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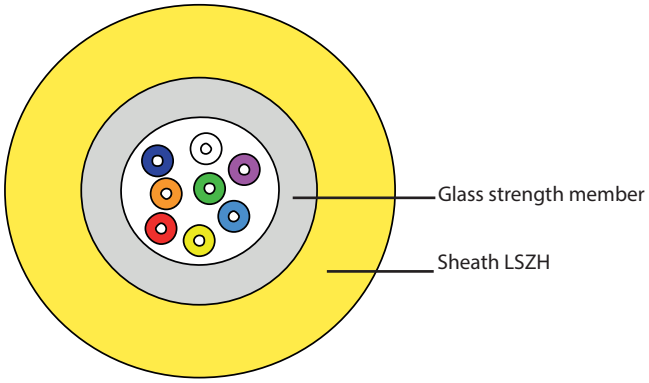
Optic fibre cable OS2 - 900 µm tight tube indoor/outdoor

- 2 fibres Cat. No(s).: 0 322 87
- 4 fibres Cat. No(s).: 0 322 89
- 6 fibres Cat. No(s).: 0 322 90
- 8 fibres Cat. No(s).: 0 322 91
-16 fibres Cat. No(s).: 0 322 93
-12 fibres Cat. No(s).: 0 325 50



1. APPLICATION AND INSTALLATION

This distribution or mini-break-out cable can be used for many indoor applications and limited outdoor applications.
The cable features improved tight buffer.
Typical cable applications include : LAN and WAN backbones, central office interconnectons, backbones in data centres, and many other. The cable is suited for installation in ducts and on trays. The cable features an UV stabilised, water-blocked, LSZH sheathing, the cable is suited for indoor and outdoor (ducts).

2. CABLE TECHNICAL SPECIFICATIONS

2.1 Standards

EN 187 000
IEC 60794-2
IEC 60794-2-20
ISO 11801 2nd edition
EN 50173-1

2.2 Construction

Fibre	2-24 tightly buffered fibres 900µm ± 50 µm	
	1 Blue	13 Blue w/mark every 70 mm
	2 Orange	14 Orange w/mark every 70 mm
	3 Green	15 Green w/mark every 70 mm
	4 Brown	16 Brown w/mark every 70 mm
	5 Grey	17 Grey w/mark every 70 mm
	6 White	18 White w/mark every 70 mm
	7 Red	19 Red w/mark every 35 mm
	8 Black	20 White w/mark every 35 mm
	9 Yellow	21 Yellow w/mark every 35 mm
	10 Purple	22 Purple w/mark every 35 mm
	11 Pink	23 Pink w/mark every 35 mm
	12 Aqua	24 Aqua w/mark every 35 mm
Strength member	Glass yarns	
Water blocking	Swellable tread and tape	
Sheath	Halogen free, flame retardant, UV stabilized	
Sheath colours	Cable with OS2 fibres : Yellow	

2.3 Fire rating

IEC 60332-1-2	Single vertical wire test
IEC 60332-3-24	Vertical flame spread of vertically-mounted bunched wires or cables
IEC 60754-2	No acid matters
IEC 61034	No dense smoke
EN 50399	Class Dca s_2, d_2, a_1 (cable marking) ; also compliant with class Eca

2.4 Physical properties

Property	IEC 60794-1-21/22 Method	Value
Nominal diameter	-	2 fibres : 6.0 mm 4 and 6 fibres : 6.5 mm 8 fibres : 7.0 mm 12 fibres : 7.5 mm 16 fibres : 8.0 mm 24 fibres : 8.5 mm
Nominal cable weight	-	2 fibres : 32 kg/km 4 fibres : 34 kg/km 6 fibres : 36 kg/km 8 fibres : 39 kg/km 12 fibres : 43 kg/km 16 fibres : 52 kg/km 24 fibres : 63 kg/km
Permanent tensile strength	E1	2, 4, 6, 8 and 12 fibres : 500 N 16 fibres : 1000 N 24 fibres : 1500 N
Short term tensile strength (some days)	E1	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	2, 4, 6, 8 and 12 fibres : 2000 N/100 mm 16 and 24 fibres : 1000 N/100 mm
Torsion	E7	5 cycles ± 1 turn
Minimum bending radius of tightly buffered fibres	G1	With OS2 G.657.A1 fibre: 7.5mm With OMx fibres : 7.5mm
Minimum bending radius	E11	2, 4, 6 and 8 fibres : 50mm 12 and 16 fibres : 75mm 24 fibres : 115mm
Minimum bending radius under tension	E18A	2, 4, 6 and 8 fibres : 100mm 12 and 16 fibres : 130mm 24 fibres : 230mm
Temperature range	F1	Operation and installation : -20 °C to + 60°C Storage : -40 °C to + 70 °C

