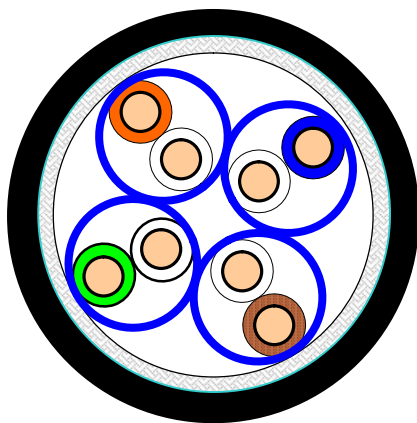


TECHNICAL DATASHEET	code	74004E
	version	1
	date	2009-05-20
4 PR CAT7 S/FTP solid 23AWG PVC	page	1/3

## STANDARDS

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

## CABLE CONSTRUCTION



### **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	PVC oil and UV resistant
Colour	Black
Diameter	8.0 ± 0.3 mm

<b>TECHNICAL DATASHEET</b>	code	<b>74004E</b>
	version	<b>1</b>
	date	<b>2009-05-20</b>
<b>4 PR CAT7 S/FTP solid 23AWG PVC</b>	page	<b>2/3</b>

## 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

### Mean characteristic impedance (Zcm)

@ 100 MHz	100 ± 5	Ω
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<b>TECHNICAL DATASHEET</b>	code	<b>74004E</b>
	version	<b>1</b>
	date	<b>2009-05-20</b>
<b>4 PR CAT7 S/FTP solid 23AWG PVC</b>	page	<b>3/3</b>

#### Return Loss (RL)

@ $4 \leq f \leq 10$ MHz	$\geq 20 + 5 \log(f)$	dB
@ $10 \leq f \leq 20$ MHz	$\geq 25$	dB
@ $20 \leq f \leq 250$ MHz	$\geq 25 - 7 \log(f/20)$	dB
@ $250 \leq f \leq 600$ MHz	$\geq 17.3$	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	$< 5$	mΩ/m
@ 10 MHz	$< 5$	mΩ/m
@ 30 MHz	$< 30$	mΩ/m
@ 100 MHz	$< 100$	mΩ/m

### MECHANICAL CHARACTERISTICS

Elongation at break conductor	$\geq 10 \%$
Elongation at break insulation	$\geq 100 \%$
Elongation at break sheath	$\geq 100 \%$
Tensile strength sheath	$\geq 12$ Mpa

### ENVIRONMENTAL AND OVERALL CHARACTERISTICS

Maximum operating voltage	30 V A.C.
Maximum continuous current per conductor (@25°C)	1.4 A rms
Oil resistant acc	IEC 60811-2-1
Maximum pulling tension	80 N
Minimum bending / setting radius	80 / 40 mm
Temperature range during installation	-5 / +50 °C
Temperature range during operation	-40 / +70 °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.