

OPTICAL CABLE FIBER-LAN INDOOR_OUTDOOR - EXP



Construction

RoHS-2 Compliant
Dielectric
Tight Buffer
Singlemode or Multimode

Description

Optical cable with singlemode or multimode optical fibers arranged in "tight buffer" design. Optical fibers are coated with acrylate resin and a secondary coating of thermoplastic material. Dielectric strength members surround the set of fibers and a black thermoplastic flame-retardant outer jacket provides enhanced protection.

Application

Installation Environment	Indoor / Outdoor
Operation Environment	Installation in conduits and boxes of underground passage susceptible to temporary partial flooding and interconnection between lobby rooms

Standard

- ITU-T G.651: "Characteristics of a 50/125 μ m multimode graded index optical fibre and cable";
- ITU-T G.652: "Characteristics of a single-mode optical fibre and cable";
- ITU-T G.657: "Characteristics of a bending loss insensitive single mode optical fibre and cable for the access network";
- ICEA S-83-596: "Standard for optical fiber cable premises distribution cable";
- ICEA S-104-696: "Indoor-outdoor optical fiber cable";
- Telcordia GR-409-CORE: "Generic requirements for premise fiber optic cable";
- Telcordia GR-20-CORE: "Generic requirements for optical fiber and optical fiber cable";
- ANSI/TIA-568.3-D: "Optical fiber cabling components standard";
- ISO/IEC 60794-1-1: "Optical fibre cables – Part 1-1: Generic Specification – General";

- CENELEC/EN 60794-1-1: "Optical fibre cables – Part 1-1: Generic Specification – General";
- RoHS-2 Compliant (Restriction of Hazardous Substances).

Optical Fiber SM (Singlemode), BLI (Bending Loss Insensitive), MM (Multimode) OM1, OM2, OM3 and OM4.

Optical Characteristics

Fiber	Characteristics
Single mode	According to technical specification 2000 (Annex A)
Multi mode (OM1, OM2, OM3 and OM4)	According to technical specification 1999 (Annex B)

Fiber Coating Acrylate

Fiber Identification

Fiber	Color
01	Blue
02	Orange
03	Green
04	Brown
05	Slate
06	White
07	Red
08	Black
09	Yellow
10	Violet
11	Pink
12	Aqua

Other colors upon request.

Cabling The core shall be dry, protected with water blocking material to prevent water intrusion.

Strength member Dielectric yarns

Rip Cord A ripcord should be included under the jacket.

Outer Jacket Black thermoplastic flame-retardant material providing enhanced protection to the cable core. If necessary, cable jacket can be provided in low smoke zero halogen (LSZH) material.

**Cable Flammability
Rating**

Cable protection grade	Marking
Riser Optical Cable	OFNR
Optical Cable with Low Smoke Zero Halogen Jacket	LSZH

LSZH rated: the jacket meets the following LSZH specification: IEC 60332-3 ("Test On Electric Cables Under Fire Conditions"), IEC60754-2 (Acidity of smoke) and IEC 61034-2 ("Measurement of smoke density of cables burning under defined conditions").

OFNR rated: meets UL 1666 standard - "Test for Flame Propagation Height of Electrical and Optical-Fiber Cables Installed Vertically in Shafts".

**Physical
Characteristics**

Minimum bending radius (mm)	- During Installation: 15 x outer diameter - After Installation: 10 x outer diameter
Maximum Tensile Loading during Installation (N)	1x Cable weight/km (Minimum 1850)
Installation Temperature	-10 °C to +60 °C
Storage Temperature	-40 °C to +70 °C
Operation Temperature	-20 °C to +70 °C

Dimension

Nominal Outer Diameter (mm)	2 Fibras	4,8
	4 Fibras	5,2
	6 Fibras	5,4
	8 Fibras	6,0
	10 Fibras	6,4
	12 Fibras	6,6
Nominal Mass (kg/km)	2 Fibras	19
	4 Fibras	21
	6 Fibras	24
	8 Fibras	34
	10 Fibras	38
	12 Fibras	40
Jacket Thickness (mm)	0.95	

**Mechanical and
Environmental
Characteristics**

Test	Requirement	Unit	Singlemode Fiber	Multimode Fiber
Mechanical	Compression	Load: 1000 N length:10cm	Attenuation variation ≤ 0.4 dB	Attenuation variation ≤ 0.6 dB
	Impact	20 cycles height: 150mm Impact Weight	Should not present rupture	
Environmental	Thermal cycle	-20°C +65°C		

			1310/1550nm≤ 0.4dB/km	850/1300nm≤ 0.6dB/km
	Water tightness	24 hs x Water column 1 m	It should not leak	

Impact Weight

Outer diameter (mm)	Impact Weight (kg)
0 < D 3.8	0.50
3.8 < D 5.3	1.00
5.3 < D 7.5	1.50
7.5 < D 13.0	2.00
13.0 < D 15.0	3.00
15.0 < D 16.6	3.50
16.6 < D 18.9	4.00
18.9 < D 21.4	4.50
21.4 < D	5.00

Marking

"FURUKAWA FIBER-LAN INDOOR/OUTDOOR y wF z x month/year k LOTE nL ()"**

Where:

y = type of optical fiber

SM Singlemode fiber

BLI Singlemode bending loss insensitive fiber

MM Multimode fiber

w = fiber count

z = denomination for special fiber

G-652D For singlemode ITU-T G-652D fiber

G-657-A1 For singlemode ITU-T G-657A1 fiber

(62.5) For multimode 62.5μm fiber

(50) For multimode 50μm fiber

(50) OM3 For multimode 50μm EIA/TIA 492AAAC fiber

(50) OM4 For multimode 50μm EIA/TIA 492AAAD fiber

x = Flame rate

month/year MM/YYYY

k = TYPE OFNR C(ETL)US

Note: ETL Listed certificate applicable only for cables with PVC jacket.

nL = Lot number

(**) = Length marking xxxx

Package Type

Wooden reel

Standard Length

2100m

- Tolerance ±5%.

[Part Numbers](#)