PN: FLFOCODD204CTSWASTAHD

OPTICAL FIBER CABLE

TECHNICAL DATA SHEET

DUCT- DIRECT BURIED CABLE

CENTRAL TUBE CONSTRUCTIONS

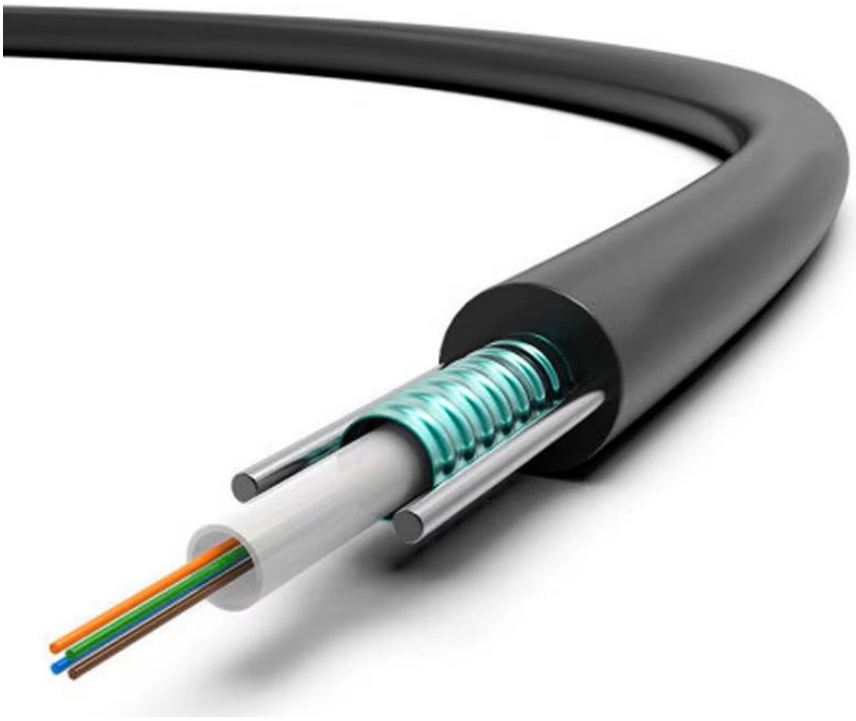
DOUBLE STEEL WIRE AND STEEL TAPE WITH RIP CORD

ANTI-CORROSION AND UV RESISTANCE CABLE

WATER PROTECTED - RODENT PROTECTED - ANTI-TERMITE

4 FIBERS, COMPLYING WITH ITU-T G.652D

A-D(ZM)(SR)2Y 1x04 E9/125 CT

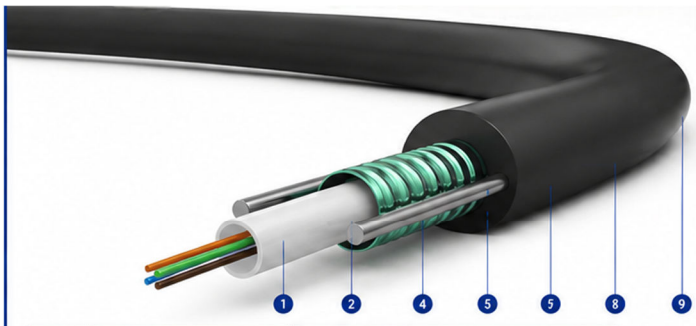


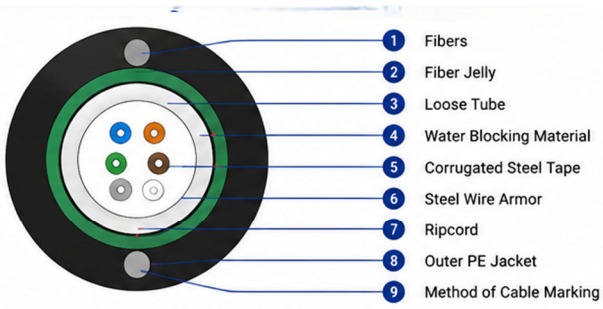
International Code: A-D(ZM)(SR)2Y 1x04 E9/125 CT

Cable Application

Cable can be designated as a duct-buried or direct-buried armored rodent-protected cable. The cable can be installed by pulling in ducts, directly buried underground, or installed on cable trays.

Fiber optic cables are used for triple-play (Voice-Video-Data), FTTx applications in telecommunication projects, access networks, backbone, metropolitan, broadband, utility and intelligent traffic control, supervisory control and data acquisition (SCADA), cable TV (CATV), and other outdoor communication applications.





ITEM	CABLE ELEMENT	CABLE CONSTRUCTION
1	Fibers	6F, Single Mode Fiber, ITU-T G.652D (OS2)
2	Fiber Jelly	Thixotropic Jelly Compound
3	Loose Tube	PBT Loose Tube
4	Water Blocking Material	Water Blocking Jelly
5	Corrugated Steel Tape	Corrugated Steel Tape (APL)
6	Steel Wire Armor	Galvanized Steel Wires diametrically opposite each other
7	Ripcord	Ripcord under steel tape for easy sheath removal
8	Outer PE Jacket	HDPE, Black and UV Resistant
9	Method of Cable Marking	White Ink-Jet Printing

CABLE DESIGN

Outdoor cable - Fibers bundles, Jelly filled central tube wrapped by water blocking tape, core wrapped by tape, two steel wires diametrically opposite to each other serving as extra strength and anti-buckling members, corrugating steel tape for rodent & mechanical protection and outer sheath of high density Polyethylene (UV resistant).

