Copper Trackside Communication Cable

Specification

- NR/PS/TEL/00015

Application

This range of cables is designed primarily for trackside railway installation.

Construction

Unarmoured

These twisted pair cables consist of solid plain copper conductors of either 0.63mm or 0.9mm in diameter. The conductors are solid polyethylene insulated and two insulated conductors are twisted to form a pair*. The required number of pairs are laid up and petroleum jelly filled. Covering this are layers of: water swellable tape, paper core wrap and a black low-density polyethylene sheath. The cable incorporates a longitudinally applied aluminium/polyethylene moisture barrier, and is available with either a polyethylene or ZHLS sheath.

*Two pair cables are laid up in quad formation.

Armoured

The construction and pair formation are as above, but with the addition of rodent protection in the form of corrugated steel armour.

Copper Trackside Communication Cable

PADS Catalogue Number	Anixter Number	Conductor Diameter	Number of Pairs	Nominal Outer Diameter mm	Nominal Weight kg/km
Polyethylene Sheathed – Armoured					
6/168061	A11AW-P002S-02FTN	1/0.9	2	19.0	250
6/168062	A11AW-P005S-02FTN	1/0.9	5	21.3	365
6/168063	A11AW-P010S-02FTN	1/0.9	10	23.8	520
6/168064	A11AW-P020S-02FTN	1/0.9	20	27.6	820
6/168065	A11AW-P030S-02FTN	1/0.9	30	30.9	1060
6/168066	A11AW-P050S-02FTN	1/0.9	50	35.7	1550
6/168067	A11AW-P075S-02FTN	1/0.9	75	38.8	1912
6/168068	A11AW-P100S-02FTN	1/0.9	100	44	2450
6/168011	A11AV-P002S-02FTN	1/0.63	2	18.0	205
6/168012	A11AV-P005S-02FTN	1/0.63	5	19.5	285
6/168013	A11AV-P010S-02FTN	1/0.63	10	21.3	380
6/168014	A11AV-P020S-02FTN	1/0.63	20	23.8	550
6/168015	A11AV-P030S-02FTN	1/0.63	30	26.1	690
6/168016	A11AV-P050S-02FTN	1/0.63	50	29.9	960
6/168017	A11AV-P075S-02FTN	1/0.63	75	31.5	1147
6/168018	A11AV-P100S-02FTN	1/0.63	100	35.4	1464
Polyethylene Sheathed – Unarmoured					
6/168051	A11AW-P002-02FTN	1/0.9	2	11.5	95
6/168052	A11AW-P005-02FTN	1/0.9	5	13.8	180
6/168053	A11AW-P010-02FTN	1/0.9	10	16.3	246
6/168054	A11AW-P020-02FTN	1/0.9	20	20.1	545
6/168055	A11AW-P030-02FTN	1/0.9	30	23.4	750
6/168056	A11AW-P050-02FTN	1/0.9	50	28.2	1175
6/168057	A11AW-P075-02FTN	1/0.9	75	33.6	1541
6/168058	A11AW-P100-02FTN	1/0.9	100	38.8	2051
6/168001	A11AV-P002-02FTN	1/0.63	2	10.5	71
6/168002	A11AV-P005-02FTN	1/0.63	5	12.0	120
6/168003	A11AV-P010-02FTN	1/0.63	10	13.8	190
6/168004	A11AV-P020-02FTN	1/0.63	20	16.3	325
6/168005	A11AV-P030-02FTN	1/0.63	30	18.6	435
6/168006	A11AV-P050-02FTN	1/0.63	50	22.4	660
6/168007	A11AV-P175-02FTN	1/0.63	75	26.4	930
6/168008	A11AV-P100-02FTN	1/0.63	100	29.2	1230

