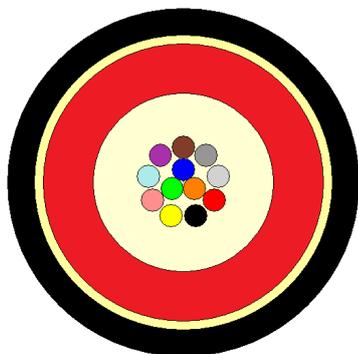


Unitube Mini Cables for use in Ducts

Cable Design

IEC/EN 60794



- not to scale -

- **Loose Tube:** Thermoplastic material filled with a suitable water tightness compound.
- **Strength members:** are applied in the cable.
- **Outer sheath:** consists of a special high-density polyethylene compound.

This loose tube dielectric optical cable is designed for outdoor installation in ducts and microducts by blowing techniques.

Technical data

No. of Fibres		2 - 24		
Loose Tube- Ø	mm	3.1		
Sheath thickness	mm	0.4		
Cable Diameter	mm	3.9		
Cable Weight	kg / km	12.5		
Tensile Performance	N	150		
Min. bending radius	mm	Without Tension 15 x Cable-Ø		Under Maximum Tension 25 x Cable-Ø
Temperature range	°C	Installation -10 to +50	Transport. & Storage -40 to +70	Operation -30 to +60

Main characteristics

Test	Standard	Specified value	Acceptance Criteria ⁽³⁾
Tensile Performance	IEC 60794-1-2-E1	150 N	$\Delta\alpha \leq 0.05$ dB after the test
Crush	IEC 60794-1-2-E3	1000N, 100mm plate/plate 1min.	$\Delta\alpha \leq 0.05$ dB after test, no damage
Impact	IEC 60794-1-2-E4	5 Nm, R=200mm, 3 impacts	no damage
Torsion	IEC 60794-1-2-E7	$\pm 180^\circ$, L=1m, 10 cycles	$\Delta\alpha \leq 0.05$ dB, no damage
Kink	IEC 60794-1-2-E10	min diameter=10x cable Ø	no damage
Repeated bending	IEC 60794-1-2-E6	R= 15xcable Ø, 100 cycles, 20N	no damage
Cable bend	IEC 60794-1-2-E11	R= 10xcable Ø, 5 turns, 3 cycles ⁽¹⁾	$\Delta\alpha \leq 0.05$ dB, no damage
Temperature range ⁽²⁾	IEC 60794-1-2-F1	-30 to +60°C -40 to +70°C	$\Delta\alpha \leq 0.05$ dB $\Delta\alpha \leq 0.10$ dB
Water Penetration	IEC 60794-1-2-F5B	sample=3m, water=1m	no water leakage after 24h

⁽¹⁾ at room temperature $23^\circ\text{C} \pm 2^\circ\text{C}$ ⁽²⁾ temperature cycling test shall be performed on cable coil (without drum)

⁽³⁾ all optical measurements at 1550 nm (SMF) and 1300 nm (MMF). Acceptance criteria for MM fibres ≤ 0.5 dB for all tests instead of 0.05 dB (SMF).

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	red	green	yellow	blue	white	violet	orange	black	grey	brown	pink	aqua

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

<colour>¹ with black ring marks in 50mm intervals

Buffer Tube Color:

The central loose tube is red.

Sheath Colour:

The outer sheath colour is black.

Sheath Marking:

The outer sheath is marked in 1 meter intervals as follows

Connect Com www.ccm.ch	A-DQ(ZN)2Y <no. and type of fibres> <length marking in meter>	<production number>
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Logistic

Packing:

Plastic or plywood drums with protection.

Delivery Length:

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

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