

# OPTICAL CABLE CFOA-SM-ARD (12F/T) - Totally Dry



Construction	Corrugated steel tape armored	
	Totally Dry	
	Loose tube	
	SM	

**Description** Optical cables with single-mode optical fibers coated in acrylate, located in dry loose tubes. The tubes are gathered around the central element. The core of the cable will be protected with inflatable materials. A corrugated steel tape armor is applied over the core and a cover of black thermoplastic material is applied on top of it.

Application	Installation Environment	Outdoor
	Operation Environment	Aerial lashed Underground installations, subject to rodents attacks. In ducts Directly buried

- Standard**
- ITU-T G.652 "Standard for non-dispersion shifted single-mode fiber";
  - ANSI/ICEA S-87-640 "Standard for Optical Fiber Outside Plant Communications Cable";
  - Telcordia GR-20 CORE Issue 2 "Generic Requirements for Optical Fiber and Optical Fiber Cable".
  - ANSI/TIA/EIA 598-D "Optical Fiber Cable Color Coding";
  - IEC-60794-1 "Standard | fibre optics | Optical fibre cables".

**Optical Fiber** Singlemode optical fibers ITU-T G652D covered by UV cured acrylate

Optical Characteristics	Singlemode Fiber Transmission Characteristics - G-652D		
	Wavelength (nm)	Maximum Optical Characteristics (dB/km)	
		Non Cabled	Cabled
1550	0.19	0.20	
1625	0.20	0.22	

Fiber PMD Link Design Value (LDV):  $\leq 0.04$  ps/ $\sqrt{\text{km}}$

Chromatic Dispersion @1550nm:  $\leq 18$  ps/nm.km

Chromatic Dispersion @1625nm:  $\leq 22$  ps/nm.km

**Fiber Coating** Optical fiber with an acrylate coating.

**Fiber and Loose Tube**

Identification	Fiber	Color
	1	Blue
	2	Orange

3	Green
4	Brown
5	Gray
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Cyan

**Buffer Tube**

Tubes of thermoplastic material (PP) filled with waterblocking yarn to prevent water penetration. Loose tubes shall protect the optical fibers from mechanical tensions

Diameter Loose tubes (mm)	192F	240F
	2,5	2,3

**Central Member**

Dielectric-material element located in the center of the core cable to prevent the efforts of the cable tension. As central member, it is applied a bar of plastic material reinforced by FRP (Fiber Reinforced Plastic) fiberglass.

**Core**

The tubes are stranded together to form the cable core. The core shall be protected with water blocking material to prevent water intrusion.

**Core Lay up**

Cantidad de tubos	Construcción 12 fibras por tubo
1	12F
2	24F
3	36F
4	48F
5	60F
6	72F
7	84F
8	96F
9	108F
10	120F
11	132F
12	144F
13	156F
14	168F
15	180F
16	192F
17	204F
18	216F
19	228F
20	240F

**Minimal Rodent Protection Thickness** Corrugated steel tape, longitudinally applied over the cable core. Two ripcords are applied under the corrugated steel tape.

**Outer Jacket** Black thermoplastic material with weather protection and resistant to sunlight. The outer coating must be made of Polyethylene (PE).

<b>Physical Characteristics</b>	Maximum Rated Cable Load (MRCL)	2700 N
	Everyday Stress (EDS)	800 N
	Crush Resistance	2500 N/10cm
	Minimum radius of curvature (mm)	- Under tension: 15 x cable diameter - Without tension: 10 x cable diameter - On the reel: 10 x cable diameter
	Installation temperature	-30 °C to 70 °C
	Operation temperature	-40 °C to 70 °C
	Storage temperature	-40 °C to 75 °C

<b>Dimension</b>	Construction	Cable outer diameter (mm) Tolerance ±1 (mm)	Nominal cable Weight (kg/km)
	192F	16.8	205
	240F	17.3	220

**Marking** Cables will be provided with the following marking in bas-relief or in a well readable marking on the cable surface in length intervals of 1 meter:

**FURUKAWA CFOA-SM-ARD-S xx G-652D TS "Customer name" YYYYYYYY-ZZ-WW MM/AA (\*\*)**

Where:

SM	Singlemode fiber
ARD	In ducts or aerial lashed
S	Dry core
xx	Number of fibers
YYYYYYYY	Serial number
ZZ	Verificator number
WW	Batch
MM	Month of manufacture
AA	Year of manufacture
(**)	Length marking in meters (xxxxxm)

**Package Type** Wooden reel projected to avoid damages on the cable during transportation and installation.

Reel Dimension	Wing Diameter (mm)	Internal Width (mm)	External Width (mm)	Core Outer Diameter (mm)	Weight without protection (kg)
210/90	2100	900	1052	900	280

Reel/label identification

The information requested by the purchaser will be marked on the flange in paint and complemented by a weather-resistant label affixed to the side of the reel.

-Order/manufacture number;

- Order/buyer number;
- Roll number;
- Part number/item number;
- Drum size;
- Gross weight and net weight;
- Certification tests and quality controls.

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**Observations**

Optical cables covered by this datasheet are designed and manufactured considering a minimum lifespan of 25 years, when used in normal and appropriate conditions.  
This lifespan is applicable to products in good conditions, installed according to the good practices, free of damages caused by bad installation, handling and/or inappropriate storage.

**Quality and Inspection Certifications**

For each fiber optic wooden spool, the manufacturer must provide a compliance certification and test report with the following information:

**Identification of:**

- Order/manufacture number;
- Order/buyer number;
- Manufacturing date/inspection date;
- Cable description / item number / batch number;
- Quantity of meters.

**Certified test report:**

- Fibers: fiber color, attenuation;
- Loose tube: nominal diameter, minimum average wall, material, color;
- Protection jacket: nominal diameter, jacket thickness, outer jacket material, outer jacket color.

**Manufacturing test procedure:**

- Fiber optic PMD reports (not cabled): 100% of fibers;
  - Fiber optic attenuation reports (cabled): 100% of the fibers;
  - Loose tube report (dimensional): 100% of the cables;
  - Final inspection report (dimensional): 100% of the cables.
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[Codification](#)