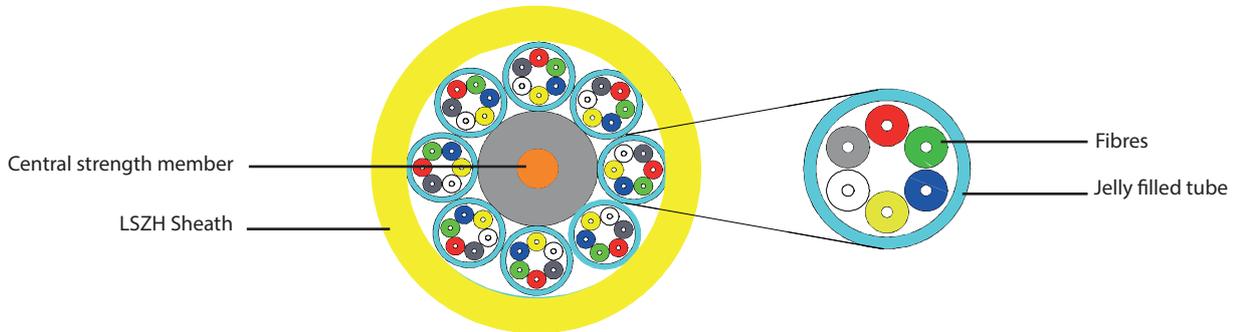


**Indoor distribution cable with OS2 900µm tight buffer, 36-96 fibres, 6 fibres units, aramid yarns, indoor/outdoor LSZH**

**- 48 fibres Cat. No(s): 0 322 96**



**1. APPLICATION AND INSTALLATION**

This distribution or mini-break-out cable can be used for many indoor applications.

The cable features an improved tight buffer.

Typical cable applications include : LAN and WAN backbones, central office interconnections, 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 and moisture resistant LSZH sheathing, the cable is thus well suited for shorter outdoor runs.

**2. CABLE TECHNICAL SPECIFICATIONS**

**2.1 Standards**

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

**2.2 Construction**

Strength member	FRP rod with LSZH covering	
Fibre	36 - 96	
Fibre unit	6 tightly buffered fibres 900 µm ± 50 µm	
	1	Blue
	2	Orange
	3	Green
	4	Brown
	5	Grey
	6	White
	Aramid yarns Thin LSZH sheath in the same colour as the outer sheath, marked with unit number 1,2,3.. Unit diameter app. 3.5 mm	
Stranding	6 - 16 fibre units in one or two layers	
Sheath colours	Cable with SM fibres	Yellow RAL 1018
Sheath	LSHF-FR Fire retardant, UV stabilised, EN 50290-2-27	

**2.3 Fire rating**

LSHF-FR (FRNC) IEC 60332-1-2 ; IEC 60332-3-24 ; IEC 60754-2 ; IEC 61034 ; EN 50399 : Class Dca s<sub>2</sub>, d<sub>2</sub>, a<sub>1</sub> ; Class Eca

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### 2.4 Physical properties

Property	IEC 60794-1-21/22	Limits							
		36	42	48	54	60	66	72	78-96
Fibre count	-	36	42	48	54	60	66	72	78-96
Nominal diameter [mm]	-	12.5	14	14.5	16	17	19	20	19
Nominal weight [kg/km]	-	165	225	230	260	300	340	375	325
Maximum installation load (a few hours)	E1	3600	3900	4200	4500	4800	5100	5400	6600
Tensile strength (permanent) [N]	E1	1200	1300	1400	1500	1600	1700	1800	2200
Crush (compressive strength) [N/100 mm]	E3	3000							
Impact (J)	E4	20							
Torsion	E7	5 cycles ± 1 turn							
Kink	E10	The cables do not form a kink when a loop is drawn together to a diameter 12 times the cable nominal diameter							
Min. Bending radius (permanent) [mm]	E11	125	140	145	160	170	190	200	190
Temperature range	F1	Installation -40°C to 70°C Operation -40°C to 70°C Storage -40°C to 70°C							

### 2.5 Marking and packaging

Marking of the cable :

- Legrand
- Description
- Euroclass : Dca s<sub>2</sub>, d<sub>2</sub>, a<sub>1</sub>
- Date code
- Batch number
- Measurement (remaining length in meters)

Catalogue number	0 322 96
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	≤ 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	≤  3  ≤ 18 ≤ 22.0
Zero dispersion wavelength, λ <sub>0</sub>		nm	1300 - 1324
Zero dispersion slope		ps/(nm <sup>2</sup> · km)	≤ 0.092
Cut-off wavelength	IEC/EN 60793-1-44	λ <sub>cc</sub> 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>Q</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