OptoWire-U-TIC-L-24FO-2.7KN Duct Installation Steel Tape Optical Cable

24-Core Single-Mode G.652D Corrugated Steel Tape Armored Central Loose Tube Cable (OFC-24G.652D-CGStD-S1)

Model: OFC-24G.652D-CGStD-S1

Article prefix: OFC-OFC-24G.652D-CGStD-S1

Category: Steel Tape

Overview

The OptoWire-U-TIC-L-24FO-2.7KN is a high-performance 24-core single-mode G.652D optical fiber cable engineered specifically for telecommunication duct installations requiring superior mechanical robustness and water blocking. Featuring a central loose tube construction filled with thixotropic jelly, peripheral non-metallic glass yarn strength members, a PE-coated corrugated steel tape armor, and a durable black medium-density polyethylene (MDPE) outer jacket, the cable provides exceptional crush protection, tensile capability, rodent deterrence, and transmission stability across demanding environmental conditions from -40°C to +70°C.

Features

- 24 single-mode G.652D optical fibers offering low attenuation and zero dispersion near 1310 nm
- Central loose tube (CLT) design filled with moisture-repellent thixotropic jelly
- High-tensile peripheral glass yarn strength members providing mechanical flexibility and non-metallic tensile reinforcement
- PE-coated corrugated steel tape armor delivering superior radial crush resistance and rodent barrier protection
- Dual water-blocking system combining longitudinal water-swellable tape and jelly filling
- Durable, UV-resistant black MDPE outer jacket engineered for duct pulling and harsh ambient exposure
- Standardized 12-color identification scheme with ring marking for unambiguous fiber management
- Full compliance with international standards: IEC 60793-1/2, IEC 60794-3-10, ITU-T G.650, and ITU-T G.652

Applications

- Duct telecommunication backbone and access network installations
- Underground utility ducts with rodent hazards and high compressive loads
- Metropolitan area networks (MAN), campus backbones, and inter-building links
- Long-haul and regional optical transmission systems conforming to ITU-T G.652D

Shipping / packaging

Dimensions: 1000 × 1000 × 750 · Weight: 190.0 · CBM: 0.75 · Qty: 1

Category attributes

Fiber Count: 24 pcs
Tube Type: Single Tube (CLT) pcs
Maximum Tensile Load (kN): 2.7 kN
Dielectric Structures: No
Ripcord: Not
Cable Type: Underground Steel Tape
Strength Member: Glass Yarns

Drum Length (m): 2000 m
Tube Type: Single Tube (CLT) pcs
Fiber Type: Single Mode(G.652D)
Cable OD: 8.9 mm
No of loose tube / filler: 1
Drum Size: Bakelite & wooden drum
Armor Type: PE coated corrugated steel tape
Loose Tube Diameter (mm): 2.8-3.0
Outer Sheath: MDPE black
No. of fiber per tube: 24
Cable weight (kg/km): 80
Installation temperature: -40°C to +70°C
Product Dimension: 8.9 mm
Package Dimension: Coiled on Bakelite & wooden drum
Package Weight (Kg): 190
Product Weight (kg): 80
Operating Temperature: -40°C to +70°C

Cable Structural Characteristics

Parameter	Min	Typ	Max	Unit	Notes
Fiber Count		24		cores	G.652D Single-Mode
Number of Loose Tubes		1		tube	Central loose tube configuration
Loose Tube Outer Diameter	2.8		3.0	mm	Tolerance ±3%
Loose Tube Filling		Thixotropic Jelly			Full water-blocking compound
Strength Member		Glass Yarns			Peripheral non-metallic reinforcement
Moisture Barrier		Water Blocking Tape			Longitudinally applied
Armoring		Corrugated Steel Tape			PE-coated steel tape armor
Outer Sheath Material		MDPE (Black)			Medium-Density Polyethylene
Outer Sheath Thickness		1.2		mm	Nominal value
Cable Outer Diameter (OD)		8.9		mm	Tolerance ±5%
Cable Weight		80		kg/km	Tolerance ±15%

Optical Performance (ITU-T G.652D)

Parameter	Min	Typ	Max	Unit	Notes
Attenuation @ 1310 nm (Before Cabling)			0.34	dB/km	
Attenuation @ 1310 nm (After Cabling)			0.36	dB/km	
Attenuation @ 1550 nm (Before Cabling)			0.20	dB/km	
Attenuation @ 1550 nm (After Cabling)			0.22	dB/km	

