9	98	500
6	0.5	0.15	0.95	Bunched	0.8	7.2	98	500
10	0.5	0.15	0.95	Bunched	1.25	9.6	98	500
20	0.5	0.15	0.95	Unit	1.25	11.8	98	500
40	0.5	0.15	0.95	Unit	1.25	14.9	98	500
80	0.5	0.15	0.95	Unit	2.0	23.4	98	500
100	0.5	0.15	0.95	Unit	2.0	23.8	98	500
160	0.5	0.15	0.95	Unit	2.0	30.4	98	500
320	0.5	0.15	0.95	Unit	2.2	39.1	98	500
1	0.6	0.15	1.05	Bunched	0.8	5.1	68	300
3	0.6	0.15	1.05	Bunched	0.8	7.0	68	300
6	0.6	0.15	1.05	Bunched	0.8	9.0	68	300
10	0.6	0.15	1.05	Bunched	1.25	11.5	68	300
20	0.6	0.15	1.05	Unit	1.25	13.5	68	300
40	0.6	0.15	1.05	Unit	1.25	17.5	68	300
80	0.6	0.15	1.05	Unit	2.0	25.0	68	300
100	0.6	0.15	1.05	Unit	2.0	27.5	68	300

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 in the table shown below.

Temperature °C	Insulation Resistance for 1000m (MΩ)
16	120
18	79
20	50
22	32
24	23
26	16
28	11
30	8

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Wire and pair identification within units

Cabling Element No	Colour of Insulation	
	a-wire	b-wire
1	WHITE	BLUE
2	WHITE	ORANGE
3	WHITE	GREEN
4	WHITE	BROWN
5	WHITE	GREY
6	RED	BLUE
7	RED	ORANGE
8	RED	GREEN
9	RED	BROWN
10	RED	GREY
11	BLACK	BLUE
12	BLACK	ORANGE
13	BLACK	GREEN
14	BLACK	BROWN
15	BLACK	GREY
16	YELLOW	BLUE
17	YELLOW	ORANGE
18	YELLOW	GREEN
19	YELLOW	BROWN
20	YELLOW	GREY

Cable Make-up & unit lapping tape identification colours

Pair Size	20 Pair	40 Pair	80 Pair	100 Pair	160 Pair	320 Pair
	Number Of Units					
Centre	1					
1 st Layer			6 x ½	7 x ½	6	5
2 nd Layer						10
1	Orange	Orange	Orange	Blue	Orange	Orange
2		Green	Orange	Orange	Green	Orange
3			Natural	Green	Orange	Natural
4			Green	Brown	Natural	Natural
5				Grey	Natural	Natural
6				White	Natural	Green
7				Red	Natural	Orange
8				Black	Green	Natural
9				Yellow		Natural
10				Violet		Natural
11						Natural
12						Natural
13						Natural
14						Natural
15						Natural
16						Green

Note: ½ refers to units of 10 Pairs.