



Product: [BE43802](#) 

Railtuff ® 7, 4PR #24 Str TC, XLPE ins, S/FTP, LSNH Jkt, EN 45545 HL 1-3, ECE R118.03

Product Description

Railtuff ® 7, 4 Pair AWG 24 Tinned Copper - Stranded, XLP/XLPO, XLPE insulation, S/FTP - Overall Braid + Foil shielding, Crosslinked e-beam LSZH / FRNC jacket, EN 45545-2 HL 1-3, ECE R118.03

Technical Specifications

Product Overview

Suitable Applications:	For use in railway applications such as rolling stock, buses or other vehicles, cable meets the requirements of the relevant parts of international railway standards like DIN 5510-2, EN 50153, EN 50155, EN 50305 and EN 45545-2, ECE R118.03
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Construction Details

Conductor

Size	Stranding	Material	No. of Pairs	No. of Elements
24 AWG	19x36	TC - Tinned Copper	4	8

Insulation

Material	Nom. Insulation Diameter	Color Code	Notes
PO - Polyolefin (Foam)	1.45 mm (0.0571 in)	White & Blue, White & Orange, White & Green, White & Brown	eBeam Cross-Linked

Table Notes:	Insulation OD tolerance +/- 0.05mm
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Cable Core

Description
4 pairs twisted together

Inner Shield

Element	Shield Type	Material	Coverage
Individual Shielded Pair	Tape	Bi-Laminate (Alum+Poly)	100%

Table Notes:	Aluminium facing outside
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Outer Shield

Shield Type	Material	Coverage
Braid	Tinned Copper (TC)	80%

Outer Jacket

Material	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant, Thermoset)	8.1 mm (0.32 in)

Table Notes:	e-Beamed to Cross-link, cable meets smoke test of LU 1-085. Jacket OD +/- 0.3mm
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Overall Cable Diameter (Nominal):	8.1 mm (0.32 in)
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Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Mutual Capacitance	Max. Capacitance Unbalance	Nom. Characteristic Impedance
95 Ohm/km	56 pF/m (17 pF/ft)	160 pF/100m	100 Ohm

Delay

Max. Delay Skew	Nom. Velocity of Prop.
25 ns/100m	78%

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)
1	2.9 dB/100m
4	5.6 dB/100m
10	8.8 dB/100m
16	11.1 dB/100m
31.2	15.6 dB/100m
62.5	22.3 dB/100m
100	28.5 dB/100m
300	51.3 dB/100m
500	67.9 dB/100m
600	75.1 dB/100m
1000	100.4 dB/100m

Table Notes: Limits below 4MHz are for information only. Values at 1000 MHz are for information only

Transfer Impedance

Frequency	Max. Transfer Impedance
1 MHz	Max. 5 mOhm/m
10 MHz	Max. 5 mOhm/m
30 MHz	Max. 30 mOhm/m
100 MHz	100 mOhm/m

Transfer Impedance Class:	Grade 1
Table Notes:	IEC 61156-6
Screening Class:	Type I
Table Notes:	Coupling attenuation

Voltage

Voltage Rating
300 V

Mechanical Characteristics

Temperature

Operating	Installation	Storage
-40°C to +90°C	-25°C To +50°C	-40°C to +90°C

Bend Radius

Stationary Min.	Installation Min.
32 mm (1.3 in)	64 mm

Standards and Compliance

Environmental Suitability:	Indoor, Oil Resistance
Flammability / Reaction to Fire:	IEC 60332-1-2, IEC 60332-2-25, UN ECE R118.03
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Data Category:	Category 7
ISO/IEC Compliance:	ISO/IEC 11801-1
CENELEC Compliance:	EN 45545-2, Segregation class according EN50174-2 = d
European Halogen Free Standards:	IEC 60754-1 - Halogen Amount = Zero, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 10 µS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3
European Directive Compliance:	EU CE Mark

History

Update and Revision:	Revision Number: 0.246 Revision Date: 05-15-2024
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Part Numbers

Variants

Item #	Color	Putup Type	Length	EAN
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BE43802 010500M	Black	Reel	500 m	6938935091807
BE43802.00500	Blue	Reel	500 m	8719605026576
BE43802 006500M	Blue	Reel	500 m	6938935091791

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