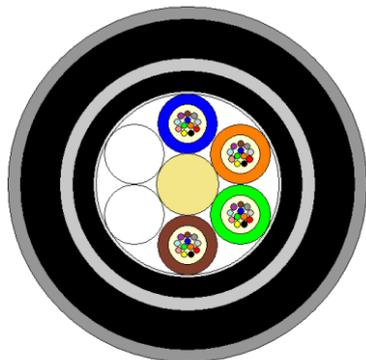


# Loose Tube Dielectric Armoured Cable with PA Covering

## Cable Design

IEC/EN 60794



48 fo cable- not to scale -

- **Central Strength Member (CSM):** glass fibre reinforced plastic rod (FRP), with plastic oversheathing when needed.
- **Loose Tube:** thermoplastic material, containing optical fibres and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, where needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **Inner Sheath:** PE, 2 ripcords beneath.
- **Peripheral Strength Elements and Non Metallic Armour as rodent protection:** glass yarns.
- **Outer Sheath:** HDPE.
- **Protective Covering:** PA (hydrocarbon and termites resistant)

## Technical data

No. of Fibres		12	24	36	48	60	72	96	144	288	
Design		1x12	2x12	3x12	4x12	5x12	6x12	8 x 12	12 x 12	(9+15) x 12	
Loose Tube / Filler - Ø	mm							2.3			
CSM - Ø	mm				2.4				3.0	3.5	3.0
CSM-Oversheathing - Ø	mm				-				3.9	7.1	4.8
Inner / Outer Sheath Thickness	mm							0.8 / 1.3			
Protective Covering Thickness	mm							0.5			
Cable Diameter	mm				13.3				14.8	18.4	20.3
Cable Weight	kg / km				140				175	265	330
Minimum Bending Radius	mm	Without Tension 15 x Cable-Ø						Under Maximum Tension 20 x Cable-Ø			
Temperature Range	°C	Installation -10 to +50			Transport & Storage -40 to +70			Operation -30 to +70			

Please refer to our General Installation, Safety & Handling recommendations before handling.

## Main characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Max. Installation Tension	IEC 60794-1-2-E1	4000 N	$\Delta\alpha$ reversible
Max. Operation Tension	IEC 60794-1-2-E1	1500 N	no fibre strain, $\Delta\alpha \leq 0.05$ dB
Crush	IEC 60794-1-2-E3	2000 N / 100 mm, max. 15 min	$\Delta\alpha \leq 0.05$ dB, no damage
Impact	IEC 60794-1-2-E4	10 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB after the test
Cable Bend	IEC 60794-1-2-E11	R=20x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-30°C to +70°C	$\Delta\alpha \leq 0.05$ dB/km
Water Penetration	IEC 60794-1-2-F5B	Sample=3m, water column=1m	no water leakage in 24h

All optical measurements at 1550 nm (SM) and 1300 nm (MM). Acceptance criteria for MM fibres  $\leq 0.2$  dB for all mechanical test and  $\leq 0.5$  dB/km for temperature cycling, instead of 0.05 dB (SM).

## Optical Characteristics

See the attached cabled optical fibre data sheet.

## Identification

### Fibre Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

### Buffer Tube Colours

No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua

No.	13	14	15	16	17	18	19	20	21	22	23	24
Colour	blue <sup>1</sup>	orange <sup>1</sup>	green <sup>1</sup>	brown <sup>1</sup>	grey <sup>1</sup>	white <sup>1</sup>	red <sup>1</sup>	white <sup>2</sup>	yellow <sup>1</sup>	violet <sup>1</sup>	pink <sup>1</sup>	aqua <sup>1</sup>

<colour><sup>1</sup> with evenly spaced black ring marks

<colour><sup>2</sup> with evenly spaced double black ring marks

### Filler Elements Colours:

All filler elements are uncoloured (natural).

### Sheath Colour:

The inner and outer sheath colour is black.

### Sheath Marking:

The outer sheath is marked in 1 meter intervals as follows:

<Optional: Customer name> <Manufacturer> <year of manufacture> <no. and type of fibre>  
<length marking in meter>

## Logistic

### Packing:

Wooden drums with protection.

### Delivery Length:

Standard delivery length is 4 km with a tolerance of -1% / +3%

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