



Product: [BE43769](#)

RailTuff Cat 5e, PROFINET, AWG 22 (19)

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Product Description

RailTuff Railway Approved Cat 5e, PROFINET, AWG 22(19), HiFlex, Premium Cross-linked LSNH Insulation and Jacket, Heavy Shielded, DIN 5510-2 level 1 to 4, EN 50155 Flame Resistance acc EN 45545-2, IEC 60332-1-2, EN 50305 & IEC 60332-3-25 cat D, EN 45545-2 (Class R15 and R16 HL3), Oil Resistance

Technical Specifications

Product Overview

Suitable Applications:	harsh environment, IIoT, factory or process automation, IP cameras and devices, data communication, etc.
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Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material	Construction n x D	No. of Conductors
22	Stranded	TC - Tinned Copper	19x0.15 mm	4

Table Notes:	IEC 60228 class 5
Conductor Count:	4
Total Number of Pairs:	2

Insulation

Material	Nominal Diameter	Diameter +/- Tolerance
PO - Polyolefin	1.63 mm	0.05 mm

Bonded-Pair:	No
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Color Chart

Number	Color
Quad 1	White & Blue & Yellow & Orange

Inner Jacket Material

Material	Nominal Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	4.3 mm

Table Notes:	Bedding
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Outer Shield Material

Type	Material	Thickness of Foil	Min. Coverage [%]
Tape	Bi-Laminate (Alum+Poly)	50 / 23 µm	
Braid	Tinned Copper (TC)		80%

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance	Min. Wall Thickness
LSZH - Low Smoke Zero Halogen (Flame Retardant)	6.7 mm	0.3 mm	0.8 mm

Table Notes:	e-Beamed to Cross-link
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Electrical Characteristics

Conductor DCR

Max. Conductor DCR

57.1 Ohm/km

Impedance

Frequency [MHz]	Nominal Characteristic Impedance	Nominal Characteristic Tolerance
1 - 100	100 Ohm	15 Ohm

Delay

Max. Delay	Nominal Velocity of Propagation (VP) [%]
530 ns/100m	66%

High Freq

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. FEXT
1 MHz	2.1 dB/100m	65.3 dB	64 dB
4 MHz	4.1 dB/100m	56.3 dB	52 dB
10 MHz	6.5 dB/100m	50 dB	43.8 dB
16 MHz	8.3 dB/100m	47 dB	40 dB
31.25 MHz	11.7 dB/100m	42.9 dB	33.9 dB
62.5 MHz	17 dB/100m	38.4 dB	28 dB
100 MHz	22 dB/100m	35.3 dB	24 dB

Table Notes:	IEC 60288-2-2 and ISO/IEC 11801 ed. 2.0, Cat. 5e
General Electrical Parameters Notes:	IEC 60288-2-2 and ISO/IEC 11801 ed. 2.0, Cat. 5e

Transfer Impedance

Frequency [MHz]	Transfer Impedance
10 Mhz	Max. 10 mOhm/m

Voltage

Voltage Rating [V]
300 V

Temperature Range

Installation Temp Range:	-5°C To +50°C
Storage Temp Range:	-40°C To +90°C
Operating Temp Range:	-40°C To +90°C

Mechanical Characteristics

Oil Resistance:	IEC 60811-2-1
Bulk Cable Weight:	68 kg/km
Min Bend Radius (W/o Pulling Strength):	67 mm
Min Setting Radius:	33.5 mm
No Adherence Wire to Wire/Wire to Jacket:	No adherence

Standards

CENELEC Compliance:	EN 45545-2 Hazard Level HL1-HL3
Data Category:	Category 5e
Other Compliance:	EN 50306 par 4.8 + 4.9 + 4.10 (1.5 kV/1min); Toxicity index to NF X70-100 CiTc Max. 0.7; EN45545-2 (Class R14 HL 3)

Applicable Environmental and Other Programs

Environmental Space:	Indoor
EU RoHS Compliance Date (yyyy-mm-dd):	2004-01-01

Flammability, LSOH, Toxicity Testing

IEC Flammability:	IEC 60332-1-2 and IEC 60332-3-25
Fire Resistance (Time to Failure) Compliance:	DIN 5510-2 protection level 1 to 4
Other Flammability:	EN45545-2:2013 HL1 to HL 3 ; EN 50305 9.1.1 ; UN ECE-R118.02
IEC 60754-1 (EN50267-1)- Halogen Amount:	Zero
IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Max. Conductivity:	10 µS/mm
IEC 60754-2 (EN50267-2)- Halogen Acid Gas Amount - Min. pH:	4.3

Part Number

Variants

Item #	Color	Putup Type	Length	EAN
BE43769.00305	Black	Reel	305 m	8719605026507
BE43769.00500	Black	Reel	500 m	8719605026514

History

Update and Revision:	Revision Number: 0.206 Revision Date: 12-18-2020
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