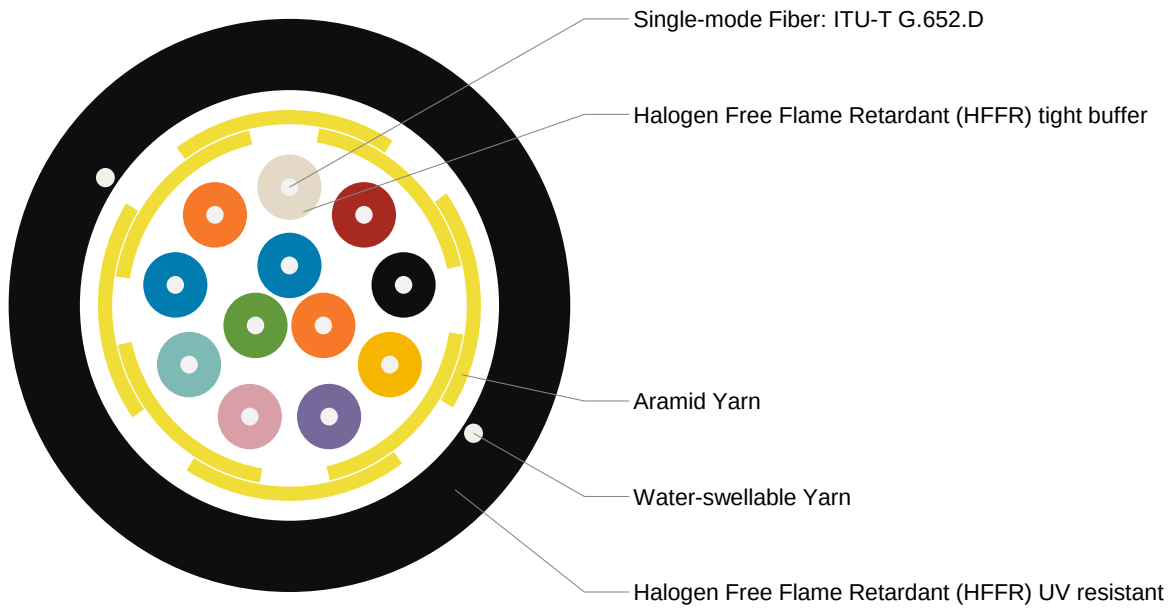


FO-12E2-TB-IN/OUT-LSZH-YL

Tight buffer, non-metallic armor, halogen-free jacket, fiber optic cable

Fiber Optic Cable Drawing



• Not to scale.

Fiber Optic Cable Tube and Fiber Core Colors

Tube Color Scheme											
1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown								

Fiber Optic Core Color Scheme

1
Natural



FO-12E2-TB-IN/OUT-LSZH-YL

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Characteristics	
Cable Part Number	3.250.0.3.0.0.3 1.a12.0920.12
Optical Fiber Core and Tube Color Standard	ANSI/TIA-598-D Color Coding
Optical Fiber Type	Single-mode Fiber: ITU-T G.652.D
Optical Fiber Dimensions	9/125/245/900 µm
Optical Fiber Count	12
Cable Type	Tight Buffer
Tight Buffer Diameter	900 µm
Tight Buffer Material	Halogen Free Flame Retardant (HFFR)
Tensile Strength	1200 N
Dielectric Tensile Strength Member	Aramid Yarn
Cable Core Binder	Water-swellaable Yarn
Jacket Material	Halogen Free Flame Retardant (HFFR) UV resistant
Jacket Color	Yellow
Jacket Wall Thickness	1 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	7,1 mm
Net Cable Weight	47 kg/km
Reel Length	2000 meters %±5

OPTIVIBER 2023 FO-12E2-TB-IN_OUT-LSZH-YL Fiber Optic Cable <Length marking in meters>



