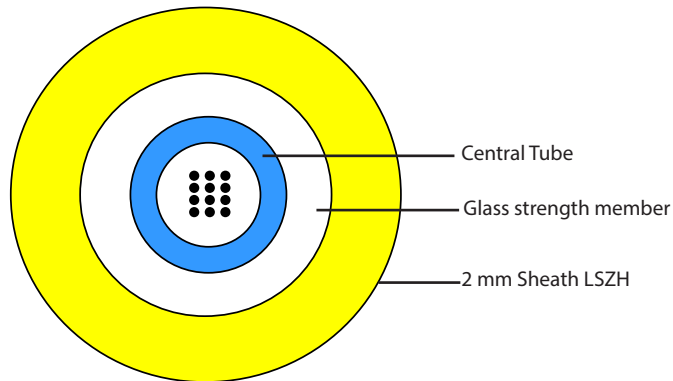


Optic fibre cable OS2 - loose tube indoor/outdoor Cca

12 fibres Cat. No(s): 0 325 26

24 fibres Cat. No(s): 0 325 18



1. APPLICATION AND INSTALLATION

This cable can be used for LAN and WAN backbones, telecom access lines, fibre to business and fibre to the building drop connections : as well as fibre to the home drop and access connections.

With its LSZH sheathing this cable is ideal for indoor installations in ducts or on trays.

This cable features a high tensile strength and has glass yarns for limited rodent protection.

This cable is water-blocked and also well suited for limited outdoor use in ducts.

2. CABLE TECHNICAL SPECIFICATIONS

2.1 Standards

ISO 11801-1

EN 50173-1

IEC 60794-1

2.2 Construction

Loose tube	Ø 2.8 mm jelly filled loose tube with 2-24 fibres	
Fibre colour code	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 Violet	22 Violet 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 and water-blocking	Water-blocking glass yarns	
Sheath	2.0 mm LSZH sheath, UV stabilised, EN50290-2-27	
Sheath Colour	With OS2 fibre : Yellow Ral 1018	

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2.3 Fire rating

IEC 60332-1-2	Single vertical wire test
IEC 60332-3-24	Bunched vertical wires test
IEC 60754-2	No acid matters
IEC 61034	No dense smoke
EN50399	Cca S1a, d1, a1 (cable marking) ; also compliant with class Dca and Eca

2.4 Physical properties

Property	IEC 60794-1-21/22 Method	Value
Nominal outer diameter	-	2-24 fibres : 7.5 mm
Nominal weight	-	2-24 fibres : 73 kg/km
Maximum installation tensile strength	E1	3000 N (fibre strain \leq 0.6%)
Permanent tensile strength	E1	1000 N (fibre strain \leq 0.2%)
Compressive strength (crush)	E3	3000 N / 100 mm ($\Delta\alpha$ reversible) 1500 N / 100 mm (no attenuation change)
Impact	E4	20 J (striking surface r=300 mm) 5 J (striking surface r=12.5 mm)
Torsion	E7	5 cycles \pm 1 turn
Kink	E10	The cables do not form a kink when a loop is drawn together to a diameter of 75 mm
Min. permanent bending radius (unloaded)	E11	R = 75mm (Temp. > -20°C)
Min. installation bending radius (loaded)	E18a	R = 150 mm
Temperature range	F1	Installation: -20°C to +60°C Storage & Operation: -40°C to +70°C (in the case of \leq -20°C temperature during operation, no sharp bends are allowed & bending radius >150 mm for permanent)
Water penetration	F5B	No water on free end

2.5 Marking and packaging

Marking of the cable :

- Legrand
- Part number
- Description
- Euroclass : Cca, S1a, d1, a1
- Date code
- Batch number
- Measurement (remaining length in meters)

Catalogue number	0 325 18	0 325 26
Description	24 fibres OS2 LT In/Out LSZH Cca	12 fibres OS2 LT In/Out LSZH Cca
Colour	Yellow Ral 1018	Yellow Ral 1018
Puck (m)	1000	2000
Packaging	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 At 1550 nm At 1625 nm	IEC/EN 60793-1-42	ps/km · nm	≤ D ≤ 18 ≤ 22.0
Zero dispersion wavelength, λ_0		nm	1300 - 1324
Zero dispersion slope		ps/(nm ² · 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

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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 ($\approx 1\%$)
Strip force (average)	IEC/EN 60793-1-32	N	$1 \leq F_{\text{average.strip}} \leq 3$
Strip force (peak)	IEC/EN 60793-1-32	N	$1.2 \leq F_{\text{peak.strip}} \leq 8.9$
Dynamic fatigue resistance aged and unaged	IEC/EN 60793-1-33		$Nd \geq 20$