



Product: [BE43802](#)

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

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

Technical Specifications

Product Overview

Suitable Applications:	Support current and future Cat. 6A and 7 applications for fixed installation in railway vehicles, support protocols such as 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM
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Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Material
PO - Polyolefin (Foam)

Bonded-Pair:	No
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Color Chart

Number	Color
Pair 1	White & Blue
Pair 2	White & Orange
Pair 3	White & Green
Pair 4	White & Brown

Inner Shield Material

Type	Material
Tape	Bi-Laminate (Alum+Poly)

Table Notes:	Aluminium facing outside
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Outer Shield Material

Type	Material	Min. Coverage [%]
Braid	Tinned Copper (TC)	80%

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
LSZH - Low Smoke Zero Halogen (Flame Retardant, Thermoset)	8.1 mm	0.03 mm

Table Notes:	e-Beamed to Cross-link
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Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
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Min Elongation at Breakof Jacket:	125 %
Min Tensile Strength of Jacket:	10 MPa

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]	Max. DCR Unbalanced Within Pair [%]
95 Ohm/km	4 %	2 %

Capacitance

Max. Capacitance Unbalanced Pair to Pair	Max. Mutual Capacitance
1,600 pF/m	56 pF/m

Delay

Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
25 ns/100m	78%

High Freq

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

Table Notes:	Limits below 4MHz are for information only. Values at 1000 MHz are for information only
Table Notes:	IEC 61156-5
Coupling Attenuation Class:	Type I
Segregation class according EN50174-2:	d
Table Notes:	IEC 61156-5
Transfer Impedance Class:	Grade 1

Current

Max. Recommended Current [A]
1.5 Amps per Conductor

Voltage

Voltage Rating [V]	Voltage Test Dielectric
300 V	2.0 kV DC

Temperature Range

Storage Temp Range:	-40°C To +90°C
Operating Temp Range:	-40°C To +90°C
Operating Temp Range (Flexible Install):	-5°C To +90°C

Mechanical Characteristics

Aging:	Pass EN 50290-2-29 and 50264-1
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Standards

IEC Compliance:	ISO/IEC 11801-1
CENELEC Compliance:	EN 45545-2 Hazard Level HL1-HL3
Data Category:	Category 7
Other Specification:	DIN 5510-2, LU 1-085 and ECE R118.02

Applicable Environmental and Other Programs

Environmental Space:	Indoor
EU RoHS Compliance Date (yyyy-mm-dd):	2013-07-25

Suitability

Suitability - Oil Resistance:	Yes
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Flammability, LS0H, Toxicity Testing

IEC Flammability:	IEC 60332-1-2 and IEC 60332-3-25
Other Flammability:	EN 50305 (9.1.1)
IEC 60754-1 - Halogen Amount:	Zero
IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity:	10 μ S/mm
IEC 60754-2 - Halogen Acid Gas Amount - Min. pH:	4.3

Part Number

Variants

Item #	Color	Putup Type	Length	EAN
BE43802.00500	Blue	Reel	500 m	8719605026576
BE43802.01500	Blue	Reel	500 m	8719605026583

History

Update and Revision:	Revision Number: 0.156 Revision Date: 05-11-2021
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