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BELDEN
SENDING ALL THE RIGHT SIGNALS

Part Number: BE43802

RailTuff Cat 7, AWG 24 (19), Premium LSNH



Product Description

Railway approved Cat 7, High Flex, AWG 24 (19), Heavy Shielded, DIN 5510-2 level 1 to 4, EN 50155

Technical Specifications

Product Overview

Environmental Space:	Indoor
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

Physical Characteristics (Overall)

Conductor

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

Conductor Count:	8
Total Number of Pairs:	4
Conductor Size:	24 AWG

Insulation

Material
E-beam X-Linked Foam-skin polyethylene

Bonded-Pair:	No

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
Foil	Laminated aluminium / polyester

InnerShield, Table Note:	Aluminium facing outside

Outer Shield Material

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

Outer Jacket Material

Material	Color	Nominal Diameter	Diameter +/- Tolerance
E-beam X-LSZH / FRNC	Blue	8.1 mm	0.03 mm

Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %

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Cabling

Description
4 pairs twisted together

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

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

Current

Max. Recommended Current [A]
1.5 A

Voltage

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

Temperature Range

Operating Temp Range:	-40°C To +80°C
Operating Temp Range (Flexible Install):	-5°C To +80°C

Mechanical Characteristics

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

Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011
CENELEC Compliance:	EN 45545-2:2013, EN 50173-1 Ed. 3:2011
Data Category:	Category 7
Other Specification:	DIN 5510-2, LU 1-085 and ECE R118

Applicable Environmental and Other Programs

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

Flammability, LS0H, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1-2 and IEC 60332-3-25 cat D
Other Flammability:	EN 50305 (9.1.1)
Amount of Halogen acc. to IEC 60754-1 & EN50267-1:	Zero

Part Number

Variants

Item #	Color
BE43802.00500	Blue
BE43802.01500	Blue

Patent:	https://www.belden.com/resources/patents

History

Revision Number:	8

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