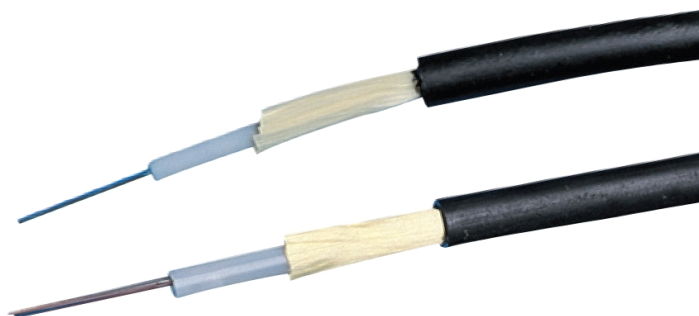




✕ 25 Year System Warranty

✕ Internal External Grade

✕ Sequentially Metre Marked

✕ Bend Insensitive Core Construction

Features

- 25 Year System Warranty
- Sequentially Metre Marked
- 50/125 Multimode Fibre
- 1500/500MHz.km Bandwidth
- Cut to length service
- Internal External Grade
- Bend Insensitive Core Construction
- LSOH Black Sheath
- Duct Grade - Rodent Resistant

Product Overview

Excel loose tube optical fibre cables have been designed specifically for internal and external applications. These bend insensitive compact, lightweight cables are extremely flexible and are quick and easy to install. The cables are constructed around a gel filled (non-dripping and silicon free) tube containing up to 24 colour coded 250µm primary coated 50/125µm fibres. The outer jacket is Flame Retardant, Low Smoke Zero Halogen.



Performance Overview

Excel loose tube fibre optic cables are designed and manufactured to ensure that optimum performance is possible from installed fibre links. Support of protocols such as 10 Gigabit Ethernet over maximum distances - 300 metres is assured, due to improved bandwidth available as standard from Excel fibre cables.

Cores Colours

1. Red	2. Green	3. Blue	4. Yellow
5. White	6. Grey	7. Brown	8. Violet
9. Turquoise	10. Black	11. Orange	12. Pink
13. Yellow with mark every 70 mm	14. White with mark every 70 mm	15. Grey with mark every 70 mm	16. Turquoise with mark every 70 mm
17. Orange with mark every 70 mm	18. Pink with mark every 70 mm	19. Yellow with mark every 35 mm	20. White with mark every 35 mm
21. Grey with mark every 35 mm	22. Turquoise with mark every 35 mm	23. Orange with mark every 35 mm	24. Pink with mark every 35 mm

Physical Properties

Property	Test method	Value
Permanent tensile strength	IEC 60794-1 E1	500 N (no attenuation change, fibre strain less than ¼ of proof test level)
Short term tensile strength	IEC 60794-1 E1	750 N (fibre strain less than ⅓ of proof test level)
Maximum installation tensile strength	IEC 60794-1 E1	1000 N (fibre strain less than ½ of proof test level)
Impact	IEC 60794-1 E4	15 Nm (no attenuation change, no broken cable elements)
Crush (compressive strength)	IEC 60794-1 E3	1500 N
Torsion	IEC 60794-1 E7	5 cycles ± 1 turn
Kink	IEC 60794-1 E10	The cables do not form a kink when a loop is drawn together to a diameter of 100 mm
Temperature range	IEC 60794-1 F1	Operation -30°C to +70°C Installation -30°C to +60°C Storage -40°C to +60°C
Water penetration	IEC 60794-1 F5B	No water on free end

Property	4-16 Cores	24 Core
Heat of combustion	630 MJ/km 0.18 KWh/m	800 MJ/km 0.22 KWh/m
Nominal diameter	6.0 mm	6.5 mm
Nominal cable weight	40 kg/km	45 kg/km
Minimum bend radius	Unloaded (IEC 60794-1 E11) Loaded	60 mm 100 mm

Property	
Loose Tube	Ø 2.8 mm Jelly filled loose tube (≤ 16 fibres) Ø 3.5 mm Jelly filled loose tube (24 fibre)
Strength member	Waterblocked E-Glass rovings
Jacket	1.1 mm black, Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised
Fire rating	IEC 60332-1-2 Single vertical wire test IEC 60754-1 No halogens IEC 60754-2 No acid matters IEC 61034-2 No dense smoke

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	≥ 1500 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)	≥ 2000 MHz.km

Standards and Norms	
IEC 60793-2-10: type A1a.2	EN 50173-1 category OM3 EN 60793-2-10: type A1a.2
ITU G.651.1	ISO / IEC 11801 category OM3 ANSI / TIA / EIA-568-C
IEEE 802.3	TIA / EIA-492 AAAC

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	≤ 1.0 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 strip force	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 ■ 1000BASE-SX ■ 1000BASE-LX ■ 10GBASE-SR/SW
- FDDI ■ 622 Mbps ATM ■ 531 Mbps Fibre Channel ■ 1062 Mbps Fibre Channel

Application Distances

Application	Distance Supported
1000BASE-SX (Gigabit Ethernet @ 850 nm)	1000 m
1000BASE-LX (Gigabit Ethernet @ 1300 nm)	550 m
10GBASE-SR/SW (10 Gigabit Ethernet @ 850 nm)	300 m

Part Number Information

Part No.	Description
200-150	Internal/External Grade Loose Tube Fibre Cable 4 Core 50/125 OM3
200-149	Internal/External Grade Loose Tube Fibre Cable 6 Core 50/125 OM3
200-151	Internal/External Grade Loose Tube Fibre Cable 8 Core 50/125 OM3
200-152	Internal/External Grade Loose Tube Fibre Cable 12 Core 50/125 OM3
200-153	Internal/External Grade Loose Tube Fibre Cable 16 Core 50/125 OM3
200-154	Internal/External Grade Loose Tube Fibre Cable 24 Core 50/125 OM3

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.



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