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Mechanical Characteristics (Cabled)		
Test	Reference Standard	Specified Value
Maximum Tensile Strength	IEC 60794-1-21-E1	≥ 1200 N
Crush Resistance	IEC 60794-1-21-E3	500 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.652.D	Property	Value
	Maximum attenuation at 1310 nm	0.50 dB/km
	Maximum attenuation at 1550 nm	0.50 dB/km



FO-12E2-TB-IN/OUT-LSZH-YL

Optical Fiber Core Specification Low Water Peak Single-Mode Optical Fiber Standard, ITU-T G.652.D (Uncolored Fiber)

Low water peak single-mode optical fiber, made by the vapor phase axial deposition (VAD) method, which enables customer to construct high performance wired network for voice, video and/or data transmission. The fiber, made of a germanium doped silica core and a silica cladding, is in compliance with ITU-T G.652 A, B, C and D.

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		
Mode Field Diameter	at 1310 nm	9.2 ± 0.4 μm
	at 1550 nm	10.3 ± 0.5 μm
Cladding Diameter		125.0 ± 0.5 μm
Coating Diameter (Uncolored)		245 ± 5 μm
Core/Cladding Concentricity Error		≤ 0.4 μm
Cladding Non-circularity		≤ 0.5 %
Coating - Cladding Concentricity Error		≤ 12 μm
Fiber Curl Radius		≥ 4.0 m
Optical Characteristics		
Attenuation Coefficient	at 1310 nm	≤ 0.334 dB/km
	at 1383 nm	≤ 0.314 dB/km ¹
	at 1550 nm	≤ 0.194 dB/km
	at 1625 nm	≤ 0.224 dB/km
Point Discontinuity	at 1310 nm / 1550 nm	≤ 0.05 dB
Cable Cut-off Wavelength (λ _{cc})		< 1260 nm
Zero-dispersion Wavelength (λ ₀)		1300nm ≤ λ ₀ ≤ 1324 nm
Zero-dispersion Slope (S ₀)		≤ 0.09 ps/nm ² /km
Chromatic Dispersion Coefficient	at 1310 nm	≤ 3.5 ps/nm/km
	at 1550 nm	≤ 17 ps/nm/km
	at 1625 nm	≤ 22 ps/nm/km
Maximum Individual Fiber PMD		≤ 0.2 ps/√km
Fiber PMD Link Design Value		≤ 0.08 ps/√km
Mechanical Characteristics		
Proof Stress Level		0.86 GPa (1.2%, 120 kpsi)
Bending Induced Attenuation	Ø=32 mm, 1 turn at 1550 nm	≤ 0.05 dB
	Ø=50 mm, 100 turns at 1310 nm	≤ 0.05 dB
	Ø=50 mm, 100 turns at 1550 nm	≤ 0.05 dB
	Ø=60 mm, 100 turns at 1625 nm	≤ 0.05 dB
Coating Strip Force (F)	peak	1.3 N ≤ F ≤ 8.9 N
	average	1.0 N ≤ F ≤ 5.0 N
Dynamic Tensile Strength	median; 0.5 m, unaged	≥ 3.8 Gpa (550 kpsi)
	median; 0.5 m, aged	≥ 3.0 Gpa (440 kpsi)
Fatigue	nominal value	20
Environmental Characteristics ²		
Temperature Cycling	-60 °C to 85 °C	≤ 0.05 dB/km
Temperature Humidity Cycling	-10 °C to 85 °C at 85% R. H.	≤ 0.05 dB/km
Water Immersion	at 23 °C ± 2 °C	≤ 0.05 dB/km
Heat Aging	at 85 °C ± 2 °C	≤ 0.05 dB/km
Damp Heat	85 °C at 85% R. H.	≤ 0.05 dB/km
Performance Characteristics		
Effective Group Index of Refraction N _{eff}	at 1310 nm / 1383 nm	1.466
	at 1550 nm	1.467
	at 1625 nm	1.470

1. Attenuation increase due to hydrogen aging at this wavelength will be 0.01 db/km or less in accordance with IEC IEC60793-2-50 test procedure.

2. Induced attenuation at 1310 nm, 1550 nm and 1625 nm

• The images are for illustrative purposes only.