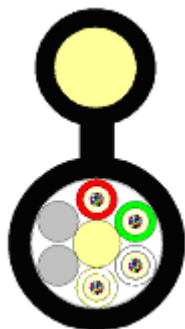


## Optical fibre cables for aerial installation

### Cable Design

Acc. to IEC 60794



- Figure : 48 fibres cable (not to scale) -

- **Messenger** : glass fibre reinforced plastic rod (FRP).
- **Central Strength Member (CSM)**: glass fibre reinforced plastic rod (FRP), with plastic oversheathing when needed.
- **Loose Tube**: thermoplastic material, containing up to 24 fibres and filled with a suitable water tightness compound.
- **Filler Elements**: thermoplastic rods, where needed.
- **Stranding**: loose tubes (and fillers), SZ stranded in one layer around the CSM. A white-red identification thread is laid into the optical core.
- **Longitudinal Water Tightness**: dry core with water swellable elements.
- **Outer Sheath**: high density polyethylene. Two ripcords are laid beneath.

### Technical data

No. of Fibres		12	24	48	72	96	144	192	288	
Design		1 x 12	2 x 12	4 x 12	6 x 12	8 x 12	6 x 24	8 x 24	12 x 24	
Loose Tube / Filler - Ø	mm	2.5			3.0			3.5		
CSM - Ø	mm	2.6	2.6	2.6	2.6	2.6	3.1	3.3	3.5	
CSM-Oversheathing - Ø	mm	-	-	-	-	4.2	-	5.0	9.0	
Messenger Dimensions	mm	7.0								
Outer Sheath Thickness	mm	1.5 (min.)								
Web Dimensions (W x H)		2.5 ± 0.5 x 3.0 ± 1.0								
Cable Diameter	mm	10.8	10.8	10.8	10.8	12.4	12.3	14.2	18.2	
Cable Height	mm	24.0	24.0	24.0	24.0	25.6	25.5	27.4	31.4	
Cable Weight	kg / km	215	215	215	220	250	250	285	385	
Minimum Bending Radius	mm	Without Tension 10 x Cable-Ø				Under Maximum Tension 15 x Cable-Ø				
Temperature Range	°C	Installation - 15 to + 60			Transport & Storage - 40 to + 70			Operation - 40 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	≥ 9 kN	$\Delta\alpha \leq 0.05$ dB/100m fibre strain $\leq 0.33$ %
Max. Operation Tension	IEC 60794-1-2-E1	≥ 9 kN	$\Delta\alpha \leq 0.05$ dB/100m fibre strain $\leq 0.20$ %
Crush (mandrel / plate)	IEC 60794-1-2-E3	1,000 N	$\Delta\alpha \leq 0.05$ dB
Impact	IEC 60794-1-2-E4	15 Nm, 3 impacts, R= 300 mm	$\Delta\alpha \leq 0.05$ dB after the test
Cable Bend	IEC 60794-1-2-E11	R ≤ 350 mm (with messenger) R=10x D (optical core) 4 turns, 3 cycles	$\Delta\alpha \leq 0.05$ dB
Temperature Cycling	IEC 60794-1-2-F1	-40°C to +70°C	$\Delta\alpha \leq 0.1$ dB/km
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water column=1m	no water leakage in 24h (optical core only)

All optical measurements at 1550 nm.

### Optical Characteristics

See the attached cabled optical fibre data sheet.

## Identification

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### Fibre Colours

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

In buffer tubes containing 24 fibres, these are identified by repeating the same colour code and using a synthetic coloured binder around each 12 fibres group. Binders colour : blue, orange.

### Buffer Tube Colours

Tube	1	2	3	4	5	6	7	8	9	10	11	12
Colour	red	green	white	white	white	white	white	white	white	white	white	white

### Filler Elements Colours:

All filler elements are uncoloured (natural).

### Sheath Colour:

The outer sheath colour is black.

### Sheath Marking:

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

<Manufacturer> <part numbers> <cable code> **PE Optical Cable** <fiber type> <batch no.>  
 <year and week of manufacture> <length marking in meters>

## Logistic

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### Packing:

Wooden drums with protection.

### Delivery Lengths:

Standard delivery lengths are 2 km or 4 km with a tolerance of - 1% / + 3%

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