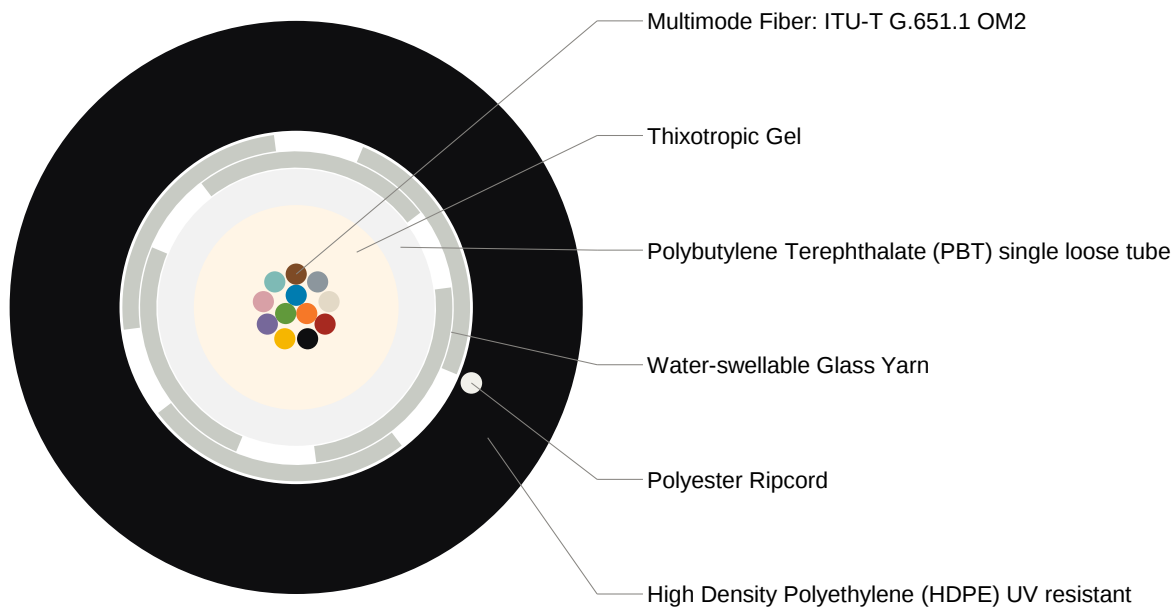




FO-12M2-LT-OUT-SR-PE-BK

Single loose tube, non-metallic armor, polyethylene jacket, fiber optic cable

Fiber Optic Cable Drawing



• Not to scale.

Fiber Optic Cable Tube and Fiber Core Colors

Tube Color Scheme

1
Natural

Fiber Optic Core Color Scheme

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Rose	Aqua



FO-12M2-LT-OUT-SR-PE-BK

Single loose tube, non-metallic armor, polyethylene jacket, fiber optic cable

Characteristics	
Cable Part Number	3.210.6.0.0.1 0.g15.2500.12
Optical Fiber Core and Tube Color Standard	ANSI/TIA 598-D Color Coding
Optical Fiber Type	Multimode Fiber: ITU-T G.651.1 OM2
Optical Fiber Dimensions	50/125/245/260 µm
Optical Fiber Count	12
Cable Type	Single Loose Tube
Tube Material	Polybutylene Terephthalate (PBT)
Tube Diameter	3,4 mm
Tube Filling Compound Material	Thixotropic Gel
Active Tube Count	1
Single Loose Tube Tube Color	Natural
Tensile Strength	1500 N
Dielectric Tensile Strength Member	Water-swellaable Glass Yarn
Jacket Strip Method	1 Polyester Ripcord
Jacket Material	High Density Polyethylene (HDPE) UV resistant
Jacket Color	Black
Jacket Wall Thickness	1,35 mm
Outer Jacket Marking Method	Inkjet marking
Outer Jacket Marking Area	One side
Outer Jacket Marking Application	Applied in one meter intervals
Nominal Cable Diameter	7,4 mm
Net Cable Weight	49 kg/km
Reel Length	2000 meters %±5

OPTIVIBER 2023 FO-12M2-LT-OUT-SR-PE-BK Fiber Optic Cable <Length marking in meters>



FO-12M2-LT-OUT-SR-PE-BK

Single loose tube, non-metallic armor, polyethylene jacket, fiber optic cable

Mechanical Characteristics (Cabled)		
Test	Reference Standard	Specified Value
Maximum Tensile Strength	IEC 60794-1-21-E1	≥ 1500 N
Crush Resistance	IEC 60794-1-21-E3	1500 N/100 mm (15 minutes)

Chemical Characteristics	
RoHS	Free of hazardous substances according to RoHS regulation.
REACH	Safe to use according to REACH regulation.

