COMMUNICATION CABLE - FOUR PAIR 24AWG S/FTP CAT7 LSZH - EM104 RADIATION CROSS-LINKED

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PRODUCT DETAILS

DESCRIPTION

Application: 100Base-T4, 100Base-TX, 100VG-AnyLAN, 1000Base-TX, 10 Gb Ethernet IEEE 802.3bt Types 1,2,3,4

Rated temperature: 75°C

Reference Standard: 61156-6,ISO/IEC 11801

Flammability Rating: IEC 60332-3-25 & IEC 60332-1-2 EN 45545-2, EN 50264

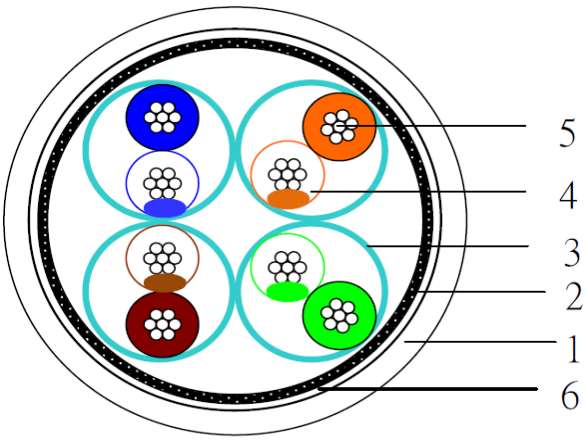
Stranded Tinned Copper Conductor

Colour-coded PE Insulation

XL-LSZH Jacket

Packaging: Per customer request

CROSS SECTION



1	Outer Sheath
2	Tape
3	Braid
4	AL/Polyester Foil (Each Pair)
5	Insulation (Colours as shown)
6	Conductor

PHYSICAL CHARACTERISTICS

Structure	Construction	S/FTP
	Number of Pairs	4 Pairs
Conductor	AWG	24 AWG
	Conductor material	Stranded Tinned Copper
	Conductor dimension(mm)	(7/0.20) ± 0.02mm
Insulation	Insulation material	Foam PE
	Insulation dimension(mm)	1.32 ± 0.05 mm
	Nom. Thickness (mm)	0.36 mm
Cabling	Twisting lay length	≤ 30 mm
	Cabling lay length	≤ 200 mm
Filler	Material	N/A
Binder	Material	N/A
Shield	Individual shield & material	AL-Foil
	Primary overall shield & material	Tinned Copper Wire
	Shield nom. Coverage	35% Nom.
	Tape	Yes
Outer Jacket	Outer jacket material	XL-LSZH
	Outer jacket Thickness (mm)	0.80 mm
	Overall Nom Dimension (mm)	8.4 ± 0.30 mm
	Outer Jacket Rip cord	N/A
	Outer jacket Colour	Per Customer Request

MECHANICAL CHARACTERISTICS

Outer Jacket	Operating Temp Range	-40°C to +80°C
	Bulk Cable weight	
	Max. recommended pulling tension	80 N
	Min. bend radius (Install)	8 x O.D.
	Tensile strength	≧ 10 Mpa
	Elongation	≧ 125%
	Ageing condition	120°C x 240hrs
	After ageing, Tensile strength	≤ ± 30% of Unaging
	After ageing, Elongation	≤ ± 30% of Unaging

ELECTRICAL CHARACTERISTICS

Finished Cable	Nom. mutual capacitance	≦ 5.6 nF/100m (@1kHz)
	Pair to ground capacitance unbalan	≦ 120 pF/100m
	Nominal velocity of propagation	65%
	Max. delay skew	25 ns/100m
	Max. conductor DC resistance	93.8 Ω/km (@ 20 ℃)
	Max. Conductor resistance unbalance	2%
	Min. insulation resistance	5000 MΩ·km
	Max. operating voltage - UL	300 V

JACKET MARK

"TE CONNECTIVITY - TECC0011C7-XL - 4PR 24AWG S/FTP CAT 7 CABLE EM104 - YEAR OF MANUFACTURE - BATCH NUMBER - METRE MARK"

Tyco Electronics UK Ltd.
Faraday Road
Dorcan
SWINDON
SN3 5HH
Tel: +44 (0)1793 528171
Fax: +44 (0)1793 572516

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ELECTRICAL CHARACTERISTICS CONTINUED

