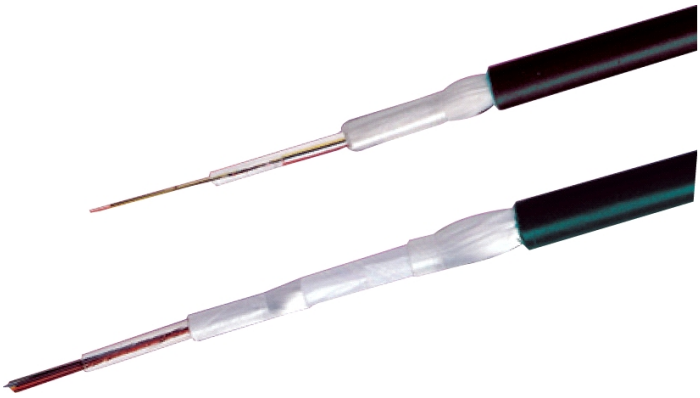
New - Excel Loose Tube Internal/External Grade Fibre - Singlemode 9/125 µm OS2 (05/2012)



- Internal External Grade
- Sequentially Metre Marked
- G.652.D Construction
- OS2 Performance

Features

- Internal External Grade
- G.652.D Construction
- LSOH Black Sheath
- OS2 Performance
- Sequentially Metre Marked
- 9/125 Singlemode Fibre
- Cut to length service

Product Overview

Excel loose tube optical fibre cables have been designed specifically for internal and external applications. The singlemode fibre is G.652.D compliant low water peak grade offering both OS2 performance. These compact, lightweight cables are extremely flexible and are quick and easy to install. The cables are constructed around a gel filled tube containing up to 24 colour coded 250µm primary coated 9/125µm fibres. This tube is covered with Waterblocked E-Glass fibre elements as strength members. The outer jacket is Flame Retardant, Low Smoke Zero Halogen.

Performance Overview

Excel singlemode fibre optic cables are made of a high grade doped silica core surrounded by a silica cladding. They are coated with a dual layer, UV cured acrylate based coating. This enhanced Single mode fibre provides improved performance across the entire 1260 nm to 1625 nm wavelength spectrum due to its low attenuation in 1383 nm, the water-peak region.

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 60974-1 E1		500 N (no attenuation change, fibre strain less than ¼ of proof test level)
Short term tensile strength	IEC 60974-1 E1		750 N (fibre strain less than ⅓ of proof test level)
Maximum installation tensile strength	IEC 60974-1 E1		1000 N (fibre strain less than ½ of proof test level)
Impact	IEC 60974-1 E4		15 Nm (no attenuation change, no broken cable elements)
Crush (compressive strength)	IEC 60974-1 E3		1500 N
Torsion	IEC 60974-1 E7		5 cycles ± 1 turn
Kink	IEC 60974-1 E10	The cables do not form a kink when a loop is drawn together to a diameter of 100 mm	
Temperature range	IEC 60974-1 F1	Operation	-30°C to +60°C
		Installation	-30°C to +60°C
		Storage	-40°C to +60°C
Water penetration	IEC 60974-1 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)	60 mm	
Loaded	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 in the interval 1310 nm - 1625 nm	≤ 0.39 dB/km
Maximum attenuation value of cable at 1550 nm	≤ 0.25 dB/km
Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths	Max. 0.1 dB/km

Group index of refraction	IEC 60793-1-22
Effective group index at 1310 nm	1.467
Effective group index at 1550 and 1625 nm	1.468

Standards and Norms	
IEC / EN 60793-2-50 Category B.1.3	EN 50 173-1:2007, cat. OS2 and OS1
ITU-T Recommendation G.652.D and C, B, A	ISO / IEC 11801:2002, cat. OS1
IEEE 802.3 - 2002 incl. 802.3ae	ISO / IEC 24702: 2006, cat. OS2 and OS1

Property	Standard	Value
Cladding diameter	IEC / EN 60793-1-20	125.0 ± 0.7 µm
Cladding non-circularity	IEC / EN 60793-1-20	≤ 0.7 %
Core - cladding concentricity error	IEC / EN 60793-1-20	≤ 0.5 µm
Primary coating diameter - coloured and natural	IEC / EN 60793-1-21	242 ± 7 µm
Primary coating non-circularity	IEC / EN 60793-1-21	≤ 5 %
Primary coating - cladding concentricity error	IEC / EN 60793-1-21	≤ 12 µm
Chromatic dispersion coefficient:	IEC / EN 60793-1-42	
In the interval 1285 nm - 1330 nm		≤ |3| ps/km • nm
At 1550 nm		≤ 18.0 ps/km • nm
At 1625 nm		≤ 22.0 ps/km • nm
Zero dispersion wavelength, λ_0		1300 - 1322 nm
Zero dispersion slope>		≤ 0.090 ps/(nm^2 • km)
Cut-off wavelength	IEC / EN 60793-1-44	≤ 1260 λ_{cc} nm *
Mode field diameter at 1310 nm	IEC / EN 60793-1-45	9.0 ± 0.4 µm
Mode field diameter at 1550 nm		10.1 ± 0.5 µm
Macrobending loss	IEC / EN 60793-1-47	
100 turns on a ø 50 mm mandrel at 1310 and 1550 nm		≤ 0.05 dB
100 turns on a ø 60 mm mandrel at 1625 nm		≤ 0.05 dB
Polarisation mode dispersion (PMD) coefficient, max. uncabled	IEC / EN 60793-1-48	≤ 0.5 ps/√km
PMD_Q Link Design Value (calculated with Q=0.01%, N=20)	IEC / EN 60794-3	≤ 0.2 ps/√km
Proof stress level	IEC / EN 60793-1-30	≥ 0.7 (≈ 1 % strain) Gpa
Fibre curl radius	IEC / EN 60793-1-34	> 4 m
Strip force (peak)	IEC / EN 60793-1-32	1.2 ≤ $F_{peak.strip}$ ≤ 8.9 N
Dynamic fatigue resistance aged and unaged (N_d)	IEC / EN 60793-1-33	≥ 20
Static fatigue resistance (N_s)	IEC / EN 60793-1-33	≥ 23

** guaranteed value according to the ITU-T (ATM G650) method*

Typical Applications

- 1000BASE-LX
- 10GBASE-LX4
- 10GBASE-LR/LW
- 10GBASE-ER/EW
- 40GBASE-LX
- 100GBASE-LX4
- 100GBASE-ER4
- 155 ATM
- 622 ATM
- 531 Fibre Channel
- 1062 Fibre Channel

Part Number Information

Part No.	Description
205-300	Internal/External Grade Loose Tube Fibre Cable 4 Core 9/125 OS2
205-301	Internal/External Grade Loose Tube Fibre Cable 8 Core 9/125 OS2
205-302	Internal/External Grade Loose Tube Fibre Cable 12 Core 9/125 OS2
205-303	Internal/External Grade Loose Tube Fibre Cable 16 Core 9/125 OS2
205-304	Internal/External Grade Loose Tube Fibre Cable 24 Core 9/125 OS2

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.

25 YEAR WARRANTY excel

S-Cabling Sp. z o.o.
ul. Kakolewska 21, , , Leszno, , 64-100, Poland
Tel: + 48 65 528 71 99 Fax:
Email: **s-cabling@s-cabling.pl** Web: **www.s-cabling.pl**

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