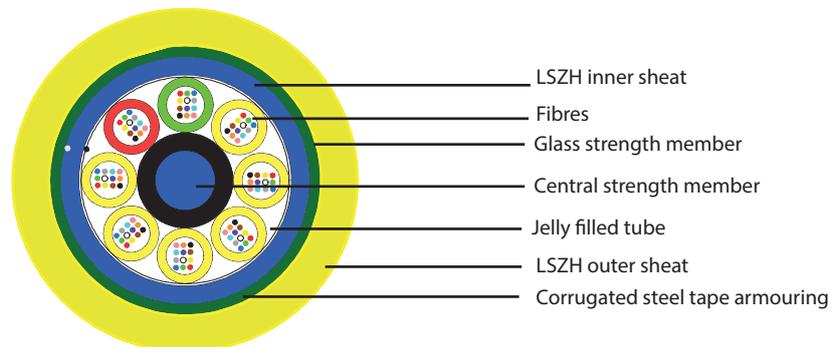


Optic fibre cable OS2 loose tube 48 fibres indoor/outdoor LSZH corrugated steel tape, rodent proof

- 48 fibres Cat. No(s): 0 324 66



1. APPLICATION AND INSTALLATION

Outdoor data communication connections
CATV trunk lines
Telecom trunk lines
Telecom access net connections
For direct burial and conditions with risk of severe rodent attacks

2. CABLE TECHNICAL SPECIFICATIONS

2.1 Standards

ISO 11801-1, IEC 60794-3, IEC 60794-3-10, IEC 60794-3-12, EN 50173-1, EN 187000

2.2 Construction

Central strength member	Ø 2.5mm FRP rod	
	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
Loose tube	Ø 2,3 mm gel filled loose tubes, with 12 fibres each for fibres ≤ 144 Ø 2,8 mm gel filled loose tubes, with 24 fibres each for fibres > 144	
Water blocking	The core is wrapped with swellable tape	
Ripcord	1	
Inner sheath	EN 50290-2-27	
Armouring	0.155 mm corrugated steel tape	
Sheath colours	1.5 mm EN 50290-2-27 Cable with OS2 fibres : Yellow Ral 1018	

2.3 Flame resistance

IEC 60332-1-2 ; IEC 60754-1 ; IEC 60754-2 ; IEC 61034 ; IEC 60332-3-24 ; EN 50399 Class Dca s2, d2, a1; Class Eca

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2.4 Physical properties

Attribute	IEC 60794-1-21/22 Method	Limits					
		12	48	72	96	144	288
Fibre count	-	12	48	72	96	144	288
Nominal diameter (mm)	-	14.5				19.5	
Nominal weight (kg/km)	-	245	245	250	222	445	
Short term Tensile strength (some days) (N)	E1	1800 (Fibre strain \leq 0.6%)					
Tensile strength (permanent) (N)	E1	1000 (Fibre strain \leq 0.2%)					
Crush (compressive strength) (N/100 mm)	E3	3000					
Impact (Nm)	E4	20					
Torsion	E6	30 reversed bends ; R = 300 mm					
Kink	E7	5 cycles \pm 1 turn					
Fibre count	E10	The cables do not form a kink when a loop is drawn together to a diameter 12 times the cable nominal diameter					
Minimum bending radius (mm) - Permanent		290				390	
Minimum bending radius (mm) - Installation	E11	145				195	
Temperature range	F1	Installation	-30 ° C to 60 ° C				
		Operation	-60 ° C to 70 ° C				
		Storage	-60 ° C to 60 ° C				
Water penetration	F5B	No water on free end (core only)					

2.5 Marking and packaging

Marking of the cable :

- Legrand
- Part number
- Description
- Date code
- Batch number
- Measurement (remaining length in meters)

Catalogue number	0 324 66
Description	48 fibres OS2 In/Out LSZH
Colour	Yellow Ral 1018
Puck (m)	1000
Packaging	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	$\leq 0,05$ $\leq 0,25$ ≤ 1 $\leq 0,75$ $\leq 1,5$

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	$\leq 3 $ ≤ 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/ $\sqrt{\text{km}}$	≤ 0.1
PMD _Q Link Design Value (calculated with Q=0,01%)	IEC/EN 60794-3	ps/ $\sqrt{\text{km}}$	≤ 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 (≈ 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 ≥ 20