APPLICATIONS

- Long-Haul and Metropolitan Communication Networks
- Telecommunication Networks, FTTx Applications
- Duct, Aerial, and Direct Buried Installations
- High Protection from Moisture, Rodents and Crush
- Outdoor & Harsh Environment Applications

RODENT PROTECTION

Corrugated steel tape provides excellent protection against rodents

STRONG & DURABLE

Corrugated steel tape and steel wire armor ensure high tensile strength and crush resistance

WATER BLOCKING

Advanced water blocking materials provide excellent moisture resistance

Installation Guidelines

- Avoid exceeding the specified maximum tensile load during installation.
- Maintain the specified minimum bending radius during installation and after installation.
- Avoid sharp bends, kinks, twisting, and excessive pulling force.
- Use suitable cable pulling equipment and accessories during duct installation.
- Seal the cable ends properly to prevent moisture and contamination from entering the cable.
- Avoid dragging the cable directly over sharp or abrasive surfaces.
- Protect the cable from excessive impact, crushing, and mechanical stress during installation.
- Follow the manufacturer's recommended installation procedures and applicable cable standards.

International Code: A-D(ZM)(SR)2Y 1x04 E9/125 CT

Cable Design

Outdoor armored cable with 4 single-mode optical fibers housed in a central loose tube filled with water-blocking compound. The central tube is surrounded by water-blocking material and reinforced with steel wire strength members. A corrugated steel tape provides additional mechanical protection and resistance against rodent penetration. The cable is protected by an outer sheath made of high-density polyethylene (HDPE), providing excellent environmental and UV resistance for outdoor installation.

Cable Application Standards

IEC 60793, IEC 60794-1-2, ITU-T Recommendations, TIA/EIA-455, and applicable fiber optic cable installation and testing standards.

Color Code

FIBER COLOR (1-6Fibers)	BLUE	ORANGE	GREEN	BROWN	-	-
FIBER COLOR (7-12Fibers)	-	-	-	-	-	-

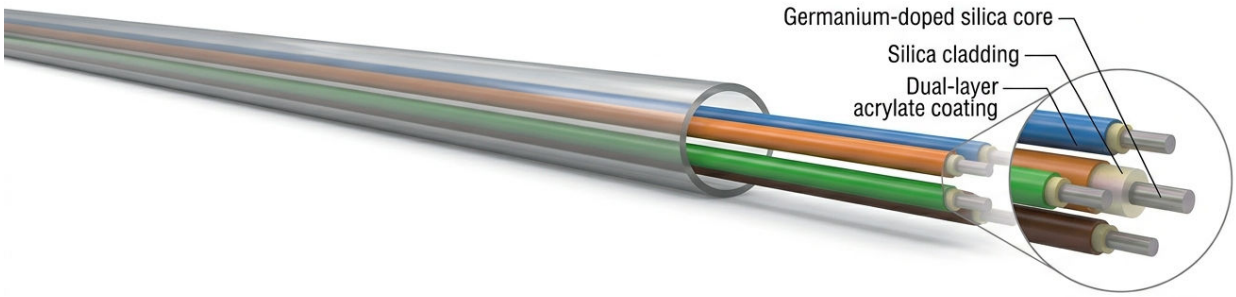
Cable Marking

Fiber Light 4F SM Fiber Optic Outdoor Armored Cable – ITU-T G.652D, IEC 60793, IEC 60794-1-2, XXXX

International Code: A-D(ZM)(SR)2Y 1x04 E9/125 CT

Optical Fiber (ITU-T G.652D)

Optical single-mode fibers are made of a germanium-doped silica core, silica cladding, and a dual-layer acrylate coating over the cladding. A colored coating is applied for easy fiber identification.
The fibers are optimized for operation at wavelengths of 1310 nm and 1550 nm and provide low attenuation and excellent transmission performance. The fibers comply with the requirements of ITU-T G.652D and IEC 60793-2-50 Type B.1.3 specifications.