2.5 Marking and packaging

Marking of the cable :
- Legrand
- Part number
- Description
- Euroclass : Dca s_2, d_2, a_1
- Date code
- Batch number
- Measurement (remaining length in meters)

Catalogue number	0 322 87	0 322 89	0 322 90	0 322 91	0 322 93	0 325 50
Description	2 fibres OS2 TB In/ Out LSZH	4 fibres OS2 TB In/ Out LSZH	6 fibres OS2 TB In/ Out LSZH	8 fibres OS2 TB In/ Out LSZH	16 fibres OS2 TB In/ Out LSZH	12 fibres OS2 TB In/ Out LSZH
Colour	Yellow Ral 1018	Yellow Ral 1018	Yellow Ral 1018	Yellow Ral 1018	Yellow Ral 1018	Yellow Ral 1018
Puck (m)	2000	2000	2000	2000	2000	2000
Packaging	Reel	Reel	Reel	Reel	Reel	Reel

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3. FIBRES TECHNICAL SPECIFICATIONS

This enhanced low macro bending sensitive, low water peak fibre, gives very good bending performance. The preferred use of this low macro bend-insensitive fibre is in access networks.. The low macro bend -insensitive fibre, offers reduced bending radii for many cables types ; The fibre fulfils the new ITU G.657 A1 specification, as well as G. 652 D. The low macro bending sensitivity further guarantees that the 1625 nm window (L-band) will be available for future use in this bandwidth hungry environment.

3.1 Standards and Norms

IEC/EN 60793-2-50 Category B-657.A1 and B-652.D
ITU Recommendation G657.A1 and G.652.D
EN 50 173-1 Category OS2 and OS1a
ISO/IEC 11801 Category OS2 and OS1a

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

Maximum attenuation value of cable in the interval 1310nm-1625nm*	≤ 0.39 dB/km
Maximum attenuation value of cable at 1550 nm	≤ 0.22 dB/km
Local discontinuity at 1310 and 1550 nm	Max. 0.1 dB

* Including H2-ageing according to IEC 60793-2-50, type B.1.3 @ 1383 nm

3.3 Attenuation variation vs bending

Attribute	Measurement method	Units	Limits
Macro bending loss 100 turns on a mandrel R = 30 mm, @1625 nm 10 turns on a mandrel R = 15 mm, @1550 nm 10 turns on a mandrel R = 15 mm, @1625 nm 1 turn on a mandrel R = 10 mm, @1550 nm 1 turn on a mandrel R = 10 mm, @1625 nm	IEC/EN 60793-1-47	dB	≤ 0,05 ≤ 0,25 ≤ 1 ≤ 0,75 ≤ 1,5

3.4 Optical properties

Attribute	Measurement method	Units	Limits
Chromatic dispersion coefficient : In the interval 1285 nm – 1330 nm	IEC/EN 60793-1-42	ps/km • nm	≤ |3|
At 1550 nm			≤ 18
At 1625 nm			≤ 22.0
Zero dispersion wavelength, λ0		nm	1300 - 1324
Zero dispersion slope		ps/(nm² • km)	≤ 0.092
Cut-off wavelength	IEC/EN 60793-1-44	λ_{cc} nm	≤ 1260 *
Mode field diameter at 1310 nm	IEC/EN 60793-1-45	µm	9.0 ± 0.4
Mode field diameter at 1550 nm		µm	10.1 ± 0.5
Polarisation mode dispersion (PMD) coefficient, cabled	IEC/EN 60793-1-48	ps/√km	≤ 0.1
PMD_Q Link Design Value (calculated with Q=0,01%)	IEC/EN 60794-3	ps/√km	≤ 0.06

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

3.5 Group index of refraction - IEC 60793-1-22

Effective group index at 1310 nm	1.467
Effective group index at 1550 nm	1.467
Effective group index at 1625 nm	1.468

3.6 Rayleigh Backscatter

Attribute	Measurement method	Units	Values
1310 nm	-	dB	- 79.4
1550 nm	-		- 81.7
1625 nm	-		- 82.5

3.7 Geometrical properties

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 - cladding concentricity error	IEC/EN 60793-1-20	µm	≤ 0.5
Primary coating diameter - ColorLock® XS and natural	IEC/EN 60793-1-21	µm	245 ± 10
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12

3.8 Mechanical properties

Attribute	Measurement method	Units	Limits
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1%)
Strip force (average)	IEC/EN 60793-1-32	N	$1 \leq F_{average.strip} \leq 3$
Strip force (peak)	IEC/EN 60793-1-32	N	$1.2 \leq F_{peak.\ strip} \leq 8.9$
Dynamic fatigue resistance aged and unaged	IEC/EN 60793-1-33		Nd ≥ 20