

### Applications

Signalling in railway networks. Axle counter system for traffic management.

### Family

Railway Signalling cables

### Design

#### 1. Conductor

Tinned copper wire

#### 2. Insulation

**Solid polyethylene**

#### 3. Twisting

Construction in pairs. Two pairs cable construction in quads

#### 4. Stranding

Concentric Layers.

#### 5. Filling compound

Petroleum jelly compound

#### 6. Core wrapping

Plastic tape(s) with overlapping

#### 7. Antirodent Protection Glassfibre

tape

#### 8. Moisture barrier

Aluminiumpolymer laminate tape (incl Drain/continuity wire)

#### 9. Sheath

Two versions:

- LSZH: for XPZ and XQZ cable types
- PE: for XPS and XQS cable types



### Standards: NR/L2/SIG/30060 (March 2009)

Fire Performance: Only LSZH Versions



Flame Propagation BS 6724



Halogen free IEC 60754



Flame retardant IEC 603321



Smoke Emission BS 6724

### Physical Characteristics

Cable Code	No. of Pairs	Conductor Diameter (mm)	Nominal Sheath Radial Thickness (mm)	Maximum Overall Diameter (mm)	Approximate Weight (kg/km)	
					PE Version	LSZH Version
0902	2	0.9	2.5	13.8	190	260
0910	10	0.9	2.5	24.7	435	530
0912	12	0.9	2.5	26.4	490	590
0919	19	0.9	2.5	61.4	685	805
0924	24	0.9	2.5	34.5	815	950
1402	2	1.4	2.5	19.5	305	390
1410	10	1.4	2.5	31.4	815	950
1412	12	1.4	2.5	33.8	915	1055
1419	19	1.4	2.5	40.8	1330	1500
1424	24	1.4	2.5	45.0	1620	1810
0902*	2	0.9	2.5	11.8	178	240
1402*	2	1.4	2.5	16.4	285	350

N.B. \* Star Quad variant

V4

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Disclaimer: Great effort is made to ensure the accuracy of the information presented, but errors may occur. This listing of information is presented as a courtesy and does not ensure that a product with these specifications is available. Specification and availability should be confirmed with a call to our sales representatives or to Customer services.

## Construction Characteristics

### Colour Code for Pair Cable Types

Pair Number	Insulation Colour	
	a - conductor	b - conductor
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	Yellow	Blue
12	Yellow	Orange

Pair Number	Insulation Colour	
	a - conductor	b - conductor
13	Yellow	Green
14	Yellow	Brown
15	Yellow	Grey
16	Violet	Blue
17	Violet	Orange
18	Violet	Green
19	Violet	Brown
20	Violet	Grey
21	Turquoise	Blue
22	Turquoise	Orange
23	Turquoise	Green
24	Turquoise	Brown

### Colour Code for Quad Cable Types

Pair Number	Insulation Colour	
	a - conductor	b - conductor
1	Orange	White
2	Green	Black

### Core Make-up

No. of Pairs in Cable	Pair No. in Each Layer		
	Centre	1 <sup>st</sup> Layer	2 <sup>nd</sup> Layer
2	1 & 2	-	-
10	1 & 2	8	-
12	3	9	-
19	1	6	12
24	2	8	14

### Electrical Characteristics @ 20°C

Parameter	Unit	Frequency (kHz)	Value	
Conductor Diameter, nominal	mm	d.c.	0.90	1.40
Conductor Resistance, maximum average	Ω/km	d.c.	30	11.5
Resistance Unbalance, maximum	%	d.c.	5	
Insulation Resistance, 1 minute, 500 Vdc, minimum	MΩ.km	d.c.	5000	
Dielectric Strength, between conductors, 1 minute	kV	d.c.	2	
Mutual Capacitance, maximum average	nF/km	1.0	45	50
Attenuation, maximum average	dB/km	40	2.6	2.0
Characteristic Impedance	Ω	90	135±10	