



Product: [NH50107SF](#)

BELDEN CAT7 Ethernet Fire Resistance Rail Cable RoHS

Product Description

BELDEN CAT7 Ethernet IEC 60331-23 EN50200 EN 50289-4-16 Fire Resistance EN 45545-2 TJ-CL313 RAIL Cable RoHS

Technical Specifications

Product Overview

Suitable Applications:	For railway Ethernet Networking, Fire resistance
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Construction Details

Conductor

Size	Material
23 AWG	TC - Tinned Copper

Insulation

Material	Nom. Insulation Diameter	Color Code	Notes
PO - Polyolefin (Foam)	1.4 mm (0.055 in)	Blue, White, Orange, Green, Brown	Fire resistance tape wrapped over insulated cores

Inner Shield

Shield Type	Material
Tapes (Each Pair)	Bi-Laminate (Alum+Poly)

Outer Shield

Shield Type	Material	Coverage
Tape	Polyester + Bi-Laminate (Alum+Poly)	
Braid	Tinned Copper (TC)	80%

Outer Jacket

Material
LSZH - Low Smoke Zero Halogen (Flame Retardant)

Table Notes:	E-beam cross-linked LSZH
Overall Cable Diameter (Nominal):	10.5 mm (0.413 in)

Electrical Characteristics

Electricals

Max. Conductor DCR
71.9 Ω /km

Table Notes:	Nom. fitted Impedance (Ω) 100
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High Frequency

Frequency	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]
4	5.6 dB/100 m	78	75	78	77.1	23
10 MHz	8.8 dB/100 m	78	75	71.1	68.1	25
20 MHz	12.4 dB/100 m	78	75	63.8	60.8	25
25 MHz	13.9 dB/100 m	78	75	61.4	58.4	25

31.25 MHz	15.6 dB/100 m	78	75	58.9	55.9	23.3
62.5 MHz	22.3 dB/100 m	75.5	72.5	50.6	47.6	20.7
100 MHz	28.5 dB/100 m	72.4	69.4	44.5	41.5	19
250 MHz	46.5 dB/100 m	66.4	63.4	30.6	27.6	15.6
300 MHz	51.3 dB/100 m	65.2	62.2	27.4	24.4	15.6
600 MHz	75.1 dB/100 m	60.7	57.7	13.4	10.4	15.6

Voltage

UL Voltage Rating	Breakdown Voltage
300 V	2kV ac/min

Mechanical Characteristics

Temperature

Operating
-40 to + 80

Bulk Cable Weight:	112 kg/km (75.3 lbs/1000ft)
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Standards and Compliance

Flammability / Reaction to Fire:	IEC 60332-1-2, IEC 60332-3-25, IEC 60331-23, BS EN 50200 PH120
ISO/IEC Compliance:	IEC 61034-2 - Smoke Density Min Transmittance = 70%
European Halogen Free Standards:	IEC 60754-1 - Halogen Amount = 0.5%, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 10 , IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3
European Directive Compliance:	EU Directive 2015/863/EU (RoHS 2 amendment), EU Directive 2011/65/EU (RoHS 2)
APAC Compliance:	China RoHS II (GB/T 26572-2011)
Other Standard Compliance(s):	BS EN 50289-4-16, T.J/CL 313

Product Notes

Notes:	IEC 61156-6, UL 758 ; Toxicity of insulation (EN 45545-2 Table 5-R15 and R16-HL3) 6 ; Toxicity of jacket (EN 45545-2 Table 5-R15 and R16-HL3) 6 ; Hazard level (EN 45545-2) HL3
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History

Update and Revision:	Revision Number: 0.4 Revision Date: 04-29-2024
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