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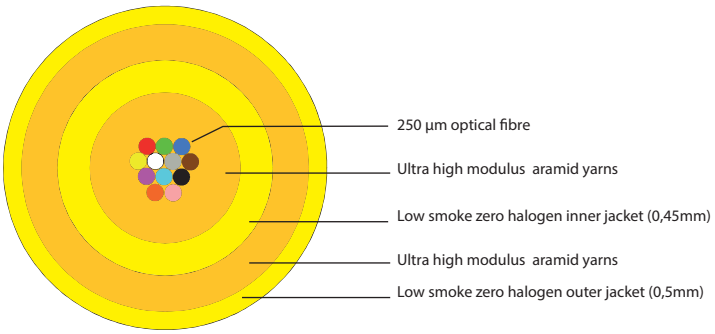
Microcable OS2 FanOut - FanOut 6 LC Duplex Ultra 2mm LSZH

Cat. No(s).: 0 324 21/22/23/24/25



1. DESCRIPTION

Preterm factory made with G657A2/B2 microcable 12 fibres into 2mm duplex ruggedized tails. Assembled with LC duplex Ultra connectors.

2. APPLICATIONS

Convenient for internal applications. Ruggedized tails allow direct connection to the front of panel or active equipment.
The Legrand core, ultra and quantum connectivity performances are far superior than standard. They provide the following benefits for the user :
- Wider range of applications
- More flexibility in the design
- Energy saving on the active (transceivers).

3. BREAKOUT MODULE

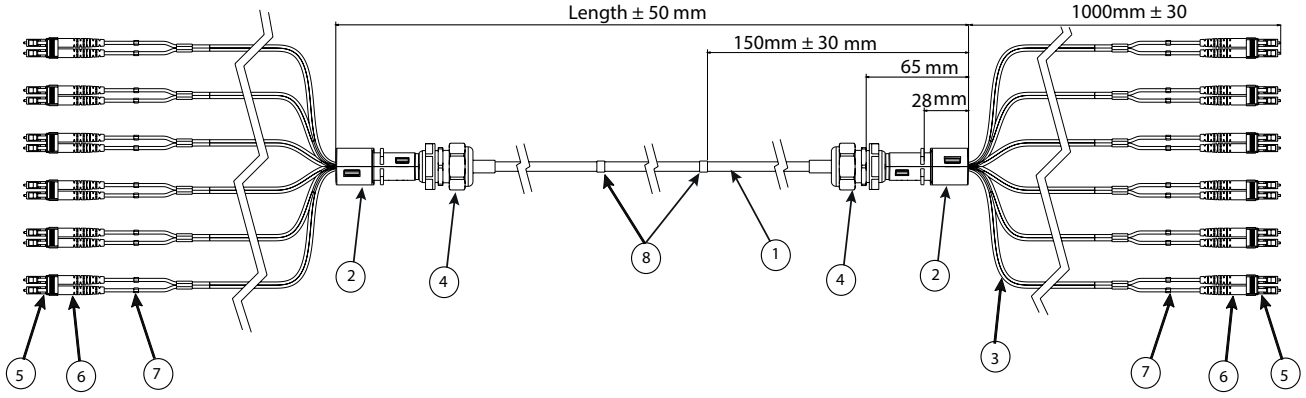
The breakout is the element providing secure transition between cable and tails. The cable, the furcation tubing and their strength members are securely attached to the breakout module, the 250 µm fibres are securely routed from cable into the tails.

4. FURCATION TUBING

Diameter : 2mm

OS2 : colour Yellow

5. ILLUSTRATION



1	Microcable	4	Cable Gland	7	Identification clip
2	Breakout Module	5	Connector LC Duplex	8	Serial Number Label
3	2mm Ruggedized Duplex Tubing	6	Connector Boot		

6. CONNECTOR LC ULTRA PERFORMANCE 2MM DUPLEX

6.1 Construction

Connector Type		LC Singlemode	
Configuration		Duplex	
Ferrule	Material	Zirconia ceramic	
	Concentricity	≤ 0,5 µm	
Polishing		UPC	
Connector colour		Blue	
Boot	Colour	White	
	Size	2mm	

6.2 Mechanical performance

Mechanical properties	Criteria with attenuation change <0,2dB	Standard
Mating durability	500 matings	IEC 61300-2-2
Vibration	10-55Hz, 0.75 amplitude	IEC 61300-2-1
Drop	Drop height 1.5m, 5 drops	IEC 61300-2-12
Cable retention	Magnitude 70N	IEC 61300-2-4
Cable torsion	1.5kg	IEC 61300-2-5
Operating temperature	-25°C to +70°C 12 cycles	IEC 61300-2-22
Cold	-25°C for 96 hours	IEC 61300-2-17
Dry heat	+70°C for 96 hours	IEC 61300-2-18

6.3 Optical performance

Optical performance	Singlemode	Standard
IL Max/Master	0,15dB	IEC 61300-3-4
Typ. IL/Master	0,12dB	IEC 61300-3-4
IL Max/Random *	0,25dB	IEC 61300-3-34
Typ. IL / Random *	0,12dB	IEC 61300-3-34
Return Loss	> 55dB	IEC 61300-3-6

* Performance is guaranteed only with other components of the same Legrand range (Core, Ultra and Quantum). Mixing ranges or use of components of other brand may lead to a different performance of the system. The uncertainty value for field measurement with LSPM testing using a reference cord defined in ISO/IEC 14763-3 applies to field testing with proposed Legrand testing cords. Refer to the Fiber Optic Testing Guide for Legrand Solutions.

