

Application

- Horizontal and building backbone cable.
- Support current and future **Category 5 enhanced** applications, such as:
100 Base TX, 100 Base VG AnyLan, 155 ATM and 1000 Base-T (**Gigabit Ethernet**), FDDI.

Key features and Standards

- General standards: **ISO/IEC 11801 2nd edition (2002)**, **EN 50173 2nd edition (2001)**, **ANSI/TIA/EIA 568-b.2 (2002)**

Construction & Dimensions



- Construction: 4 unshielded twisted pairs
- Conductor: Solid bare copper
- Conductor diameter: AWG 24 (0,51 mm)
- Conductor insulation material: Polyolefine
- Diameter over insulation: 0.90 mm
- Jacket material: FRNC
- Outer diameter: 5.0 mm

Pair 1	White-Blue/Blue
Pair 2	White-Orange/Orange
Pair 3	White-Green/Green
Pair 4	White-Brown/Brown

Colour identification according to IEC 60304

Electrical characteristics (at 20 °C)

Nominal mutual capacitance at 1 kHz	50 nF/km
Maximum conductor DCR	93.5 Ohm/km
NVP - Nominal Velocity of Propagation	0.70 c
SKEW – Propagation delay difference (100 MHz)	typical \leq 15 ns/100m
Mean Characteristic Impedance 4-100 MHz ¹⁾	100 \pm 5 Ohm

¹⁾: According to cable requirements of ISO/IEC 11801 category 5E, Sept. 2002.

General and environmental characteristics

Temperature range - operation/storage	-20°C - +60°C
Temperature range – installation	+0°C - +50°C
Minimum bending radius – operation	20 mm
Minimum bending radius – installation	40 mm

Product Datasheet

P/N 46376

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Rev. 4/ 2003-03-12

Belden 1583ENH

Cat 5 enhanced UTP FRNC



Maximum pulling tension	80 N
Flame retardancy	IEC 60332-1
Caloric value	298 kJ/m
Weight (approx.)	28 kg/km
Maximum operating voltage	72 V rms
Maximum continuous current per conductor (25°C)	1.4 A

Electrical characteristics (at 20 °C)

Attenuation

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Max.) ¹⁾	-	4.1	6.5	8.3	9.3	11.7	17.0	22.0	dB/100m
Typical	[1.9]	3.9	6.2	7.9	8.9	11.2	16.0	19.8	dB/100m

NEXT (Near end crosstalk)

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Min.) ¹⁾	-	56.3	50.3	47.3	45.8	42.9	41.4	35.3	dB/100m
Typical	[73]	64	58	55	54	51	47	44	dB/100m

Power sum NEXT

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Min.) ¹⁾	-	53.3	47.3	44.3	42.5	39.9	38.4	32.3	dB/100m
Typical	[71]	62	56	53	52	49	45	42	dB/100m

Power sum ELFEXT

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Min.) ¹⁾	-	49.0	21.0	36.9	35.0	31.1	25.1	21.0	dB/100m
Typical	[71]	59	51	46	43	39	33	28	dB/100m

Power sum ACR

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Min.)	-	49.2	40.8	36.0	33.2	28.2	21.4	10.3	dB/100m
Typical	[69]	58	50	45	43	38	29	22	dB/100m

Return Loss

Frequency	1	4	10	16	20	31.2	62.5	100	MHz
Spec. (Min.) ¹⁾	-	23	25	25	25	23.6	21.5	20.1	dB/100m
Typical	[31]	33	42	41	41	36	34	32	dB/100m

¹⁾: Specification values according to cable requirements of ISO/IEC 11801 category 5 enhanced, Sept. 2002.

Note: Values between brackets are for information only

Ordering information

MARKING

Text on the cable jacket Inkjet printing

**BELDEN 1583ENH UTP CAT5E 4PR AWG24 LSNH ISO/IEC 11801 EN50173 EC
VERIFIED 100 OHM**

Meter marking: Yes

JACKET COLOUR

Colour	RAL code
Grey	RAL 7032
Blue	RAL 5015

PACKAGING (PUT UP)

305m unreel box

305m, 500m and 1000m Crate Reels