



**Part Number: 1303E**

**CAT6A S/FTP Cat6a PVC PVC upjacketed**

## Product Description

CAT6A S/FTP Cat6a PVC PVC upjacketed

## Technical Specifications

### Product Overview

Environmental Space:	Indoor/Outdoor
Suitable Applications:	Field deployable CAT6a patch horizontal and building backbone cable; CobraNET, eSnake, Ethersound, Digital audio over Ethernet; Support current and future Category 6A and 6 applications, such as: 10GBase - T (10 Gigabit Ethernet), 1000 Base - T (Gigabit Ethernet), 100 Base - T, 10 Base - T, FDDI, ATM; Compatible connectors Belden R301601 000S1 (T568A) and R301602 000S1 (T568B)

### Physical Characteristics (Overall)

#### Conductor

Element	AWG	Stranding	Material	No. of Pairs
Individual shielded pair	24	7x32	BC - Bare Copper	4

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

#### Insulation

Element	Type	Material	Nominal Diameter
Individual shielded pair	Dielectric	FPE - Foamed Polyethylene	1.4 mm

#### Color Chart

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

#### Inner Shield Material

Element	Type	Material	Coverage [%]
Individual shielded pair	Tape	Aluminum / Polyester	100 %

InnerShield, Table Note:	Aluminum facing outside
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#### Outer Shield Material

Type	Material	Drainwire Material	Drainwire AWG	Min. Coverage [%]
Braid	TC - Tinned Copper	TC - Tinned Copper	26	80 %

#### Outer Jacket Material

Layer	Material	Color	Nominal Diameter	Diameter +/- Tolerance	Diameter - Tolerance	Nominal Wall Thickness	Separator Material
1	Matte rugged PVC	Black (RAL 9005)	7.2 mm	0.3 mm		0.45 mm	
2	Matte rugged PVC	Black (RAL 9005)	8.7 mm		0.3 mm	0.7 mm	Non-woven foil

### 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

Shielding: S/FTP - Overall Braid / Individual Foil

### Impedance

Nominal Characteristic Impedance
100 Ohm

### Delay

Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
25 ns/100m	77 %

### 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. PSANEXT	Min. PSAACRF	Min. TCL [dB]	Min. ELTCTL [dB]
1 MHz	2.5 dB/100m	75.3 dB	72.3 dB	72.8 dB	69.8 dB	68 dB	65 dB	20 dB	67 dB	67 dB	40 dB	35 dB
4 MHz	4.6 dB/100m	66.3 dB	63.3 dB	61.7 dB	58.7 dB	56 dB	53 dB	23 dB	67 dB	66.2 dB	34 dB	23 dB
10 MHz	7.1 dB/100m	60.3 dB	57.3 dB	53.2 dB	50.2 dB	48 dB	45 dB	25 dB	67 dB	58.2 dB	30 dB	15 dB
16 MHz	9 dB/100m	57.2 dB	54.2 dB	48.3 dB	45.3 dB	43.9 dB	40.9 dB	25 dB	67 dB	54.1 dB	28 dB	10.9 dB
31.2 MHz	12.6 dB/100m	52.9 dB	49.9 dB	50.4 dB	47.3 dB	38.1 dB	35.1 dB	23.6 dB	67 dB	48.3 dB	25.1 dB	5.1 dB
62.5 MHz	18 dB/100m	48.4 dB	45.4 dB	30.4 dB	27.4 dB	32.1 dB	9.1 dB	21.5 dB	65.6 dB	42.3 dB	22 dB	
100 MHz	23 dB/100m	45.3 dB	42.3 dB	22.3 dB	19.3 dB	28 dB	25 dB	20.1 dB	62.5 dB	38.2 dB	20 dB	
125 MHz	25.8 dB/100m	43.8 dB	40.8 dB	18 dB	15 dB	26.1 dB	23.1 dB	19.4 dB	61 dB	36.3 dB	19 dB	
200 MHz	33.1 dB/100m	40.8 dB	37.8 dB	7.7 dB	4.7 dB	22 dB	19 dB	18 dB	58 dB	32.2 dB	17 dB	
250 MHz	37.3 dB/100m	39.3 dB	36.3 dB	2 dB	-1 dB	20 dB	17 dB	17.3 dB	56.5 dB	30.2 dB	16 dB	
300 MHz	41.1 dB/100m	38.1 dB	35.1 dB	-3 dB	-6 dB	18.5 dB	15.5 dB	17.3 dB	55.3 dB	28.7 dB		
500 MHz	54.3 dB/100m	34.8 dB	31.8 dB	-19.5 dB	-22.5 dB	14 dB	11 dB	17.3 dB	52 dB	24.2 dB		

### 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:	83 kg/km
Max Recommended Pulling Tension:	75 N
Min Bend Radius During Installation:	64 mm
Min Bend Radius During Operation:	32 mm

## Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011
CENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 6A
ANSI Compliance:	ANSI/TIA/EIA 568-B.2-10 (2008)

## Applicable Environmental and Other Programs

EU RoHS Compliance Date (yyyy-mm-dd):	2014-11-27
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## Flammability, LSOH, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1
Burning Load:	900 kJ/m

## Part Number

### Variants

Item #	Color
1303E 00500	Black
1303E 009999	Black
1303E 003000	Black
1303E 00152	Black
1303E 00305	Black
1303E 0101000	Black
1303E 0101000	Black
1303E 0101640	Black
1303E 0101640	Black
1303E 010500	Black
1303E 010500	Black

Patent:	<a href="https://www.belden.com/resources/patents">https://www.belden.com/resources/patents</a>
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## History

Revision Number:	1
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