



# Fibre Cable Distribution Grade 9/125µm OS1 & OS2

### Features and Benefits

Molex Premise Networks enhanced Single Mode fibre provides improved performance across the entire 1260nm to 1625nm wavelength spectrum due to its low attenuation in the 1383nm water peak region.

The cable can be used for many indoor and outdoor applications, LAN and WAN backbones, central office interconnections and data centres. Suitable for installations in ducts and trays, the cable offers a UV stabilised LSOH sheath.

### Commercial Standards

- EN 187 000
- IEC 60794-2
- IEC 60794-2-20
- ISO 11801 2nd Edition
- EN 50 173-1
- IEC 60793-2-50 Category B.1.3
- EN 60793-2-50: Class B1.3
- ITU Recommendation G.652.D - the older ITU designations A, B and C are also fulfilled
- EN 50173-1:2007, cat OS2; also OS1 requirements are fulfilled
- ISO/IEC 11801:2002, cat. OS1
- ISO/IEC 24702:2006, cat. OS2; also OS1 requirements are fulfilled
- IEEE 802.3-2002 incl. 802.3ae

### 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

### Technical Information

#### Mechanical Characteristics

2 – 24 tightly buffered fibres 900µm +/- 50µm  
 Strength member: E-Glass rovings  
 Sheath: LSOH UV stabilised (EN50290-2-27)

#### Attenuation

1310 nm - 1625 nm: ≤ 0.39dB/km  
 1550 nm: ≤ 0.25dB/km  
 Inhomogeneity of OTDR trace for any two 1000 metre fibre lengths: Max. 0.1dB/km

#### Group Index of refraction

Group index of refraction at 1310nm: 1.467  
 Group index of refraction at 1550nm: 1.468  
 Group index of refraction at 1625nm: 1.468



### Physical Properties

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

**Other Properties**

Attribute	Measurement Method	Units	Limits
Cladding diameter	IEC/EN 60793-1-20	µm	125.0 ± 0.7
Cladding non-circularity	IEC/EN 60793-1-20	%	≤ 0.7
Core (MFD) non-circularity	IEC/EN 60793-1-20	%	≤ 6
Core (MDF) - cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 0.5
Primary coating diameter - uncoloured	IEC/EN 60793-1-21	µm	242 ± 7
Primary coating diameter - coloured	IEC/EN 60793-1-21	µm	250 ± 15
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12.0
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1 %)
Strip force (peak)	IEC/EN 60793-1-32	N	1.0 ≤ F <sub>peak.strip</sub> ≤ 8.9
Chromatic dispersion coefficient: In the interval 1285nm - 1330nm At 1550nm At 1625nm	IEC/EN 60793-1-42	ps/km • nm ps/km • nm ps/km • nm	≤   3   ≤ 18.0 ≤ 22.0
Zero dispersion wavelenth, λ <sub>0</sub>		nm	1311 ± 11
Zero dispersion slope		ps/(nm <sup>2</sup> • km)	≤ 0.090
Cut-off wavelength	IEC/EN 60793-1-44	λ <sub>c</sub> nm λ <sub>cc</sub> nm	1034 - 1330 ≤ 1260
Mode field diameter at 1310 nm Mode field diameter at 1550 nm	IEC/EN 60793-1-45	µm µm	9.0 ± 0.4 10.1 ± 0.5
Macrobending loss at 1550 nm, 100 turns on a ø 60 mm mandrel.	IEC/EN 60793-1-47	dB	≤ 0.05
Polarisation mode dispersion (PMD) coefficient, cabled	IEC/EN 60793-1-48	ps/√km	≤ 0.5
PMDQ Link Design Value	IEC/EN 60794-3	ps/√km	≤ 0.2

**ORDERING INFORMATION**

Order No.	Description
CFR-00386	Internal Distribution Grade, 2 Core, TB, 9/125µm OS1
CFR-00387	Internal Distribution Grade, 4 Core, TB, 9/125µm OS1
CFR-00388	Internal Distribution Grade, 6 Core, TB, 9/125µm OS1
CFR-00389	Internal Distribution Grade, 8 Core, TB, 9/125µm OS1
CFR-00390	Internal Distribution Grade, 12 Core, TB, 9/125µm OS1
CFR-00391	Internal Distribution Grade, 16 Core, TB, 9/125µm OS1
CFR-00392	Internal Distribution Grade, 24 Core, TB, 9/125µm OS1