Frequency	Impedance Upper Limit	Impedance LowerLimit	ATT	RL	NEXT	PS NEXT	FEXT	PD	TCL	ELTCTL
(MHz)	Zu (Ω)	Zl (Ω)	(Db/100m)	(dB Min)	(dB Min)	(dB Min)	(dB Min)	(ns/100m Max)	(dB Min)	(dB Min)
1	-	-	3.0	20.0	78.0	75.0	70.0	570.0	40.0	35.0
4	115.2	86.8	5.6	23.0	78.0	75.0	70.0	552.0	34.0	23.0
8	112.6	88.8	7.9	24.5	78.0	75.0	70.0	546.7	31.0	16.9
10	111.9	89.4	8.8	25.0	78.0	75.0	70.0	545.4	30.0	15.0
16	111.9	89.4	11.1	25.0	78.0	75.0	70.0	543.0	28.0	10.9
20	111.9	89.4	12.4	25.0	78.0	75.0	70.0	542.0	27.0	9.0
25	113.2	88.3	13.9	24.2	78.0	75.0	70.0	541.2	26.0	7.0
31.25	114.6	87.2	15.6	23.3	78.0	75.0	70.0	540.4	25.1	5.5 @30MHz
62.5	120.2	83.2	22.3	20.7	75.5	72.5	70.0	538.6	22.0	
100	125.3	79.8	28.5	19.0	72.4	69.4	70.0	537.6	20.0	
200	135.7	73.7	41.2	16.4	67.9	64.9	70.0	536.5	17.0	
250	140.0	71.4	46.5	15.6	66.4	63.4	70.0	536.3	16.0	
300	139.8	71.5	51.3	15.6	65.2	62.2	70.0	536.1		
600	139.8	71.5	75.1	15.6	60.7	57.7	70.0	535.5		

Note:1. Cable that meet the requirements of the template are not required to be measured for return loss; alternately cables that meet the return loss requirements are not required to be measured for characteristic impedance.

2.If FEXT loss is greater than 70dB, ACR-F loss may not be measured.

3 Cable measurement precautions Mutual capacitance, capacitance unbalance, characteristic impedance, return loss, insertion loss, SRL, NEXT loss, ACRF, TCL, and TCTL measurements and calculations shall be performed on cable samples of 100 m (328 ft) removed from the reel or packaging. The test sample shall be laid out along a non-conducting surface, loosely coiled, or supported in aerial spans, and all pairs shall be terminated according to the specific requirements of this annex. Other test configurations are acceptable if correlation to the reference method has been verified. In case of conflict, the reference method (100 m, off-reel, resistor terminated) shall be used to determine conformance to the minimum requirements of this Standard.
*Test temperature is 20 ℃

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MECHANICAL CHARACTERISTICS

Mechanical performance Requirements for the tests for outer jacket.

Test	Type of compound		test method
Hot set test	（200±3）℃/15Min/20N/cm^2	elongation under load≤100%	EN 60811-2-1 9
		elongation after unloading≤25%	
Ozone resistance			
Method A	(0.025-0.03%)(25±2)℃/24h	No Crack	EN50305 7.4.2
Method B	(0.00015-0.00025%)(40±-2)℃/72h	No Crack	
Mineral oil resistance	IRM902/(100±2)℃/72h	Tensile strength Variation ≤±30%.	EN 60811-2-1 10
		Elongation at break Variation ≤±40%.	
Fuel resistance	IRM903/(70±2)℃/168h	Tensile strength Variation ≤±30%.	
		Elongation at break Variation ≤±40%.	
Acid resistance	N oxalic acid solution/(23±2)℃/168h	Tensile strength Variation ≤±30%.	
		Elongation at break Variation ≥100%.	
alkaline resistance	N-sodium-hydroxide solution/(23±2)℃/168h	Tensile strength Variation ≤±30%.	
		Elongation at break Variation ≥100%.	
Hot pressure	(125±2)℃/4h,	tear strength≤50%	EN 60811--1-3 9.2
Cold bend	-（40±2）℃,8D	No Crack	EN 60811-1-4 8.1
Impact test	-（25±2）℃	No Crack	EN 50305 5.1
Assessment of halogens	HCl and HBr	≤0.5%	EN50267-2-1
	HF	≤0.1%	EN 60684-2
	pH	≥4.3	EN50267-2-2
	Conductivity	≤10μS/mm	
Reaction to fire	Single vertical flame	IEC 60332-1-2	IEC 60332-1
	Bunched cable flame	IEC 60332-3-25	IEC 60332-3-25
	Smoke emission	>=70%	EN 61034-2
	Toxicity index	ITC <=3	EN 50305 9.2
Water absorption	70±2℃x168hrs	Weight increase <=15mg/cm^2	EN 60811-1-3

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