Temperature Range (Cabled)	
Transportation	-40 °C to 70 °C
Storage	-40 °C to 70 °C
Installation	-30 °C to 60 °C
Operation	-40 °C to 70 °C

Optical Fiber Attenuations (Cabled)		
ITU-T G.651.1 OM2	Property	Value
	Maximum attenuation at 850 nm	3.50 dB/km
	Maximum attenuation at 1300 nm	1.50 dB/km



FO-12M2-LT-OUT-SR-PE-BK

Optical Fiber Core Specification 50/125/242 μm Multi-Mode Optical Fiber Standard, ITU-T G.651.1 (OM2) (Uncolored Fiber)

Structural Specifications		
Fiber Materials		
Core Material		Silica (SiO_2) Doped with Germanium Dioxide (GeO_2)
Cladding Material		Pure silica (SiO_2)
Coating Material		Dual layers of UV-cured acrylate.
Dimensions		
Core Diameter		$50 \pm 2.5 \mu\text{m}$
Core Non-circularity		$\leq 5 \%$
Core/Cladding Concentricity Error		$\leq 1.0 \mu\text{m}$
Cladding Diameter		$125.0 \pm 1.0 \mu\text{m}$
Cladding Non-circularity		$\leq 0.7 \%$
Coating Diameter (Uncolored)		$242 \pm 5 \mu\text{m}$
Coating Non-circularity		$\leq 5 \%$
Coating/Cladding Concentricity Error		$\leq 10 \mu\text{m}$
Optical Characteristics		
Attenuation Coefficient	at 850 nm at 1300 nm	$\leq 2.3 \sim 2.4 \text{ dB/km}$ $\leq 0.5 \sim 0.6 \text{ dB/km}$
Numerical Aperture		0.200 ± 0.015
Zero-dispersion Wavelength (λ_0)		$1320 \text{ nm} \leq \lambda_0 \leq 1365 \text{ nm}$
Zero-dispersion Slope (S_0)	$1295 \text{ nm} \leq \lambda_0 \leq 1310 \text{ nm}$ $1310 \text{ nm} \leq \lambda_0 \leq 1340 \text{ nm}$	$\leq 0.105 \text{ ps/nm}^2\cdot\text{km}$ $\leq 0.000375 (1590 - \lambda_0) \text{ ps/nm}^2\cdot\text{km}$
Differential Mode Delay (DMD)		See Note. ¹
Fiber Capacity	10GBASE-SR 1GBASE-SR	83 m 600 m
Overfilled Modal Bandwidth	at 850 nm at 1300 nm	$\geq 500 \text{ MHz}\cdot\text{km}$ $\geq 500 \text{ MHz}\cdot\text{km}$
Bending Loss	$\varnothing=15 \text{ mm}$, 2 turn at 850 nm $\varnothing=15 \text{ mm}$, 2 turn at 1300 nm $\varnothing=30 \text{ mm}$, 2 turn at 850 nm $\varnothing=30 \text{ mm}$, 2 turn at 1300 nm	$\leq 0.2 \text{ dB}$ $\leq 0.5 \text{ dB}$ $\leq 0.1 \text{ dB}$ $\leq 0.3 \text{ dB}$
Performance Characteristics ²		
Point Discontinuity ³	at 850 nm / 1300 nm	$\leq 0.1 \text{ dB}$
Irregularities Over Fiber Length	at 850 nm / 1300 nm	$\leq 0.1 \text{ dB}$
Reflections		Not allowed.
Effective Group Index of Refraction N_{eff}	at 850 nm at 1300 nm	1.482 1.477
Mechanical Characteristics		
Proof Level	Off line	0.7 GPa (100 kpsi)
Dynamic Tensile Strength	median; 0.5 m, unaged and aged ⁴	$\geq 3.8 \text{ Gpa}$ (550 kpsi)
Dynamic Fatigue Parameter	nominal value, unaged and aged ⁴	25
Coating Strip Force (F)	peak, unaged and aged ⁵ average, unaged and aged ⁵	$1.3 \text{ N} \leq F \leq 8.9 \text{ N}$ $1.0 \text{ N} \leq F \leq 3.0 \text{ N}$
Environmental Characteristics ⁶		
Temperature Cycling	-60 °C to 85 °C	$\leq 0.1 \text{ dB/km}$
Temperature Humidity Cycling	-10 °C to 85 °C at 4-98% R. H.	$\leq 0.1 \text{ dB/km}$
Water Immersion	at 23 °C $\pm$ 2 °C, 30 days	$\leq 0.1 \text{ dB/km}$
Heat Aging	at 85 °C $\pm$ 2 °C, 30 days	$\leq 0.1 \text{ dB/km}$
Damp Heat	85 °C at 85% R. H., 30 days	$\leq 0.1 \text{ dB/km}$

1. Differential Mode Delay (DMD) specifications are compliant with IEC 60793-2-10 (Type A1a.2 for OM3 and Type A1a.3 for OM4.), TIA-492AAAC (OM3) and 492AAAD (OM4).
2. OTDR measurement with 0.5 μs pulse width.
3. Mean of bi-directional measurement.
4. Aging at 85 °C, 85% R. H., 30 days.
5. Aging at 23 °C, 0 °C and 45 °C; 30 days at 85 °C and 85% R.H.; 14 days water immersion at 23 °C.
6. Induced attenuation at 850 nm and 1300 nm.