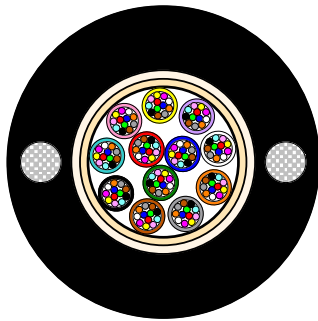


Outdoor all dielectric optical cable, reinforced Aerial installation short span

Cable Design



- not to scale -

- **Micro-module:** Thin wall tubing, filled with a suitable compound, housing the single-mode optical fibres.
- **Water tightness:** dry core with swellable elements.
- **Reinforcement:** aramide yarns.
- **Strength members:** glass fibre reinforced plastic material.
- **Outer Sheath:** HDPE. Ripcord(s) underneath the sheath.

Installation overhead over short span, in duct or on front wall. Typical span 50-70 m⁽¹⁾.

Reinforced sheath. The Flextube® design provides easier storage & faster installation. Finger access to the fibres: no specific tools to open the Flextube.

⁽¹⁾Maximum spans may depend on the environmental conditions and on the predicted sags; see examples below. Specific cases may be evaluated with the technical parameters here below.

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

Technical data

| No. of Fibres | | 12 | 24 | 36 | 48 | 72 | 96 | 144 | 288 |
|---------------------------------------|------------------------------------|-----------------------------|--------|--------|-------------------------------------|-------------------------|--------------------------|-----------|---------|
| Design | mm | 1 x 12 | 2 x 12 | 3 x 12 | 4 x 12 | 6 x 12 | 8 x 12 | 12 x 12 | 24 x 12 |
| Module diameter | mm | 1.3 | | | | | | | |
| Cable Diameter | mm | 10.1 | 10.5 | 11 | 12.4 | 12.8 | 13.4 | 14.2 | 15.5 |
| Cable Weight | kg / km | 75 | 80 | 90 | 120 | 130 | 140 | 150 | 185 |
| Thermal expansion coefficient | ·10 ⁻⁶ °C ⁻¹ | 15.6 | 15.6 | 15.6 | 16.2 | 16.2 | 17.7 | 17.7 | 19.8 |
| Effective area | mm ² | 8.3 | 8.3 | 8.3 | 13.2 | 13.2 | 13.2 | 13.2 | 13.2 |
| Modulus of elasticity | daN/mm ² | 7000 | 7000 | 7000 | 6330 | 6330 | 6330 | 6330 | 6330 |
| MIT (maximum tension at installation) | daN | 64 | 64 | 64 | 92 | 92 | 92 | 92 | 92 |
| MAT (maximum allowable tension) | daN | 220 | 220 | 220 | 320 | 320 | 330 | 330 | 360 |
| RTS (rated tensile strength) | kN | 8.1 | 8.1 | 8.1 | 12 | 12 | 12 | 12 | 12 |
| Min. Bending Radius | mm | Static 10 x Ø cable | | | | Dynamic 20 x Ø cable | | | |
| Temperature Range | °C | Installation - 5 -> + 40 | | | Transport & Storage - 40 -> + 70 | | Operation - 40 -> +70 | | |
| Climatic conditions | Maximum span (m) | Installation Sag (%) | | | | | | | |
| Wind (100km/h) ; -5°C ; 5mm ice | 50 / 70 | 1.2 / 3.2 | | | 1.2 / 1.7 | | 1.2/1.9 | 1.2 / 2.0 | |

Optical Characteristics

See the attached cabled optical fibre data sheet.

Main characteristics

| Test | Test Standard | Specified Value | Acceptance Criteria* |
|-----------------------|-------------------|---------------------|---|
| Max. Installation MAT | IEC 60794-1-2-E1 | see table above | $\Delta I/I$ fibre $\leq 0.3\%$, $\Delta\alpha$ reversible |
| Crush | IEC 60794-1-2-E3 | 300 daN / 100 mm | $\Delta\alpha \leq 0.1$ dB |
| Impact | IEC 60794-1-2-E4 | 10 Nm | $\Delta\alpha$ reversible |
| Torsion | IEC 60794-1-2-E7 | 1 m, +/- 180° | $\Delta\alpha \leq 0.1$ 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=1m | No water leakage after 24h |

* values for single-mode fibres, measurement performed at 1550 nm.

Identification

Fibre Colours

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

Flextube Colours

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

| No. | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|--------|-------|-----|-------|------|-------|--------|--------|------|-------|--------|------|------|
| Colour | white | red | green | blue | white | yellow | orange | grey | brown | violet | pink | aqua |

Sheath Colour:

The outer sheath colour is black.

Sheath Marking:

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

**<Manufacturer> VODAFONE <Year/week of manufacture> <Cable type and no. 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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