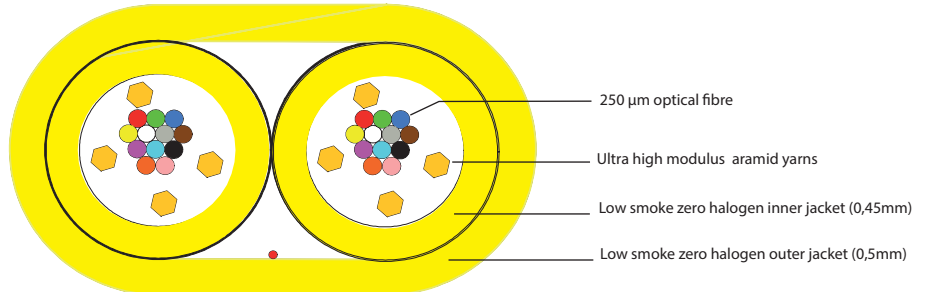


Microcable OS2 FanOut - FanOut 12 LC duplex Ultra 2mm LSZH

Cat. No(s): 0 324 31/32/33/34/35



1. DESCRIPTION

Preterm factory made with G657A2/B2 microcable 24 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).

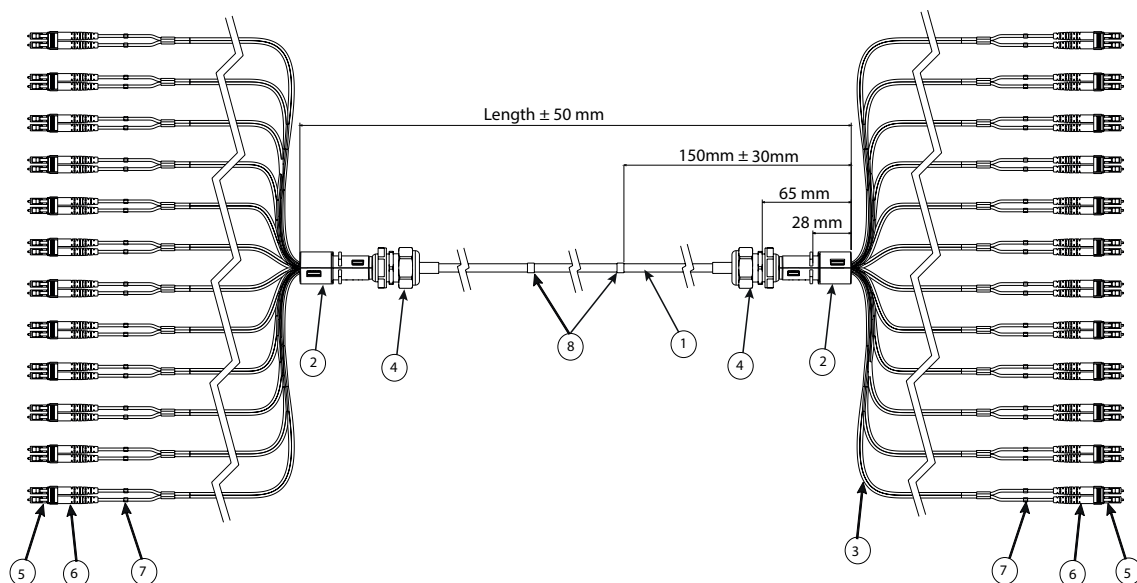
3. BREAKOUT MODULE

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
OS1/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 | | |


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6. CONNECTOR LC HIGH 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 as patch cords for data centres.

Following catalog numbers are available or ready to use, other configurations made to order :

| Cat. No. | Designation | Dimension |
|----------|---|-----------|
| 0 324 31 | 12 LC Duplex - 12 LC Duplex microcable OS2 Ultra LSZH | 10 m |
| 0 324 32 | | 20 m |
| 0 324 33 | | 30 m |
| 0 324 34 | | 40 m |
| 0 324 35 | | 50 m |

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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 60332-2-2 ; IEC 60754-1 ; IEC 60754-2 ; IEC 61034

EN 50399 : Class Dca s2, d2, a1, Class Eca

8.3 Construction

| | |
|-----------------|--|
| Unit | Ø 3.0 mm ± 0.2 mm |
| Fibre | 24 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 |
| Unit sheath | 0.5 mm Halogen free, flame resistant thermoplastic sheathing compound acc. to EN 50290-2-27, UV stabilized. Unit sheath in the same color scheme as the common sheath |
| Unit sheath id | By number per 100 mm 1 and 2 |
| Cable | 2 units side by side and a common sheath |
| 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 | - | 24 |
| Nominal dimensions | - | Unit 3.0 ± 0.15 mm |
| | | Cable 4 x 7 mm |
| Nominal weight (Kg/km) | - | 30 |
| Tensile strength (dynamic) | E1 | 440 N |
| Tensile strength (permanent) | E1 | 220 N |
| Compressive strength (crush) | E3 | 500 N |
| Impact | E4 | 4 Nm, R = 12.5 mm |
| Torsion | E07 | Pass |
| Kink | E10 | No Kink |
| Min. Bending radius | E11 | R = 20 mm |
| Temperature range | F1 | Operation and installation : -0°C to 70°C Storage : -20°C to 50°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) | |

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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 ≤ F _{peak, strip} ≤ 8.9 |
| Static fatigue, aged η _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, 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 | 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 31 | 0 324 32 | 0 324 33 | 0 325 34 | 0 325 35 |
| Length (m) | 10 | 20 | 30 | 40 | 50 |
| Packaging | Carton reel | | | | |