4F Single Mode Optical Fiber – ITU-T G.652D

Structural Specification

Parameter	Specification
Mode Field Diameter @ 1310 nm	9.2 ± 0.4 µm
Mode Field Diameter @ 1550 nm	10.4 ± 0.5 µm
Cladding Diameter	125.0 ± 0.7 µm
Coating Diameter (Colored)	255 ± 10 µm
Core/Mode Field Concentricity Error	≤ 0.6 µm
Cladding Non-Circularity	≤ 1.0%

Optical Specification

Parameter	Specification
Attenuation @ 1310 nm	≤ 0.35 dB/km
Attenuation @ 1550 nm	≤ 0.22 dB/km
Dispersion @ 1285–1330 nm	≤ 3.5 ps/(nm·km)
Dispersion @ 1550 nm	≤ 18.0 ps/(nm·km)
Zero Dispersion Wavelength (λ_0)	1300–1324 nm
Zero Dispersion Slope (S_0)	≤ 0.092 ps/(nm²·km)
Polarization Mode Dispersion (PMD)	≤ 0.2 ps/√km
Cable Cut-off Wavelength (λcc)	≤ 1260 nm
Point Discontinuity @ 1310/1550 nm	≤ 0.2 dB
Effective Group Index of Refraction (Neff)	1.4675 @ 1310 nm / 1.4681 @ 1550 nm

Mechanical Specification

Proof test	≥ 1% (100 kpsi or 0.7 GPa)

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Technical Characteristics for Optical Fiber Cable

Test	Specification	Test Conditions	Acceptance Criteria
Temperature Cycle	IEC 60794-1-F1	-20°C to +70°C, 1 hr, 2 cycles	Attenuation change ≤ ±0.1 dB/km
Tensile Strength	IEC 60794-1-E1A	Maximum 2000 N, 10 min	Attenuation change ≤ ±0.1 dB/km
Crush	IEC 60794-1-E3	2000 N/100 mm, 10 min	Attenuation change ≤ ±0.1 dB/km
Impact	IEC 60794-1-E4	3 impact points, 1 m height, 1 kg	Attenuation change ≤ ±0.1 dB/km
Cable Bend Radius	IEC 60794-1-E11	15 × OD, no load	Attenuation change ≤ ±0.1 dB/km
Repeated Bending	IEC 60794-1-E6	20 × OD, 1 kg, 2 cycles	Attenuation change ≤ ±0.1 dB/km
Twist	IEC 60794-1-E7	2 m, 1 kg, 180°, 5 cycles	Attenuation change ≤ ±0.1 dB/km
Kink	IEC 60794-1-E10	15 × OD	No defect on fiber or sheath
Water Penetration Test (WPT)	IEC 60794-1-F5B	L = 3 m, H = 1 m, 24 h	No water leakage

Environmental Properties for Optical Fiber Cable

Parameter	Specification
Relative Humidity	5% to 95%
Operating Temperature	-40°C to +70°C
Installation / Transportation / Storage Temperature	-20°C to +65°C

Optical Properties for Optical Fiber Cable

Parameter	Specification
Average Attenuation @ 1310 nm	≤ 0.35 dB/km
Average Attenuation @ 1550 nm	≤ 0.22 dB/km
Chromatic Dispersion @ 1285–1330 nm	≤ 3.5 ps/(nm·km)
Chromatic Dispersion @ 1550 nm	≤ 18.0 ps/(nm·km)
PMD (Maximum for Each Individual Fiber)	≤ 0.2 ps/√km

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Standard Cable Length

Standard Cutting Length: 3000mts ± 10%

Drum Marking

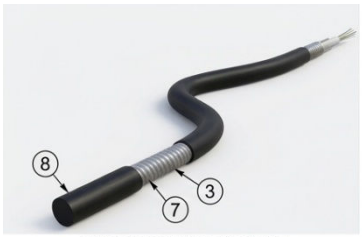
All necessary cable information shall be marked on the wooden drum outer flanges by using water proof Ink or water proof label or aluminum plate.

Packing and Shipping

The cable wooden drum shall be of the standard manufacturing length but special length if any can also be provided on customer request. The wooden drum barrel diameter shall not be less than 50 times of the nominal outer diameter of the cable. The cable ends shall be sealed with shrinkable end caps on both sides of the cable. The cable wooden drum is protected by whether proof sheet and wooden battens. The direction of rotation shall be marked on the drum flange.

Cable Features

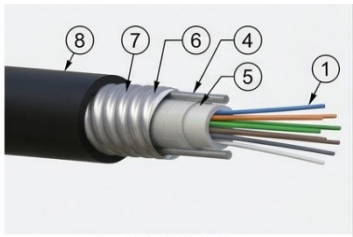
The Cable Lifetime more than 30 years.



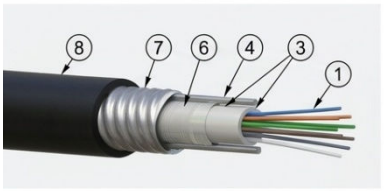
MAIN PRODUCT IMAGE

CABLE COIL

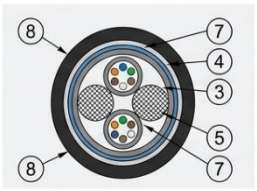
CABLE DRUM



CABLE END

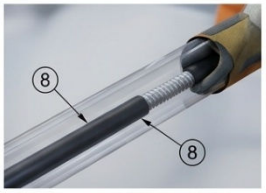


3D CUTAWAY

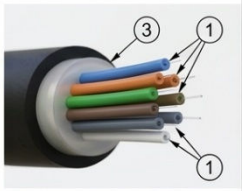


CROSS SECTION

DIRECT BURIAL APPLICATION



DUCT APPLICATION



FIBER COLOR CODE

DRAWING IS NOT TO SCALE