



X 25 Year System Warranty

X Internal External Grade

X Sequentially Metre Marked

X Bend insensitive core construction

X CPR compliant to Cca

Features

- 25 Year System Warranty
- Sequentially Metre Marked
- LSOH Black Sheath
- Duct Grade
- Bend insensitive core construction
- Internal External Grade
- 50/125 Multimode Fibre
- 6000/500 MHz.km Bandwidth
- Cut to length service
- CPR compliant to Cca

Product Overview

Excel OM4 multimode tight buffered optical fibre cables have been designed specifically for internal and external applications. The OM4 multimode optical fibre cable will support 10 Gigabit Ethernet up to channels of 550m in length. These bend insensitive, compact, lightweight cables are extremely flexible and quick and easy to install. The cables are constructed with a swellable reinforced yarn strength member containing up to 24 colour coded 900µm tight buffered 50/125µm fibres, covered with a flame retardant, low smoke zero halogen, outer sheath. The print legend on the cable now also includes information regarding the DOP Number, Test and classification of the cable for traceability.



Cores Colours

1. Blue	2. Orange	3. Green	4. Brown
5. Grey	6. White	7. Red	8. Black
9. Yellow	10. Violet	11. Rose	12. Aqua
13. Blue with mark every 70 mm	14. Orange with mark every 70 mm	15. Green with mark every 70 mm	16. Brown with mark every 70 mm
17. Grey with mark every 70 mm	18. White with mark every 70 mm	19. Red with mark every 70 mm	20. Black with mark every 70 mm
21. Yellow with mark every 70 mm	22. Violet with mark every 70 mm	23. Rose with mark every 70 mm	24. Aqua with mark every 70 mm

Physical Properties

Property	Test method	Value	
Permanent tensile strength	IEC 60794-1-2 E11	4, 6, 8 & 12 cores	500 N
		16 cores	1000 N
		24 cores	1500 N
Short term tensile strength	IEC 60794-1-2 E11	4, 6, 8 & 12 cores	1000 N
		16 cores	1400 N
		24 cores	1600 N
Maximum installation load		4, 6, 8 & 12 cores	1500 N
		16 cores	2100 N
		24 cores	2400 N
Impact	IEC 60794-1-2 E4	20 J	
Crush (compressive strength)	IEC 60794-1-2 E3	3000 N / 100 mm	
Torsion	IEC 60794-1-2 E7	5 cycles ± 1 turn	
Temperature range	IEC 60794-1-2 F1	Operation & installation	-20°C to +70°C
		Storage	-40°C to +70°C

Property	4 Core	6 Core	8 Core	12 Core	16 Core	24 Core
Nominal diameter	6.5 mm	6.6 mm	7.0 mm	7.0 mm	8.0 mm	8.5 mm
Nominal cable weight	34 kg/km	36 kg/km	39 kg/km	43 kg/km	52 kg/km	63 kg/km
Minimum bend radius			20 times OD			
	During Installation					
	When Installed		10 times OD			

Property	
Fibre	Tight buffered fibres 900 µm ± 50 µm
Strength member	E-Glass rovings
Jacket	1.1 mm black, Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised
Standard of flame retardancy	IEC 60332-1-[1,2] (2004-07), IEC 60754-(1,2)
CPR Euroclass	EN 50575:2014 +A1:2016 Cca s1b,d1,a1

Performance Properties

Cable attenuation	IEC 60793-1-40
Maximum attenuation value of cable at 850 nm	≤ 3.0 dB/km
Maximum attenuation value of cable at 1300 nm	≤ 1.0 dB/km
Attenuation limit according to IEC 60793-2-10 at 850 nm	≤ 2.5 dB/km
Attenuation limit according to IEC 60793-2-10 at 1300 nm	≤ 0.8 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.1 dB/km
Fibre bending loss R=7.5 mm 850/1300 nm	≤ 0.2 dB / ≤ 0.5 dB
Fibre bending loss R=15 mm 850/1300 nm	≤ 0.1 dB / ≤ 0.3 dB

Bandwidth	IEC 60793-1-41
Overfilled (OFL) modal bandwidth at 850 nm	≥ 3500 MHz.km
Overfilled (OFL) modal bandwidth at 1300 nm	≥ 500 MHz.km
Effective Modal Bandwidth (EMB) at 850 nm (assured by means of differential mode delay (DMD) measurement as specified in IEC 60793-1-49)	≥ 4700 MHz.km

Standards and Norms		
IEC 60793-2-10: type A1a.3 (in development)	EN 50173-1 category OM4	IEEE 802.3
EN 60793-2-10: type A1a.3 (in development)	ISO / IEC 11801 category OM4	TIA / EIA-492 AAAD ANSI/TIA/EIA 598

Property	Standard	Value
Core diameter	IEC / EN 60793-1-20	50.0 ± 2.0 µm
Core non-circularity	IEC / EN 60793-1-20	≤ 5 %
Cladding diameter	IEC / EN 60793-1-20	125.0 ± 1.0 µm
Cladding non-circularity	IEC / EN 60793-1-20	≤ 0.7 %
Core - cladding concentricity error	IEC / EN 60793-1-20	≤ 1.5 µm
Primary coating diameter - uncoloured	IEC / EN 60793-1-21	242 ± 5 µm
Primary coating diameter - coloured	IEC / EN 60793-1-21	250 ± 15 µm
Primary coating non-circularity	IEC / EN 60793-1-21	≤ 5 %
Primary coating - cladding concentricity error	IEC / EN 60793-1-21	≤ 6 µm
Group index of refraction:	IEC / EN 60793-1-22	
at 850 nm		1.482
at 1300 nm		1.477
Proof stress level	IEC / EN 60793-1-30	≥ 0.7 (≈ 1 % strain) Gpa
Typical average stripforce	IEC / EN 60793-1-32	1.7 N
Strip force (peak)	IEC / EN 60793-1-32	1.3 ≤ F _{peak.strip} ≤ 8.9 N
Numerical aperture	IEC / EN 60793-1-43	0.200 ± 0.015

Typical Applications

- 100BASE-FX
- 100GBASE-SR10
- 1062 Mbps Fibre Channel
- 1000BASE-SX
- 155 Mbps ATM
- FDDI
- 10GBASE-SR/SW
- 622 Mbps ATM
- 40GBASE-SR4
- 531 Mbps Fibre Channel

Part Numbers

Part No.	Description
204-104	Internal/External Grade Tight Buffered Fibre Cable 4 Core 50/125 OM4
204-106	Internal/External Grade Tight Buffered Fibre Cable 6 Core 50/125 OM4
204-108	Internal/External Grade Tight Buffered Fibre Cable 8 Core 50/125 OM4
204-112	Internal/External Grade Tight Buffered Fibre Cable 12 Core 50/125 OM4
204-116	Internal/External Grade Tight Buffered Fibre Cable 16 Core 50/125 OM4
204-124	Internal/External Grade Tight Buffered Fibre Cable 24 Core 50/125 OM4

System Warranty

The Excel System Warranty provides a 25-year product and applications assurance of compliance with the industry performance standard appropriate to the class of cabling installed. The warranty may be applied for by an accredited Excel Partner who has designed, supplied and installed the said system.



Excel is a world-class premium performing end-to-end infrastructure solution - designed, manufactured, supported and delivered - without compromise.

Contact us at sales@excel-networking.com

