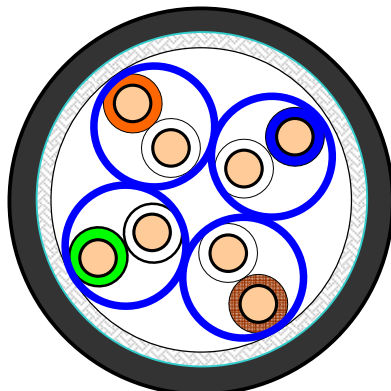


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STANDARDS

- ISO/IEC 11801 and ISO/IEC 24702
- EN 50173 – 1
- TIA/EIA-568-B.2 (May 2001)

CABLE CONSTRUCTION



Conductor

Material	Solid bare copper
Diameter	AWG 23

Insulation

Material	Foam-Polyethylene
Diameter over insulated conductor	1.45 ± 0.05 mm

Pair

Pair	2 twisted insulated conductors with overall foil
Number of pairs	4, all twisted together
Colour code pair 1	White & Blue
Colour code pair 2	White & Orange
Colour code pair 3	White & Green
Colour code pair 4	White & Brown

Shielding foil over element

Material	Laminated Aluminium / Polyester
Position aluminium	Outside

Braid

Material	Solid tinned copper
Coverage	≥ 65 %

Sheath

Material	PUR halogen free and flame retardant
Diameter	8.0 ± 0.3 mm

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Electrical characteristics

Low frequency and D.C.

D.C. resistance conductor	< 75	Ω/km
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 – 600 MHz	≥ 0.6	c
Skew		
@ 1 – 600 MHz	≤ 40	ns/100m
Propagation delay		
@ 1 – 600 MHz	≤ 534 + 36/Vf	ns/100m
Longitudinal attenuation		
@ 4 – 1000 MHz	≤ 1.8*Vf+0.01*f+0.2/Vf	dB/100m
Near end cross talk (NEXT)		
@ 1 – 31.25 MHz	≥ 80	dB
@ 31.25 – 1000 MHz	≥ 102.4 – 15 log(f)	dB
Power sum near end cross talk (PSNEXT)		
@ 1 – 31.25 MHz	≥ 77	dB
@ 31.25 – 1000 MHz	≥ 99.4 – 15 log(f)	dB
Equal level far end cross talk (ELFEXT)		
@ 1 – 5 MHz	≥ 80	dB
@ 5 – 1000 MHz	≥ 94.0 – 20 log(f)	dB
Power sum equal level far end cross talk (PSELFEXT)		
@ 1 – 5 MHz	≥ 77	dB
@ 5 – 1000 MHz	≥ 91.0 – 20 log(f)	dB
Attenuation cross talk ratio (ACR)		
@ 4 – 31.25 MHz	≥ 80 - (1.85*Vf+0.01*f+0.2/Vf)	dB
@ 31.25 – 1000 MHz	≥ (102.4 – 15 log(f)) - (1.8*Vf+0.01*f+0.2/Vf)	dB
Power sum attenuation cross talk ratio (PSACR)		
@ 4 – 31.25 MHz	≥ 77 - (1.8*Vf+0.01*f+0.2/Vf)	dB
@ 31.25 – 1000 MHz	≥ (99.4 – 15 log(f)) - (1.8*Vf+0.01*f+0.2/Vf)	dB
Input impedance open/short (Zo/s)		
@ 4-100 MHz	100 ± 15	Ω
@ 100 – 250 MHz	100 ± 22	Ω
@ 250 – 600 MHz	100 ± 25	Ω

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Mean characteristic impedance (Z_{cm})

@ 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

@ $20 \leq f \leq 250$ MHz $\geq 25 - 7 \log(f/20)$ dB

@ $250 \leq f \leq 600$ MHz ≥ 17.3 dB

@ $600 \leq f \leq 1000$ MHz $\geq 25 - 7 \log(f/20)$ dB

Coupling attenuation Type II

@ 30 – 100 MHz > 80 dB

@ 100 – 1000 MHz $> 80 - 20 \log(f/100)$ dB

Transfer Impedance (Z_T)

@ 1 MHz < 5 m Ω /m

@ 10 MHz < 5 m Ω /m

@ 30 MHz < 30 m Ω /m

@ 100 MHz < 100 m Ω /m

MECHANICAL CHARACTERISTICS

Elongation at break conductor ≥ 10 %

Elongation at break insulation ≥ 100 %

Elongation at break sheath ≥ 100 %

Tensile strength sheath ≥ 9 Mpa

ENVIRONMENTAL AND OVERALL CHARACTERISTICS

Maximum operating voltage 30 V A.C.

Maximum continuous current per conductor (@25°C) 1.4 A rms

Halogen free acc to IEC 60754-2

Smoke density IEC 61034

Oil resistant acc IEC 60811-2-1

Maximum pulling tension 80 N

Minimum bending / setting radius 80 / 40 mm

Temperature range during installation 0 / +50 °C

Temperature range during operation -20 / +70 °C

Flame propagation According FT-2



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.