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PADS Catalogue Number	Anixter Number	Conductor Diameter	Number of Pairs	Nominal Outer Diameter mm	Nominal Weight kg/km
ZHLS Sheathed – Armoured					
6/168081	A11BT-P002S-02FTN	1/0.9	2	21.3	380
6/168082	A11BT-P005S-02FTN	1/0.9	5	23.1	550
6/168083	A11BT-P010S-02FTN	1/0.9	10	26.1	700
6/168084	A11BT-P020S-02FTN	1/0.9	20	29.9	1000
6/168085	A11BT-P030S-02FTN	1/0.9	30	33.2	1240
6/168086	A11BT-P050S-02FTN	1/0.9	50	38.0	1720
6/168088	A11BT-P100S-02FTN	1/0.9	100	46.6	2780
6/168031	A11BS-P002S-02FTN	1/0.63	2	21.3	380
6/168032	A11BS-P005S-02FTN	1/0.63	5	21.3	425
6/168033	A11BS-P010S-02FTN	1/0.63	10	21.8	550
6/168034	A11BS-P020S-02FTN	1/0.63	20	26.1	740
6/168035	A11BS-P030S-02FTN	1/0.63	30	28.4	880
6/168036	A11BS-P050S-02FTN	1/0.63	50	32.2	1150
6/168038	A11BS-P100S-02FTN	1/0.63	100	38.5	1760
ZHLS Sheathed – Unarmoured					
6/168071	A11BT-P002-02FTN	1/0.9	2	13.3	130
6/168072	A11BT-P005-02FTN	1/0.9	5	15.6	219
6/168073	A11BT-P010-02FTN	1/0.9	10	18.1	329
6/168074	A11BT-P020-02FTN	1/0.9	20	21.9	520
6/168075	A11BT-P030-02FTN	1/0.9	30	25.2	702
6/168076	A11BT-P050-02FTN	1/0.9	50	30.0	1065
6/168078	A11BT-P100-02FTN	1/0.9	100	39.1	1890
6/168021	A11BS-P002-02FTN	1/0.63	2	12.3	103
6/168022	A11BS-P005-02FTN	1/0.63	5	13.8	158
6/168023	A11BS-P010-02FTN	1/0.63	10	15.6	226
6/168024	A11BS-P020-02FTN	1/0.63	20	18.1	332
6/168025	A11BS-P030-02FTN	1/0.63	30	20.4	420
6/168026	A11BS-P050-02FTN	1/0.63	50	24.2	618
6/168028	A11BS-P100-02FTN	1/0.63	100	31.0	1090

Sheathed Unarmoured & Armoured Cables Technical Information

Cable Size	Cu. Size mm	Mutual Capacitance (nF/km)		Conductor Resistance @ 20ºC (ohms)	
		Maximum Average	99%	Maximum Average	99%
20 Pairs or less	0.63 0.90	70.0 79.0	79.0 85.0	58.0 28.0	60.0 30.0
More than 20 Pairs	0.63 0.90	67.0 75.0	75.0 81.0	58.0 28.0	60.0 30.0

Attenuation & Near-End Crosstalk	Cu. Size mm	Measurement Frequency		
		1.0 kHZ	2.4 kHZ	1.024 MHZ
Attenuation dB/km Maximum Average	0.63 0.90	1.40 0.95	2.00 1.40	18.65 14.60
NEXTA (db Minimum)	70.00	65.00	Within Unit 40.00	Between Units 50.00

Insulation Resistance

Insulation resistance measurements shall be made with not less than 500V 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 20ºC.

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.

NR/PS/TEL/00015 pair colour scheme, unit binder colours and cable make-up

Cabling Element No	a-wire	b-wire	Unit Number	Binder Colour	Cable Size	Number and Pair Size of Unit	
						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	20	2 x 10	-
6	Red	Blue	6	White	30	6 x 5	-
7	Red	Orange	7	Red	30	3 x 10	-
8	Red	Green	8	Black	50	5 x 10	-
9	Red	Brown	9	Yellow	50	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
					100	3 x 10	7 x 10
					100	4 x 5	8 x 10

Sheathed Unarmoured and Armoured Cables Technical Information

Two pair cables are laid up in quad formation, colour coded as follows:-

Pair	a-wire	b-wire
1	Orange	White
2	Green	Black

NR/PS/TEL/00015 replaces RT/E/PS/00015 & GK/RT0315. Meets all electrical parameters of TS0886.

Anixter also stock a complete range of accessories for the cables featured in this section.

More details are available on request.