



**Part Number: 1633ENS**

**Category 5e Nonbonded-Pair ScTP Cable**

## Product Description

Cat. 5e (100MHz), 4-Pair, SF/UTP shielded, Premise Horizontal Cable, 24 AWG solid bare copper conductors, Polyethylene insulation, Beldfoil® shield, AWG 26 solid tinned copper drainwire, tinned copper braid shield (30% coverage), LSZH jacket, RJ-45 compatible

## Technical Specifications

### Product Overview

Environmental Space:	Indoor - Euroclass Dca
Suitable Applications:	Horizontal and building backbone cable; Support current and future Category 5e applications, such as: 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM

### Physical Characteristics (Overall)

#### Conductor

Element	AWG	Stranding	Material	No. of Pairs
Individual pair	24	Solid	BC - Bare Copper	4

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

#### Insulation

Element	Type	Material	Nominal Diameter
Individual pair	Dielectric	Polyethylene	1.05 mm

#### Color Chart

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

#### Outer Shield Material

Type	Layer	Material	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Position	Min. Coverage [%]
Tape	1	Aluminum / Polyester	100 %	Solid tinned copper	26	Over foil	
Braid	2	Tinned copper					30 %

Note: Aluminum facing outside in contact with drain wire

#### Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance
LSZH / FRNC	6.0 mm	0.3 mm

### Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
Min Elongation at Breakof Insulation:	100 %
Min Elongation at Breakof Jacket:	100 %
Min Tensile Strength of Jacket:	9 MPa

### Electrical Characteristics

## Conductor DCR

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

## Capacitance

Max. Capacitance Unbalance	Max. Mutual Capacitance
1,600 pF/m	56 pF/m

## Impedance

Nominal Characteristic Impedance
100 Ohm

## Delay

Max. Delay Skew	Min. Velocity of Propagation
40 ns/100m	60 %

## High Freq

Frequency [MHz]	Max. Insertion Loss (Attenuation)	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 MHz	2.1 dB/100m	65.3 dB	62.3 dB	63.2 dB	60.2 dB	64 dB	61 dB	20 dB	40 dB	35 dB
4 MHz	4 dB/100m	56.3 dB	53.3 dB	52.32 dB	49.3 dB	52 dB	49 dB	23 dB	34 dB	23 dB
10 MHz	6.3 dB/100m	50.3 dB	47.3 dB	44 dB	41 dB	44 dB	41 dB	25 dB	30 dB	15 dB
16 MHz	8 dB/100m	47.2 dB	44.2 dB	39.2 dB	36.2 dB	39.9 dB	36.9 dB	25 dB	28 dB	10.9 dB
20 MHz	9 dB/100m	45.8 dB	42.8 dB	36.8 dB	33.8 dB	38 dB	35 dB	25 dB	27 dB	9 dB
31.25 MHz	11.4 dB/100m	42.9 dB	39.9 dB	31.5 dB	28.5 dB	34.1 dB	31.5 dB	23.6 dB	25.1 dB	5.5 dB
62.5 MHz	16.5 dB/100m	38.4 dB	35.4 dB	21.9 dB	18.9 dB	28.1 dB	25.1 dB	21.5 dB	22 dB	
100 MHz	21.3 dB/100m	35.3 dB	32.3 dB	14 dB	11 dB	24 dB	21 dB	20.1 dB	20 dB	

High Freq Table Note: Limits below 4MHz are for information only.

## Coupling Attenuation

Coupling Attenuation [dB]
Type II V dB

Coupling Attenuation Class: Type II

## Transfer Impedance

Frequency [MHz]	Description	Transfer Impedance
1 Mhz	Grade 2	Max.50 mOhm/m
10 Mhz		Max. 100 mOhm/m
30 Mhz		Max. 200 mOhm/m
100 Mhz		Max. 1000 mOhm/m

## Current

Max. Recommended Current [A]
1.5 A

## Voltage

Voltage Rating [V]
72 V

## Temperature Range

Installation Temp Range:	0°C To +50°C
Operating Temp Range:	-30°C To +60°C

## Mechanical Characteristics

Bulk Cable Weight:	45 kg/km
Max Recommended Pulling Tension:	72 N
Min Bend Radius During Installation:	48 mm
Min Bend Radius During Operation:	24 mm

## Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011
CPR Euroclass:	Dca-s1,d1,a1

GENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 5e
ANSI Compliance:	ANSI/TIA/EIA 568-B.2-1 (2002)

## Flammability, LSOH, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1
Burning Load:	440 kJ/m
Amount of Halogen acc. to IEC 60754-1 & EN50267-1:	Zero

## Part Number

### Variants

Item #	Color
1633ENS.01305	BLUE, RAL 5015
1633ENS.001000	GRAY
1633ENS.00305	GRAY
1633ENS.00500	GRAY
1633ENS.00B100	GRAY
1633ENS.03500	PURPLE

Patent:	<a href="http://www.belden.com/p">http://www.belden.com/p</a>
---------	---

© 2018 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 EU RoHS(Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure 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. This 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.

Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 73/23/EEC), as amended by directive 93/68/EEC.