6.4 Production quality control

- 3D endface geometry (interferometry): sampling quality control
- Optical performance: 100% factory tested.

6.5 Standard

IEC 61754-20 ; ANSI/TIA 604-10
ROHS and REACH Compliant

7. CABLE APPLICATION AND INSTALLATION

The intended application for this cable is internal connections inside data centres, where the cable is installed on "raceways" or other means where a robust cable is called for.
Following catalog numbers are available or ready to use, other configurations made to order :

Cat. No.	Designation	Dimension
0 324 21	6 LC Duplex - 6 LC Duplex microcable OS2 Ultra LSZH	10 m
0 324 22		20 m
0 324 23		30 m
0 324 24		40 m
0 324 25		50 m

8. CABLE TECHNICAL SPECIFICATIONS

8.1 Standards

EN 50173-5, IEC 60794-2-20, ISO/IEC 24764

8.2 Flame resistance

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

8.3 Construction

Fibre	12 primary coated fibres nominally 242 µm
Fibre colours	According to ANSI/TIA 598-C also in agreement with IEC 60304 : blue, orange, green, brown, grey, white, red, black, yellow, violet, pink and aqua
Strength member	Ultra high modulus Aramid yarns
Inner sheath	Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised, 0,45 mm
Reinforcement	Ultra high modulus Aramid yarns
Outer sheath	Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilised, 0,5 mm
Sheath colours	Yellow, RAL 1021

8.4 Physical properties

Property	IEC 60794-1-21/22 method	Value
Fibre count	-	12
Nominal dimensions	-	Inner : Ø 3.0 mm +0.1 mm -0.2 mm
		Outer : Ø 4.5 mm +0.2 mm -0.2 mm
Nominal weight (kg/km)	-	20
Tensile strength (dynamic)	E1	1000 N
Tensile strength (permanent)	E1	500 N
Compressive strength (crush)	E3	400 N
Impact	E4	5 Nm, R = 12.5 mm
Torsion	E07	Pass
Kink	E10	No Kink
Min. Bending radius	E11	R = 20 mm
Temperature range	F12	Accordind to IEC 60794-2-50 F12 : -10°C to 70°C

9. FIBRES TECHNICAL SPECIFICATIONS

9.1 General and application

This enhanced low macro bending sensitive, low water peak fibre, gives unsurpassed bending performance. The preferred use of this low macro bend-insensitive fibre is in office installations, for patch cords, interconnection cables and for Fibre-to-the-Home networks. The low macro bend -insensitive fibre, offers reduced bending radii for many cables types ; The fibre fulfils the new ITU G.657 A2 and G. 657 B2 specification (edition 2009), 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.

9.2 Standards and normes

IEC 60793-2-50 Category B657.a2 and B657.b2 (B6_a2 and B6_b2)	EN 50 173-1 : cat. OS1a/OS2
EN 60793-2-50 Category B657.a2 and B657.b2 (B6_a2 and B6_b2)	ISO/IEC 11801-1 : cat. OS1a/OS2
ITU Recommendation G.657.A2 and G.657.B2 (2009)	
ITU Recommendation G.652 designations A, B, C and D (2009)	

9.3 Attenuation IEC 60793-1-40

Maximum attenuation value of cable in the interval 1310 nm – 1625 nm	≤ 0.39 dB/km
Maximum attenuation value of cable at 1550 nm	≤ 0.25 dB/km
Inhomogeneity of OTDR trace for any two 1000 meter fibre lengths	Max. 0.1 dB/km

9.4 Group Index of Refraction IEC 60793-1-22

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

9.5 Other properties IEC 60793-1-XX

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	242 ± 7
Primary coating non-circularity	IEC/EN 60793-1-21	%	≤ 5
Primary coating-cladding concentricity error	IEC/EN 60793-1-21	µm	≤ 12
Proof stress level	IEC/EN 60793-1-30	GPa	≥ 0.7 (≈ 1%)
Strip force (peak)	IEC/EN 60793-1-32	N	$1.2 \leq F_{peak.\ strip} \leq 8.9$
Static fatigue, aged n_s		-	> 23
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
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	8.8 ± 0.4
Mode field diameter at 1550 nm		µm	9.8 ± 0.5
Macro bending loss 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 1 turn on a mandrel R = 7,5 mm, @1550 nm 1 turn on a mandrel R = 7,5 mm, @1625 nm	IEC/EN 60793-1-47	dB	 ≤ 0,03 ≤ 0,1 ≤ 0,1 ≤ 0,2 ≤ 0,5 ≤ 1,0
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	≤ 0.2

10. PACKAGING

Catalogue number	0 324 21	0 324 22	0 324 23	0 325 24	0 325 25
Length (m)	10	20	30	40	50
Packaging	Carton reel				