

Steel Armored Optical Cable for Ducts ARD – Dry Core and Dual Jacket (LSZH)

CABLE DESIGN

ABNT NBR 15108 /ANATEL: ANEXO A RESOLUÇÃO 715



Not to Scale – Schematic drawing

- **Dielectric Central Member:** Reinforced Fiberglass reinforced with or without coating
- **Loose Tube:** Loose tube technology impregnated with water-repellent petroleum gel containing up to 12 optical fibers per tube.
- **Construction:** Tubes and fillers are stranded in reverse SZ twist around the central element.
- **Moisture Protection:** Core is protected against moisture with hydro-expandable (dry) material .
- **Inner Jacket:** Internal Jacket acting as additional protection with rip cord
- **Rodent protection:** Fiberglass covered by corrugated steel and hydro-expandable material
- **External Jacket:** Black thermoplastic outer jacket, weather and UV resistant, flame retardant, low smoke zero halogen (LSZH), containing rip cord.

These cables are designed for external installation in ducts or subducts, The construction also meets the requirements of NBR 15110 (buried use). Metallic protection against rodents (Advisable grounding when applicable)

TECHNICAL INFORMATION

FO Quantity		2 to 12	18 to 36	48 to 60	72
Fiber per Tube		2	6	12	
Jacket Thickness	mm	1.5 (Nominal)			
Diameter	mm	14.6	16	16.4	17
Cable weight	kg/km	248	265	295	298

Cable OD can change +/- 0,5mm.
Cable weight can change +/- 5kg/km

Minimum Bend Radius	mm	During Installation 20 x OD	Installed 10 x OD
Temperature	°C	Operating -20 a +65	

MAIN CHARACTERISTICS

Characteristic	Method	Requirement	Value
Maximum Operating Tensile Load	NBR 13512	2.0 x Cable Weight x Km	Fiber Strain <= 0.2%
Compression	NBR 13507	1 x Cable Weight x Km (Min 1,000N – Max 2,200N)	SM 0.1dB / MM 0.2dB
Impact	NBR 13509	25 cycles, P = NBR 15108	No fiber break
Torsion	NBR 13513	+/- 180°, 10 cycles (200mm)	SM 0.1dB / MM 0.2dB
Bending Flex	NBR 13518	R= 6 x OD, 2kg, 25 cycles	SM 0.1dB / MM 0.2dB
Bending	NBR 13508	R = 6 x OD, 5 cycles	SM 0.1dB / MM 0.2dB
Thermal Cycle	NBR 13510	-20 a +65°C	SM 0.05dB /km – MM 0.1dB/km
Moisture penetration	NBR 9136	Sample 1m, Water column 1m	No leak after 24 hours

* Attenuation Increase or Variation.

OPTICAL CHARACTERISTICS

Attenuation	nm	Requirement	Typical
SM (G.652.D)	1310 / 1383 / 1550	dB/km	0.35 / 0.35 / 0.25
MM50 (OM2-OM4)	850 / 1300	dB/km	3.5 / 1.5

Other attenuation values on request. Other characteristics according to the corresponding optical fiber catalog.

IDENTIFICATION

Fiber Colors

FO No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	Green	Yellow	White	Blue	Red	Violet	Brown	Pink	Black	Grey	Orange	Aqua

Tubes Colors

FO No.	1	2	3	4	5	6
Color	Green	Yellow	Natural	Natural	Natural	Natural

Jacket Color:

Black.

EXTERNAL PRINT LEGEND

The external jacket legend is recorded at 1 meter intervals as shown below:

<COMMScope> <Year> <CFOA-XX-ARD-S # FO LSZH >>
<ANATEL> <ANATEL CODE> <LOT> <Metric Marcation>

CFOA = Acrylate coated optical fiber.

XX = Optical Fiber Type (SM, MM50).

ARD = Armored with Rodent Protection for Duct installation.

S = Dry core

FO = 2 to 72

LSZH = External jacket (Low Smoke Zero Halogen)

LOGISTICS

Packing

Wooden reel with protection

Reel Length

Standard reels of 4 km, tolerance $\pm 3\%$. Other lengths on request