



X Internal External Grade

X Sequentially Metre Marked

X 25 Year System Warranty

X CPR compliant to Dca

Features

- Internal External Grade
- 62.5/125µm Multimode Fibre
- 200/600MHz.km Bandwidth
- Cut to length service
- Sequentially Metre Marked
- LSOH Black Sheath
- Duct Grade
- 25 Year System Warranty
- CPR compliant to Dca

Product Overview

Excel loose tube optical fibre cables have been designed specifically for internal and external applications. These 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 62.5/125µm fibres. This tube is covered with swellable (for the longitudinal watertightness) yarns as strength members. The outer jacket is Flame Retardant, Low Smoke Zero Halogen.



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 35 mm | 20. Black with mark every 35 mm |
| 21. Yellow with mark every 35 mm | 22. Violet with mark every 35 mm | 23. Rose with mark every 35 mm | 24. Aqua 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 ½ 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 +60°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 IEC 60754-1 IEC 60754-2 IEC 61034-2 | Single vertical wire test No halogens No acid matters No dense smoke |

Performance Properties

| Cable attenuation | IEC 60793-1-40 |
|--|----------------|
| Maximum attenuation value of cable at 850 nm | ≤ 3.2 dB/km |
| Maximum attenuation value of cable at 1300 nm | ≤ 1.0 dB/km |
| Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths | Max. 0.2 dB/km |

| Bandwidth | IEC 60793-1-41 |
|---|----------------|
| Overfilled (OFL) modal bandwidth at 850 nm | 200 MHz.km |
| Overfilled (OFL) modal bandwidth at 1300 nm | 600 MHz.km |

| Standards and Norms | | |
|--|------------------------------|------------------|
| IEC 60793-2-10 Category A1b | EN 50173-1 category OM1 | |
| IBM TM Fibre Optic Channel Links; ESCON TM | ISO / IEC 11801 category OM1 | |
| IEEE 802.3 | TIA / EIA-492 AAAA | |
| EN 60793-2-10: type A1b | ANSI / TIA / EIA-568-B.3 | ANSI/TIA/EIA 598 |

| Property | Standard | Value |
|--|---------------------|---------------------------------------|
| Core diameter | IEC / EN 60793-1-20 | 62.5 ± 2.5 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 | ≤ 5 % |
| Core - cladding concentricity error | IEC / EN 60793-1-20 | ≤ 1.5 µm |
| Primary coating diameter - uncoloured | IEC / EN 60793-1-21 | 242 ± 7 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 | ≤ 10 µm |
| Group index of refraction: | IEC / EN 60793-1-22 | |
| | at 850 nm | 1.496 |
| | at 1300 nm | 1.491 |
| 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 | 0.275 ± 0.015 |

Typical Applications

- 100BASE-FX ■ 1000BASE-SX ■ 1000BASE-LX ■ FDDI
- 155 Mbps ATM ■ 622 Mbps ATM ■ 531 Mbps Fibre Channel ■ 1062 Mbps Fibre Channel

Part Number Information

| Part No. | Description |
|----------|---|
| 200-047 | Internal/External Grade Loose Tube Fibre Cable 4 Core 62.5/125 OM1 |
| 200-060 | Internal/External Grade Loose Tube Fibre Cable 6 Core 62.5/125 OM1 |
| 200-067 | Internal/External Grade Loose Tube Fibre Cable 8 Core 62.5/125 OM1 |
| 200-087 | Internal/External Grade Loose Tube Fibre Cable 12 Core 62.5/125 OM1 |
| 200-081 | Internal/External Grade Loose Tube Fibre Cable 16 Core 62.5/125 OM1 |
| 200-084 | Internal/External Grade Loose Tube Fibre Cable 24 Core 62.5/125 OM1 |

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

