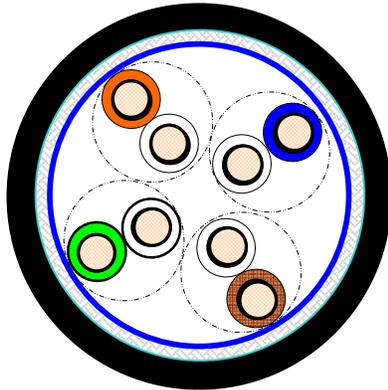


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STANDARDS

- ISO/IEC 11801 2nd edition (September 2002) and ISO/IEC 24702
- 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	Polypropylene
Diameter over insulated conductor	1.1 ± 0.05 mm

Pair

Pair	2 twisted insulated conductors, non bonded
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

Insulating foil

Material	Polyester
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Shielding foil

Material	Laminated Aluminium / Polyester
Position aluminium	Outside

Braid

Material	Solid tinned copper
Coverage	Minimum 80%

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Sheath:

Material	FRNC
Diameter	7.0 +/- 0.3 mm
Wall thickness	0.8 mm
Colour	Black

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		
@ 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)		
@ 1 – 100 MHz	≥ 65.3-15xlog(f)	dB
Power sum near end cross talk (PSNEXT)		
@ 1 – 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)		
@ 4 – 100 MHz	≥ 65.3-15xlog(f)-(1.9108*Vf+0.0222*f+0.2/Vf)	dB

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Power sum attenuation cross talk ratio (PSACR)

@ 4 – 100 MHz	$\geq 62.3 - 15 \times \log(f) - (1.9108 \times V_f + 0.0222 \times f + 0.2/V_f)$	dB
Input impedance open/short (Zo/s)		
@ 4-100 MHz	100 ± 15	Ω
Mean characteristic impedance (Zcm)		
@ 100 MHz	100 ± 5	Ω
Return Loss (RL)		
@ $4 \leq f \leq 10$ 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

MECHANICAL CHARACTERISTICS

Elongation at break conductor	$\geq 10 \%$
Elongation at break insulation	$\geq 100 \%$
Elongation at break sheath	$\geq 100 \%$
Tensile strength sheath	≥ 15 Mpa

ENVIRONMENTAL AND OVERALL CHARACTERISTICS

Maximum operating voltage	450 V D.C. and 300 V A.C.
Maximum continuous current per conductor (@25°C)	1.4 A rms
Halogen free acc to	IEC 60754-2
Oil resistant acc	IEC 60811-2-1
Maximum pulling tension	80 N
Minimum setting/bending radius	35/70 mm
Temperature range during installation	0 / +50 °C
Temperature range during operation	-20 / +80 °C
Flame propagation	IEC 60332-1



Belden CDT believes this product to be in compliance with the environmental regulations EU RoHS (Directive 2002/95/EC, 27 January 2003); this is valid for all material produced after the RoHS compliant date for this product.