



Product: [BA43802](#)

CAT.7 4P x 24AWG Str. TC/FMPE/IS/OBS/Crosslinked e-beam FRNC/LSZH, Railway Data Cable

Product Description

CAT.7, 4 Pair AWG 24 Tinned Copper - Stranded, XLP/XLPO, FMPE insulation, S/FTP - Overall Braid + Foil shielding,Crosslinked e-beam LSZH / FRNC jacket

Technical Specifications

Product Overview

Suitable Applications:	Ethernet Cat 7 Cable for use as a backbone for railway vehicles and enables a reliable link to all connected systems and devices. This 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.
------------------------	--

Construction Details

Conductor

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

Insulation

Material	Nom. Insulation Diameter	Color Code	Notes
PO - Polyolefin (Foam)	1.45 mm (0.0571 in)	1. Blue&White/Blue, 2. Orange&White/Orange, 3. Green&White/Green, 4. Brown&White/Brown	eBeam Cross-Linked

Cable Core

Description
4 pairs twisted together

Inner Shield

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

Outer Shield

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

Outer Jacket

Material
LSZH - Low Smoke Zero Halogen (Flame Retardant, Thermoset)

Overall Cable Diameter (Nominal):	8.1 mm (0.32 in)
-----------------------------------	------------------

Electrical Characteristics

Electricals

Max. Conductor DCR	Max. Mutual Capacitance	Max. Capacitance Unbalance	Nom. Characteristic Impedance
95 Ohm/km (29 Ohm/1000ft)	56 pF/m (17 pF/ft)	160 pF/100m	100 Ohm

Delay

Max. Delay Skew	Nom. Velocity of Prop.
25 ns/100m	76%

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation) [dB/100m]	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Min. TCL [dB]	Min. ELTCTL [dB]
1.0	2.9	80.0	77.0	76.0	73.0	78.0	75.0	20.0	40.0	35.0
4.0	5.6	80.0	77.0	74.3	71.3	78.0	75.0	23.0	34.0	23.0
10.0	8.8	80.0	77.0	72.1	69.1	75.3	72.3	25.0	30.0	15.0
16.0	11.1	80.0	77.0	70.6	67.6	71.2	68.2	25.0	28.0	10.9
31.3	15.6	80.0	77.0	67.6	64.6	65.4	62.4	23.6	25.1	5.1
62.5	22.3	75.5	72.5	60.6	57.6	59.4	56.4	21.5	22.0	
100.0	28.5	72.4	69.4	53.4	50.4	55.3	52.3	20.1	20.0	
300.0	51.3	65.2	62.2	31.1	28.1	45.8	42.8	17.3		
600.0	75.1	60.7	57.7	10.6	7.6	39.7	36.7	17.3		
Transfer Impedance Class: Grade 1										
Table Notes: IEC 61156-6										

Voltage

Voltage Rating
72 V DC

Mechanical Characteristics

Temperature

UL Temperature
-40°C to +90°C

Bend Radius

Stationary Min.	Installation Min.
32 mm (1.3 in)	64 mm (2.5 in)

Bulk Cable Weight:	83 kg/km (56 lbs/1000ft)
--------------------	--------------------------

Standards and Compliance

Environmental Suitability:	Indoor, Outdoor, Oil Resistance
Flammability / Reaction to Fire:	IEC 60332-1-2, IEC 60332-2-25
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: 0.17 Revision Date: 05-26-2025
----------------------	---

© 2025 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.