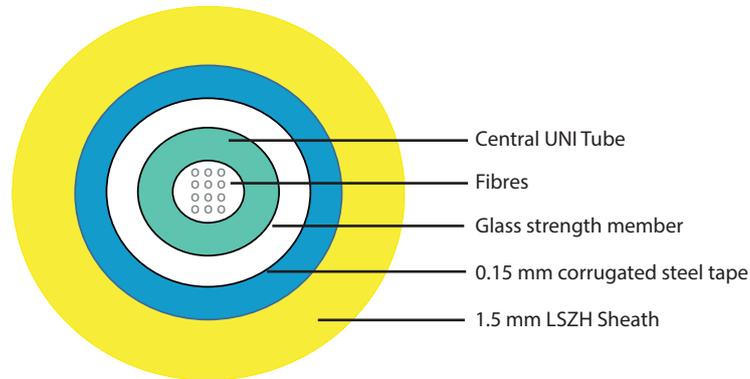


**Optic fibre cable OS2 loose tube 4-24 fibres indoor/outdoor LSZH corrugated steel tape, rodent proof**

- 4 fibres	Cat. No(s): 0 324 60	- 8 fibres	Cat. No(s): 0 324 62	- 16 fibres	Cat. No(s): 0 324 64
- 6 fibres	Cat. No(s): 0 324 61	- 12 fibres	Cat. No(s): 0 324 63	- 24 fibres	Cat. No(s): 0 324 65



**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/outdoor (limited UV) mixed installation.

The cable is well suited for installation in ducts and on trays.

The cable, having a corrugated steel tape armouring, is rodent proof

**2. CABLE TECHNICAL SPECIFICATIONS**

**2.1 Standards**

ISO 11801-1

EN 50173-1

IEC 60794-1

**2.2 Construction**

Loose tube	ø2.8 mm jelly filled loose tube with 2-24 fibres	
Strength member	Glass yarns	
Armouring	0.15 mm corrugated steel tape	
Sheath	1.5 mm LSZH sheath, UV stabilised, EN 50290-2-27	
Fibre colours	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
Sheath colours	Cable with OS2 fibres	Yellow Ral 1018

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### 2.3 Flame resistance

LSHF-FR (FRNC) : IEC 60332-1-2 ; IEC 60332-3-24 ; IEC 60754-1 ; IEC 60754-2 ; IEC 61034-2 ; EN 50399 Class Dca s2, d2, a1; Class Eca

### 2.4 Physical properties

Properties	IEC 60794-1-21/22 Method	Limits
Nominal outer diameter	-	2 - 24 fibres : 8.5 mm
Nominal weight	-	2 - 24 fibres : 75 kg/km
Tensile strength (dynamic)	E1	3000 N (fibre strain ≤ 0.6%)
Tensile strength (permanent)	E1	1000 N (fibre strain ≤ 0.2%)
Compressive strength (crush)	E3	2200N/100 mm
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 (permanent)	E11	R = 85 mm
Min. Bending radius, loaded (installation)	-	R = 170 mm
Temperature range	F1	Storage and installation: - 40°C to + 70°C
		Operation: - 40°C to + 70°C.
Heat of combustion		2 -24 fibres : 1200MJ/km - 0,33 kWh/m

### 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 60	0 324 61	0 324 62	0 324 63	0 324 64	0 324 65
Description	4 fibres OS2 In/ Out LSZH	6 fibres OS2 In/ Out LSZH	8 fibres OS2 In/ Out LSZH	12 fibres OS2 In/ Out LSZH	16 fibres OS2 In/ Out LSZH	24 fibres OS2 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, $\lambda_0$		nm	1300 - 1324
Zero dispersion slope		ps/(nm <sup>2</sup> · km)	≤ 0.092
Cut-off wavelength	IEC/EN 60793-1-44	$\lambda_{cc}$ 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 <sub>0</sub> 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 <sup>XS</sup> 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