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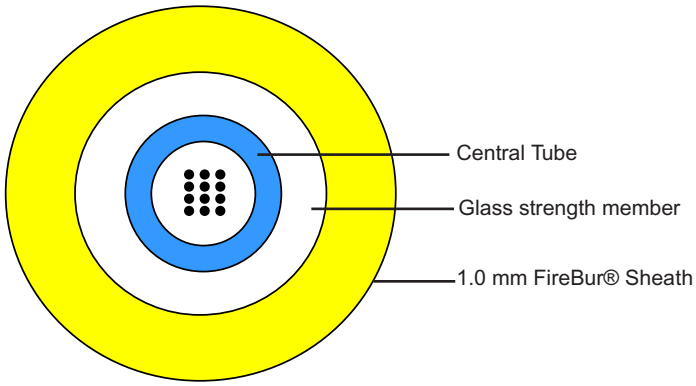
Optic fibre cable OS 1/OS 2 - loose tube indoor/outdoor

- 6 fibres Cat. No(s).: 325 12
- 12 fibres Cat. No(s).: 325 14
- 24 fibres Cat. No(s).: 325 51



1. USE

- Combi indoor/outdoor use
- LAN backbones
- Telecom access lines
- Campus networks

This cable has a central loose tube with up to 24 fibres, a layer of glass tapes for added robustness and tensile strength.
A 1.0 mm Firebur® sheath completes the cable construction.

2. GENERAL

This enhanced Singlemode fibre provides improved performance across the entire 1 260 nm to 1 625 nm wavelength spectrum due to its low attenuation in 1 383 nm the waterpeak region.
The fibre design is matched cladding.

3. CABLE TECHNICAL SPECIFIATIONS

3.1 Standards

ISO 11801 2nd edition
EN 50173-1:2002

3.2 Construction

Loose tube	**325 12 - 325 14** IEC 60794-1	ø2.8 mm jelly filled loose tube
	325 51	ø3.5 mm jelly filled loose tube
Strength member	Waterblocked E-Glass fibre elements	
Sheath	1.0 mm green FireBur® sheath, UV stabilised, IEC 50290-2-27	

3.3 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

3.4 Heat of combustion

325 12 - 325 14	630 MJ/km	0.18 kWh/m
325 51	800 MJ/km	0.22 kWh/m

3.5 Physical properties - IEC 60794-1

Nominal outer diameter	-	**325 12 - 325 14**	6.0 mm
		325 51	6.5 mm
Nominal weight	-	**325 12 - 325 14**	40 kg/km
		325 51	45 kg/km

Maximum installation tensile strength	E1	1000 N (fibre strain less than 1/2 of proof test level)
- Short term tensile strength	E1	750 N (fibre strain less than 1/3 of proof test level)
- Permanent tensile strength	E1	500 N (no attenuation change, fibre strain less than 1/4 of proof test level)
Compressive strength (crush)	E3	1500 N
Impact	E4	15 Nm (no attenuation change, no broken cable elements)
Torsion	E7	5 cycles +/- 1 turn
Kink	E10	The cables do not form a kink when a loop is drawn together to a diameter of 100 mm
Min. Bending radius, unloaded	E11	R = 60 mm
Min. Bending radius, loaded	-	R = 100 mm
Temperature range	F1	Storage: - 40°C to + 60°C
		Installation: - 30°C to + 40°C
		Operation: - 30°C to + 60°C
Water penetration	F5B	No water on free end

4. FIBRES TECHNICAL SPECIFIATIONS

4.1 Standards and Norms

IEC 60793-2-50 category B.1.3
EN 60793-2-50: class B1.3
ITU Recommendation G.652.D - the oder ITU designations A, B and C are also fulfilled.
EN 50 173-1:2007, 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

4.2 Attenuation (of cable with fibres) - IEC 60793-1-40

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

4.3 Bandwidth - IEC 60793-1-41

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

4.4 Fibre properties according to IEC - IEC 60793-1

Attribute	Measurement method	Units	Limits
Cladding diameter	IEC/EN 60793-1-20	µm	125 ± 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
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈1%)
Strip force (peak)	IEC/EN 60793-1-32	N	1.0 ≤ Fpeak.strip ≤ 8.9
Chromatic dispersion coefficient:	IEC/EN 60793-1-42		
In the interval 1285 nm – 1330 nm		ps/km • nm	≤ 3
At 1550 nm		ps/km • nm	≤ 18
At 1625 nm		ps/km • nm	≤ 22
Zero dispersion wavelength, λ0		nm	1311 ± 11
Zero dispersion slope		ps/(nm2 • km)	≤ 0.090
Cut-off wavelength	IEC/EN 60793-1-44	λc nm	1034 - 1330
		λcc nm	≤ 1260
Mode field diameter at 1310 nm	IEC/EN 60793-1-45	µm	9 ± 0.4
Mode field diameter at 1550 nm		µm	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