

<i>Parameter</i>	<i>Specification</i>	<i>Unit</i>
General		
Edition	1	
Date	2010-12-16	
Standards	ISO/IEC 11801 2 nd edition (September 2002) EN 50173 – 1 (November 2002) TIA/EIA-568-B.2 (May 2001)	
Cable construction		
Conductor		
Material	Solid bare copper ETP	
Diameter	AWG 24	
Insulation		
Material	Polyethylene	
Diameter over insulated conductor	0.90 ± 0.05	mm
Pair		
Pair	2 twisted insulated conductors	
Number of pairs	4, all twisted together	
Colour code pair 1	White / Blue & Blue	
Colour code pair 2	White / Orange & Orange	
Colour code pair 3	White / Green & Green	
Colour code pair 4	White / Brown & Brown	
Foil		
	PET foil	
Sheath		
Material	PE	
Nom. Wall	0.57	mm
Diameter	5.0 ± 0.3	mm
Colour	Black	
Text	BELDEN 1583EPE U/UTP CAT5E 4PR AWG24 PE ISO/IEC 11801 EN50173 VERIFIED 100 OHM	
Length indication	in meter	

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Electrical characteristics		
Low frequency and D.C.		
D.C. resistance conductor	< 93.8	Ω/km
D.C. loop resistance	< 19.0	Ω/100m
Resistance unbalance	< 2	%
D.C. insulation resistance	> 5000	MΩ.km
Dielectric strength cond. – cond. (2 sec.)	2.5	kV D.C.
Mutual capacitance	< 56	nF/km
Capacitance unbalance	< 1600	pF/km
High frequency		
Velocity of propagation		
@ 4 – 100 MHz	≥ 0.6	c
Skew		
@ 1 – 100 MHz	≤ 40	ns/100m
Propagation delay		
@ 1 – 100 MHz	≤ 534 + 36/Vf	ns/100m
Longitudinal attenuation		
@ 1 – 4 MHz	≤ 1.967*Vf+0.023*f+0.05/Vf	dB
@ 4 – 100 MHz	≤ 1.9108*Vf+0.0222*f+0.2/Vf	dB
Transverse conversion loss (TCL)		
@ 1 – 100 MHz	≥ 40-10log(f)	dB
Equal level transverse conversion loss (ELTCL)		
@ 1 – 30 MHz	> 35 – 20 log (f)	dB
Near end cross talk (NEXT)		
@ 0.772 – 100 MHz	≥ 65.3-15xlog(f)	dB
Power sum near end cross talk (PSNEXT)		
@ 0.772 – 100 MHz	≥ 62.3-15xlog(f)	dB
Equal level far end cross talk (ELFEXT)		
@ 1 – 100 MHz	≥ 64.0-20xlog(f)	dB
Power sum equal level far end cross talk (PSELFEXT)		
@ 1 – 100 MHz	≥ 61.0-20xlog(f)	dB
Attenuation cross talk ratio (ACR)		
@ 1 – 4 MHz	≥ 65.3-15xlog(f)-(1.967*Vf+0.023*f+0.05/Vf)	dB
@ 4 – 100 MHz	≥ 65.3-15xlog(f)-(1.9108*Vf+0.0222*f+0.2/Vf)	dB
Power sum attenuation cross talk ratio (PSACR)		
@ 1 – 4 MHz	≥ 62.3-15xlog(f)-(1.967*Vf+0.023*f+0.05/Vf)	dB

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Input impedance open/short (Zo/s) @ 4 – 100 MHz	$\geq 62.3-15 \times \log(f) - (1.9108 \times \sqrt{f} + 0.0222 \times f + 0.2/\sqrt{f})$	dB
Mean characteristic impedance (Zcm) @ 4-100 MHz	100 ± 15	Ω
Return Loss (RL) @ 100 MHz	100 ± 5	Ω
@ $1 \leq f \leq 10$ MHz	$\geq 20 + 5 \log(f)$	dB
@ $10 \leq f \leq 20$ MHz	≥ 25	dB
@ $20 \leq f \leq 100$ MHz	$\geq 25 - 7 \log(f/20)$	dB
Coupling attenuation Type II @ 30 – 100 MHz	> 55	dB
Mechanical characteristics		
Elongation at break conductor	≥ 9	%
Elongation at break insulation	≥ 100	%
Elongation at break sheath	≥ 100	%
Tensile strength sheath	≥ 9	Mpa
Environmental and overall characteristics		
Total cable weight	28	kg/km
Maximum operating voltage	72	V A.C.
Maximum continuous current per conductor (@25°C)	1.5	A
Maximum pulling tension	80	N
Minimum bending radius	40	mm
Temperature range during installation	0 / +50	°C
Temperature range during operation	-30 / +60	°C