

# 2 Hour Fire-Rated 4 Pair Communication Cable

RP660100M4, RP660300M4





## DESCRIPTION

- CI 2 Hour Fire-Rated Shielded Communication Cable
- IE SF/UTP 4x2xAWG22/1 Cable with Circuit Integrity Behavior
- Rated for both horizontal and vertical runs

## APPLICATIONS

- Campus Wiring, Riser Applications, Horizontal Backbone Wiring, Building Control Systems, Intelligent Fire Alarm
- Systems. Circuit integrity structured wiring alarm cable compatible with all known connection systems to EN 50173.
- IEEE 802.3: 10Base-T; (100Base-T <75m), IEEE 802.5 16 MB; ISDN; TPDDI; ATM RS485 (10Mbits)

### Code Compliance:

- Approved by LU (London Underground) – Independently tested by BRE Global
- Fire resistant BS5839-1 (clause 26.2e); BS8434-2; BSEN 50200
- Flame retardant BS4066 part 3; Smoke emission BSEN 20568
- LUL-Flammability, smoke and fume 2-01001-002
- LU STANDARD e4156 part 1 – Approval ref TLL-ENG-MATTS-0076 (dated 21/06/2007)
- Generally to ISO/IEC 11801: 95, EN 50173:95; EN 50288-11, 2, 3, 4, 5)
- Generally categorized between Cat 3 and Cat 5 (see notes)
- Passes – ISO/IEC 11801 class D (95); TIA Cat 5 Ch (TSB67); ISO/IEC 11801 Class C

### Construction:

<b>Conductor:</b>	Bare copper wire, $\varnothing$ 0.65 mm (AWG 22) 0.332mm <sup>2</sup>
<b>Insulation:</b>	PE/Silicone Rubber <sup>1</sup> , $\varnothing$ PE 1.0mm and Silicone Rubber 1.7 mm
<b>Twisting:</b>	2 cores to the pair
<b>Cable Lay Up:</b>	4 pairs to the core
<b>Fire Protection Wrapping:</b>	Glass tape
<b>Screen:</b>	Aluminum Tape + Tinned Copper Braid + Drain Wire
<b>Sheath:</b>	Halogen free, flame retardant thermoplastic sheathing compound acc. to EN 50290-2-27, $\varnothing$ OD - 10.5 mm
<b>Color:</b>	Red RAL 3000

### Mechanical Properties:

<b>Bending Radius</b>	Without load: $\geq$ 32.5 mm With load: $\geq$ 65 mm
<b>Temperature Range</b>	During operation: -20°C to + 60°C During installation: 0°C to + 50°C

Part #'s	Length	# of pairs	AWG	Outer Diameter	Weight
RP660100M4	100m (328')	4	22	0.413"	39 lbs.
RP660300M4	300M (984')	4	22	0.413"	105 lbs.

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## FIRE / FLAME RESISTANCE

<b>Low Smoke:</b>	BSEN 20568, IEC 61034-2, BSEN 20568
<b>Halogen Free:</b>	IEC 60754-1&2
<b>Flame Retardant:</b>	IEC 60332-1, IEC 60332-3-24, BS4066 part 3, UL 1581 VW 1
<b>Circuit Integrity:</b>	BS5839-1 2002 (clause 26.2e); BS8434-2; BSEN 50200, IEC60331

BS5839 enhanced 3 in 1 test PASSED  
 Continued data operation @ 1,742° F > 2 hours  
 BS6387 CWZ PASSED  
 BS EN 50200 (IEC60331) >3 hours

## ELECTRICAL PROPERTIES

at 20°C± 5°C

<b>Loop Resistance</b>		≤ 110 Ω/km
<b>Resistance Unbalance</b>		≤ 2%
<b>Insulation Resistance</b>	(500 V) 1 minute	≥ 2000 M Ω *km
<b>Mutual Capacitance</b>	At 800 Hz	Nom. nF/km
<b>Capacitance Unbalance</b>	(Pair/Ground)	≥ 1600 pF/km
<b>Characteristic Impedance</b>	(At 10) MHz	(100 ± 15) Ω
<b>Nominal Velocity of Propagation</b>		ca. 57%
<b>Test Voltage</b>	(DC, 1 min) core/core and core/screen	1000 V
<b>Transfer Impedance</b>	At 10 MHz	5 m Ω/m

## CONDUIT FILL

Raceway/ Conduit Size	Max # of 22 AWG LU 4-Pair
1/2"	1
3/4"	1
1"	2
1-1/4"	2
1-1/2"	3
2"	4

### Notes:

- Silicone rubber insulation especially for circuit integrity cables
- Structured cabling Characteristic Impedance is normally within (100 ± 5) Ω , due to the insulation system this is not achievable all the time
- Structured cabling systems minimum for c=65%, due to the insulation (PE + Sil Rbr) system this is not achieved, that is nvp 0,57
- Cat 5 (95) specification: not the Cat5e of today i.e. gigabit ethernet LUL-Flammability, smoke and fume 2-01001-002
- When used in a 100m Channel, 90m + 10m patch cords, the Class D (95) is fit for some purposes: it is advisable to approve a 100m sample and perform a trial on the system before installation