Zero Dispersion Wavelength	1300		1324	nm	
Zero Dispersion Slope			0.092	ps/(nm²·km)	
Polarization Mode Dispersion (PMD)			0.2	ps/" km	
Cable Cutoff Wavelength (;¶62•			1260	nm	
Macro Bending Loss (100 turns, :b 50 mm) @ 1550 nm			0.05	dB	
Macro Bending Loss (100 turns, :b 50 mm) @ 1625 nm			0.10	dB	
Mode Field Diameter (MFD) @ 1310 nm	8.8	9.2	9.6	µm	9.2 ± 0.4 µm
Cladding Diameter	124	125	126	µm	125 ± 1.0 µm
Core/Clad Concentricity Error			0.6	µm	
Cladding Non-Circularity			1.0	%	
Proof Stress	0.69			GPa	

Mechanical and Environmental Specifications

Parameter	Min	Typ	Max	Unit	Notes
Max. Tensile Load (Short-Term)		1000		N	Installation rating; design capability up to 2.7 kN
Max. Tensile Load (Long-Term)		700		N	Operational rating
Crush Resistance	2000			N/100mm	Plate load per IEC 60794-1-2 E3
Minimum Bending Radius (Dynamic / Installation)		20 x OD			Approx. 178 mm
Minimum Bending Radius (Static / Operational)		15 x OD			Approx. 134 mm
Operating Temperature Range	-40		+70	°C	
Installation Temperature Range	-40		+70	°C	
Storage and Transportation Temperature Range	-40		+70	°C	

Mechanical & Environmental Type Test Methods (IEC 60794-1-2)

Parameter	Min	Typ	Max	Unit	Notes
Tension Loading (Method E1)		1000 N, 1 min			Sample "e50 m; Fiber strain "d0.60%, 9C± "d0.1 dB, no jacket damage
Crush / Compression (Method E3)		2000 N/10 cm, 1 min			3 test points; 9C± "d0.05 dB after test, no physical damage
Impact Resistance (Method E4)		10 J, R=300 mm			3 impact points, 1 drop each; 9C± "d0.05 dB, no jacket damage
Repeated Bending (Method E6)		30 cycles, 10 N load			Bending radius 20 x OD; no damage to jacket or internal elements
Torsion / Twist (Method E7)		±1 turn (360°), 5 cycles			Sample length 2 m; no damage to outer jacket or inner elements

Bend Test (Method E11B)	4 turns, 3 cycles	Mandrel diameter 20 x OD & 15 x OD; 9C± "d0.05 dB after test
Temperature Cycling (Method F1)	+20°C !’ -40°C !’ +70°C !’ -40°C !’ +70°C !’ +20°C	12 hrs per step; 9C± "d0.2 dB/km referenced to +20±3°C baseline
Water Penetration (Method F5)	1 m water head, 24 hrs	Sample length 3 m; no water leakage from opposite end

Color Coding & Fiber Identification

Fibers 1 to 12 follow the standardized solid color sequence: 1-Red, 2-Green, 3-Yellow, 4-Blue, 5-White, 6-Violet, 7-Orange, 8-Black, 9-Grey, 10-Brown, 11-Pink, 12-Turquoise. Fibers 13 to 24 replicate the base sequence with a single black tracer ring (Fiber 20 is colored natural). The central loose tube is natural color.

Notes

- Outer sheath printing is white, spaced at 1-meter intervals, including cable model, fiber count, manufacturer mark, and incremental meterage.
- Both ends of the cable are factory-sealed with heat-shrinkable end caps to prevent moisture ingress during shipping and storage.
- Cables are delivered wound on heavy-duty Bakelite and wooden drums with full wooden batten protection.
- Custom jacket marking text and alternative packaging lengths are available upon request.

Ordering information

Part Number: OFC-OFC-24G.652D-CGStD-S1 | Standard Drum Length: 2000 m on Bakelite & wooden drum | Package Dimensions: 1000 mm (L) x 1000 mm (W) x 750 mm (H) | Gross Weight: ~190 kg per drum | Volume: 0.75 m^3

Branding: https://optowire.net