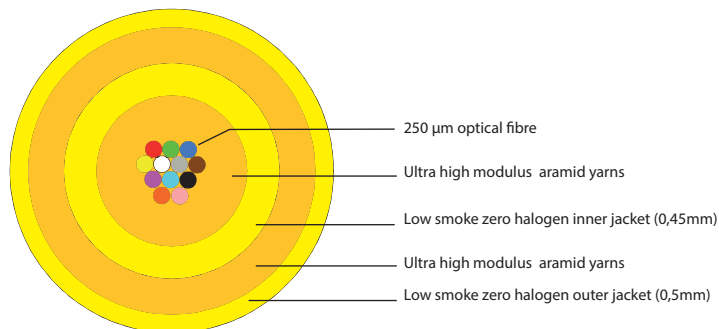


Microcable OS1a/OS2 MTP Ultra LSZH

Cat.No(s): 0 324 51/52/53/54/55



1. DESCRIPTION

MTP® Trunk multicore cable assemblies route multifibre MTP® connection. The design offers assemblies of 12 cores G657A2/B2 fiber cables using a compact and rugged microcore structure.

2. APPLICATIONS

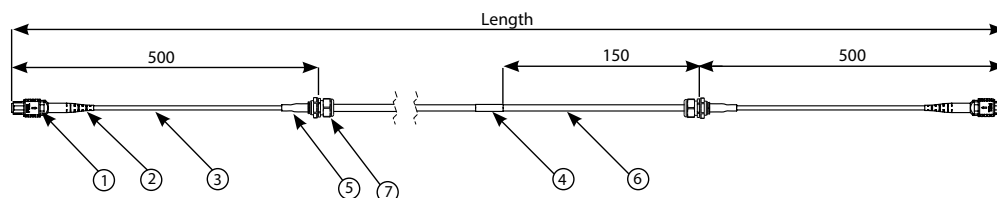
The Legrand core, ultra and quantum connectivity performances are far superior than standard. They provide the following benefits for the user :

- Wider range of applications
- More flexibility in the design
- Energy saving on the active (transceivers).

MTP® Trunk assemblies facilitate rapid deployment of high density backbone cabling in Data Center and other high fiber environments. They are used to interconnect cassettes, panels or ruggedised MTP® fan outs, spanning MDA, HDA and EDA zones.

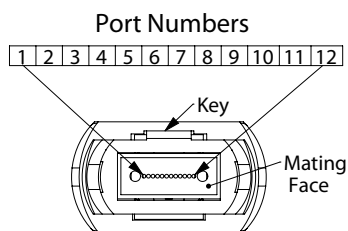
They are compatible with SAN, Fibre Channel, Parallel Optics and Infiniband applications and emerging 40 and 100Gbps protocols.

3. ILLUSTRATION



1- MTP® 12 cores Female Connector	5- Retainer Sleeve
2- MTP® Connector Boot	6- Microcable 12 fibres
3- 12 fibres MicroCable Inner Sheat	7- Gland PG9
4- Serial Number Label	

4. POLARITY



Polarity A	End A Port Number	1	2	3	4	5	6	7	8	9	10	11	12
		↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
	End A Port Number	1	2	3	4	5	6	7	8	9	10	11	12

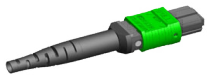
Other polarity on demand

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5. CONNECTOR MTP ULTRA 12 FIBRES

5.1 Construction

Connector type	MPO type - MTP® brand Singlemode	
Configuration	12 fibres	
Gender	Female	
Ferrule Material	Polyphenylene Sulfide (PPS)	
Polishing	8° angled protruded flock cloth polishing	
Connector colour	Green	
Boot Size	Round - 3mm	

5.2 Mechanical performance

Mechanical properties	Criteria	Loss increase	Standard
Mating durability	1000 cycles	During testing : not required	ANSI/TIA-455-21A
Vibration	10-55Hz	After testing : < 0.2 dB average	ANSI/TIA-455-11 (I-C)
Impact	1.5m, 8 times	< 0.3 dB single channel	ANSI/TIA-455-2C (Method A)
Operating temperature	-40°C to 80°C, 42 cycles	During testing : < 0.2 dB average	ANSI/TIA-455-3A (C-3)
Humidity	95% at 60°C, 336 hours	< 0.3 dB single channel	ANSI/TIA-455-5B (C) (Method A)
Thermal aging	85°C, 336 hours	After testing : < 0.1 dB average	ANSI/TIA-455-4B
		< 0.2 dB single channel	
Cable retention	222 N (mechanical crimp strength)		

5.3 Optical performance

	Ultra performance singlemode	
IL Max/Master	0.35 dB	IEC 61300-3-4 and ANSI/TIA-455-171-D3
IL Typ./Master	0.10 dB	Compliant with proposed IEC 61755-3-31/ GRADE B
Return Loss	> 60 dB	IEC 61300-3-6 and ANSI/TIA-455-107A
IL Typ/Random*	0.35 dB	IEC 61300-3-34

* 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.

5.4 Production quality control

Optical performance: 100% factory products controled.

3D endface geometry (interferometry): 100% factory tested.

5.5 Standard

IEC 61754-7 ; ANSI/TIA 604-5 - Type MPO ; ANSI/TIA 568-C ; ANSI/TIA-455B ; Telcordia GR-1435-CORE

ROHS and REACH Compliant

6. 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.

Fits multi fibre connectors such as the MPO® and MTP® connectors according to IEC 61754-7-1

Following catalog numbers are available or ready to use :

Cat. No.	Designation	Dimension
0 324 51	MTP - MTP microcable OS1a/OS2 Ultra LSZH	10 m
0 324 52		20 m
0 324 53		30 m
0 324 54		40 m
0 324 55		50 m

Legrand On Demand Department can offer on demand components :

- Other length
- Other performance
- Other gender or polarity
- MTP Pro connectors
- Other cable type
- Pulling and other options

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7. CABLE TECHNICAL SPECIFICATIONS

7.1 Standards

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

7.2 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

7.3 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

7.4 Physical properties

Property	IEC 60794-1-21/22method	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

8. FIBRES TECHNICAL SPECIFICATIONS

8.1 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.

8.2 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	
ITU Recommendation G.652 designations A, B, C and D	

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8.3 Attenuation IEC 60793-1-40

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

8.4 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

8.5 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 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, 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

9. PACKAGING

Catalogue number	0 324 51	0 324 52	0 324 53	0 325 54	0 325 55
Length (m)	10	20	30	40	50
Packaging	Carton reel				