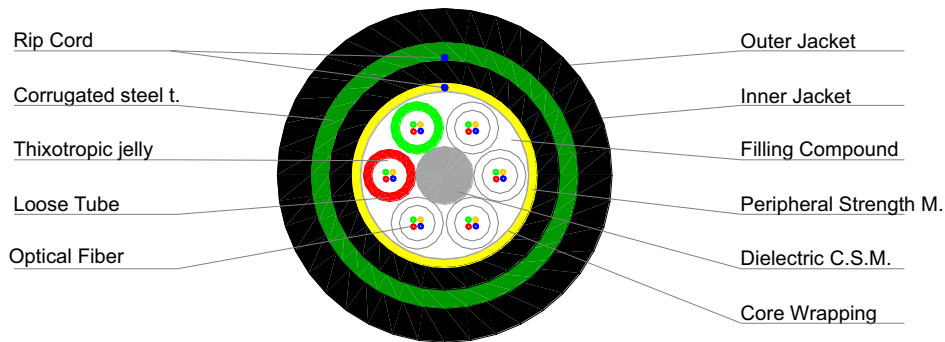


**4 -24 FIBERS (SINGLE MODE FIBERS) INDOOR/OUTDOOR TYPE F.O. CABLE
TECHNICAL SPECIFICATIONS**



Not to scale

ORingNetworking FO cables standards conform to ANSI/TIA/EIA-569B.3, ISO/IEC 11801 and CENELEC EN 50173

Cable Construction						
- Number of fibers	4	8	12	16	20	24
- Number of loose tubes x Number of fibers per tube	1x4	2x4	3x4	4x4	5x4	6x4
- Central strength member	2,2 ± 0,05 mm FRP ---					
- Diameter						
- Material						
- CSM Oversheathing diameter	---					
- Loose tube	PC+PBT 2,15 ± 3% mm Thixotropic jelly					
-Material						
-Diameter						
-Type of filling compound	Thixotropic jelly					
- Filler (if required)	PE					
-Material						
- Core filling compound	Petroleum gel for Water Blocking					
- Core wrapping	Polyester tape					
-Material						
- Periphery strength Members	Glass Yarn					
- Inner Sheath	LDPE 1,0 mm (nominal)					
- Material						
- Thickness	1,0 mm (nominal)					
- Armor & rodent protection	Two sides plastic clad and corrugated steel tape. 0,15mm					
-Material						
-Thickness	0,15mm					
- Outer Sheath	UV stabilized LSZH thermoplastic material. 1,3 mm (nominal)					
- Material						
- Thickness	1,3 mm (nominal)					
- Cable diameter	13,2 mm ± 0,2					
- Cable weight (approx.)	200 kg/km					

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- Mechanical characteristics		(All optical measurements at 1550 nm)	
Test	Test Standard	Specified Value	Acceptance Criteria
- Tensile Force Installation Operation	IEC 60794-1-2-E1	Max. 2700 N Max. 1700 N	$\Delta\alpha \leq 0,05$ dB, fiber strain $\leq 0,33$ % $\Delta\alpha \leq 0,05$ dB, no fiber strain.
- Crush Resistance	IEC 60794-1-2-E3	Max. 5000 N	$\Delta\alpha$ reversible
- Impact	IEC 60794-1-2-E4	10 Nm, 3 impacts at different points, R= 300 mm,	No fibers break.
- Torsion	IEC 60794-1-2-E7	100 N, $\pm 180^\circ$, 5 cycles	$\Delta\alpha \leq 0,05$ dB, no damage
- Repeated bending	IEC 60794-1-2-E6	R= 20 x D, 100 N load, 30 cycles	No damage
- Cable Bend	IEC 60794-1-2-E11	R= 20 x D (D: cable diameter) 4 turns, 3 cycles.	$\Delta\alpha \leq 0,05$ dB, no damage

- Environmental Characteristics			
Test	Test Standard	Specified Value	Acceptance Criteria
- Water penetration	IEC 60794-1-2-F5B	1 meter specimen, 1 m water altitude	No leaked from the opposite end of the cable in 24 hours.
- Temperature cycling	IEC 60794-1-2-F1	Storage -40 to + 80 °C, Installation -5 to + 50 °C, Operation -30 to + 70 °C	$\Delta\alpha = <0,05$ dB/km at 1550 nm

- Identification	
- Cable Marking	1m $\pm 1\%$ Intervals in white color with hot print.
- Identification of cable ¹	ORingNetworking <year of manufacture> <number of fibers> F <fiber type> <length marking in meter>
- Color of filler (if required)	Black
- Color of loose tube ²	1.Blue, 2.Orange, 3.Green, 4.Brown, 5.Grey, 6.White
- Color of fibers	1.Blue, 2.Orange, 3.Green, 4.Brown
- Color of outer sheath	Black

¹ This inscription is standard imprint. It can be change according to request.

² The other tube and fiber colors are optional.

- Delivery Information	
- Drum length/Tolerance ³	2000 m $\pm 5\%$
- Drum Flange diameter ³	1250 mm
- Drum core diameter ³	580 mm
- Outside width ³	780 mm
- Central hole diameter	85 mm

³ Drum dimensions can change depends on cable length on a drum. Standard delivery length is 2 km. Other lengths are optional.

- Transmission characteristics
-Refer to fiber data

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TECHNICAL SPECIFICATIONS

STANDARD SM FIBER ITU-T G652D		
Feature	Specified Value	Standard Approval
- Attenuation (max)	0.36 dB/km (1310 nm) 0.22 dB/km (1550 nm)	IEC 793-1
- MED	9.2±0.5µm	IEC 793-1
- Chromatic Dispersion (max)	3.5 ps/(nmxkm)(1310nm) 18 ps/(nmxkm)(1550nm)	IEC 793-1
- Cladding Diameter	125±1µm	IEC 793-1
- Core Clad Concentricity error (max)	1µm	IEC 793-1
- Zero dispersion wavelength	1300nm≤1324nm	IEC 793-1
- Cladding non-circularity (max)	%2	IEC 793-1
- Coating diameter	250±15µm	IEC 793-1
- Cut Off Wavelength	1150nm≤1330nm	IEC 793-1
- Proof Test	8.4 N	IEC 793-1
- Proof Test Strain	%1.00	IEC 793-1

ORingNetworking Multi-Core 6 Tube fiber cables are compatible with above technical specs.

Ordering Information

FO104S-1T-LSZH	4 Core 9/125 SM Armored 1 Tube Fiber Optical Cable with LSZH Jacket
FO108S-2T-LSZH	8 Core 9/125 SM Armored 2 Tube Fiber Optical Cable with LSZH Jacket
FO112S-3T-LSZH	12 Core 9/125 SM Armored 3 Tube Fiber Optical Cable with LSZH Jacket
FO116S-4T-LSZH	16 Core 9/125 SM Armored 4 Tube Fiber Optical Cable with LSZH Jacket
FO120S-5T-LSZH	20 Core 9/125 SM Armored 5 Tube Fiber Optical Cable with LSZH Jacket
FO124S-6T-LSZH	24 Core 9/125 SM Armored 6 Tube Fiber Optical Cable with LSZH Jacket

**All above modals are available under ORingNetworking brand name*