Excel Loose Tube Internal/External Grade Fibre SW Armoured - Multimode OM2 (05/2012)

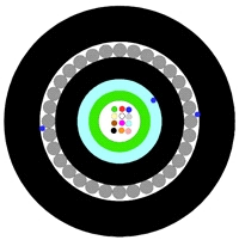
- 25 Year System Warranty
- Internal External Grade
- Bend insensitive core construction
- Steel Wire Armour

Features

- 25 Year System Warranty
- Sequentially Metre Marked
- Steel Wire Armour
- LSZH Black Sheath
- Rodent Resistant
- Internal External Grade
- Bend insensitive core construction
- 50/125 Multimode Fibre
- Cut to length service

Product Overview

Excel range steel wire armoured cables suitable for direct burial and the most demanding of installations. The fibre cores are constructed of an improved bend insensitive construction. Available from stock these cables are constructed from standard single loose tube cables which are then packed into a flexible but strong fibreglass waterblocking strength member. An internal sheath of Black Low Smoke Zero Halogen material is then applied, a rip cord is inserted under this sheath to ease cable stripping. Lengths of steel wire armouring are then applied and an oversheath of Black Low Smoke Zero Halogen is added.



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 Gigabit Ethernet over maximum distances are 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	1000 N (no attenuation change, fibre strain less than ¼ of proof test level)
Short term tensile strength	IEC 60794-1 E1	2000 N (fibre strain less than ⅓ of proof test level)
Maximum installation tensile strength	IEC 60794-1 E1	3000 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 +40°C Storage -40°C to +60°C
Water penetration	IEC 60794-1 F5B	No water on free end

Property	4-16 Cores	24 Core
Nominal diameter	10.0 mm	10.5 mm
Nominal cable weight	165 kg/km	180 kg/km
Minimum bend radius		
Unloaded (IEC 60794-1 E11)	160 mm	
Loaded	160 mm	

Property		
Strength member	Waterblocked E-Glass rovings	
Inner Sheath	1.0 mm black, Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised	
Outer Sheath	1.4 mm black, Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised	
Armouring	Ø 1.0 mm soft zinc coated steel wires	
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	≤ 2.7 dB/km
Maximum attenuation value of cable at 1300 nm	≤ 0.8 dB/km
Typical value at 850 nm	≤ 2.5 dB/km
Typical value at 1300 nm	≤ 0.6 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 bandwith at 850 nm	≥ 500 MHz.km
Overfilled (OFL) modal bandwith at 1300 nm	≥ 500 MHz.km

Standards and Norms	
IEC 60793-2-10: type A1a.1	EN 50173-1 category OM2.
ITU G.651.1	ISO / IEC 11801 category OM2
IEEE 802.3	TIA / EIA-492 AAAB
EN 60793-2-10: type A1a.1	ANSI / TIA / EIA-568-C

Property		Standard	Value
Core diameter		IEC / EN 60793-1-20	50.0 ± 1.0 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 stripforce		IEC / EN 60793-1-32	1.7 N
Strip force (peak)		IEC / EN 60793-1-32	$1.3 \leq F_{peak.strip} \leq 8.9$ N
Numerical aperture		IEC / EN 60793-1-43	0.200 ± 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
205-348	Internal/External Grade SWA Fibre Cable 4 Core 50/125 OM2
205-364	Internal/External Grade SWA Fibre Cable 8 Core 50/125 OM2
205-352	Internal/External Grade SWA Fibre Cable 12 Core 50/125 OM2
205-366	Internal/External Grade SWA Fibre Cable 16 Core 50/125 OM2
205-354	Internal/External Grade SWA Fibre Cable 24 Core 50/125 OM2

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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