

Application

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

Standards

- General standards: **ISO/IEC 11801, EN 50173, TIA/EIA 568-A-5 enhanced**
- Future standards like: **ISO/IEC 11801 2nd edition, EN 50173 2nd edition und prEN 50288-3-1**

Construction & Dimensions

- Construction: Unshielded 4 twisted pairs
- Conductor: solid bare copper
- Conductor diameter: AWG 24 (0,51 mm)
- Conductor insulation material: Polyethylene (PE)
- Diameter over insulation: 0.90 mm ± 0.05 mm
- Jacket material: PVC (Flame retardant)
- Outer diameter: 5.0 mm ± 0.3 mm



Colour code

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

Electrical characteristics (at 20 °C)

Attenuation

Frequency	1	4	10	16	20	31.25	62.5	100	MHz
Spec. (Max.) ¹⁾	4.0	4.0	6.3	8.0	9.0	11.4	16.5	21.3	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	31.25	62.5	100	MHz
Spec. (Min.) ¹⁾	60.0	56.3	50.3	47.3	45.8	42.9	38.4	35.3	dB
Typical	73	64	58	55	54	51	47	44	dB

Power sum NEXT

Frequency	1	4	10	16	20	31.25	62.5	100	MHz
Spec. (Min.) ¹⁾	57.0	53.3	47.3	44.3	42.8	39.9	35.4	32.3	dB/100m
Typical	71	62	56	53	52	49	45	42	dB/100m

Power sum ELFEXT

Frequency	1	4	10	16	20	31.25	62.5	100	MHz
Spec. (Min.) ¹⁾	60.8	48.7	40.8	36.7	34.7	30.9	24.8	20.8	dB/100m
Typical	71	59	51	46	43	39	33	28	dB/100m

ACR

Frequency	1	4	10	16	20	31.25	62.5	100	MHz
Spec. (Min.) ¹⁾	56	52	44	39	37	31	22	14	dB/100m
Typical	71	61	52	48	45	40	31	24	dB/100m

Power sum ACR

Frequency	1	4	10	16	20	31.25	62.5	100	MHz
Spec. (Min.) ¹⁾	53	49	41	36	34	28	19	11	dB/100m
Typical	69	59	50	46	43	38	29	22	dB/100m

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



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 ≤ 15 ns/100m
Impedance 1 - 100 MHz	100 ± 15 Ohm

General and environmental characteristics

Temperature range - operation	-20°C - +60°C
Temperature range - installation	+0°C - +50°C
Minimum bending radius - operation	20 mm
Minimum bending radius - installation	40 mm
Maximum pulling tension	80 N
Flame retardancy	IEC 332-1
Energy of flame	300 kJ/m
Weight (approx.)	28 kg/km
Maximum operating voltage	48 V rms
Maximum continuous current per conductor (25°C)	1.4 A

Ordering information

MARKING

Text on the cable jacket Inkjet printing

**BELDEN 1583E UTP CAT5E 4PR AWG24 ISO/IEC 11801 EN 50173 EC VERIFIED
100 OHM**

Meter marking: Yes

JACKET COLOUR

Colour	RAL code	Belden colour code
Grey	RAL 7032	2830
Blue	RAL 5015	2873

PACKAGING (PUT UP)

Belden code	Delivery length	Weight	Remark
46077 xxxx 172	100 m	2,8 kg	Carton box
46077 xxxx 178	305 m	8,5 kg	Unreel box
46077 xxxx 028	305 m	8,5 kg	Non returnable reel
46077 xxxx 011	500 m	14,0 kg	Non returnable reel
46077 xxxx 240	1000 m	28,0 kg	Non returnable reel

xxxx: Belden colour code