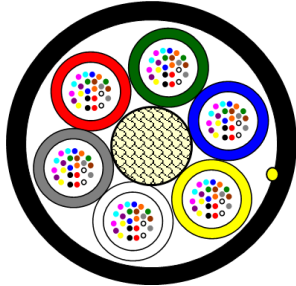


MICRODUCT OPTICAL MINICABLE

Cable Design

IEC/EN 60794-3-10



- not to scale -

- **Central Strength Member (CSM):** glass fibres reinforced plastic material (GRP).
- **Loose Tubes:** thermoplastic material containing optical fibres and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, where needed
- **Stranding:** loose tubes, SZ stranded around the CSM.
- **Binding elements:** aramid yarns.
- **Longitudinal Water Tightness:** water swellable materials (dry core).
- **Outer Sheath:** HDPE.

This dielectric optical cable is designed for microduct installation using blowing technology.

Technical data

No. of Fibres			144
Design	-		6x24
Number of fillers	-		-
Tube diameter - \varnothing	mm		1.65
CSM / Enlargement - \varnothing	mm		1.8/-
Sheath thickness	mm		0.4
Cable diameter - \varnothing	mm		6.0
Cable weight	Kg/Km		32
Min. bending radius	mm	Under Maximum Tension: 20xCable- \varnothing	Without Tension: 15xCable- \varnothing
Temperature range	°C	Transport & Storage: -40 -> +70	Installation: -15 -> +50 Operation: -30 -> +70

Main characteristics

Test	Standard	Value	Requirement*
Tensile strength - Installation	IEC 60794-1-2-E1	1500N	$\Delta I/I$ fibre \leq 0.6%, $\Delta\alpha$ reversible
Tensile strength - Operation	IEC 60794-1-2-E1	500N	$\Delta I/I$ fibre \leq 0.2%, $\Delta\alpha \leq$ 0.05 dB
Cable Bend	IEC 60794-1-2-E11	R=20xOD, 5 cycles, 5 turns	$\Delta\alpha \leq$ 0.05 dB after the test, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20xOD, 100N, 35 cycles	$\Delta\alpha \leq$ 0.05 dB after the test, no damage
Kink	IEC 60794-1-2-E10	10xOD	No kink
Crush - Short Term	IEC 60794-1-2-E3	1000N/100mm, max. 1min	$\Delta\alpha \leq$ 0.05 dB under test, no damage
Crush - Long Term	IEC 60794-1-2-E3	700N/100mm, max. 15min	$\Delta\alpha \leq$ 0.10 dB under test, no damage
Impact	IEC 60794-1-2-E4	1 J, 1 impact, R=300 mm	$\Delta\alpha \leq$ 0.05 dB after the test, no damage
Cable Torsion	IEC 60794-1-2-E7	\pm 180°, 2 m, 5 cycles	$\Delta\alpha \leq$ 0.05 dB after the test, no damage
Temperature Cycling	IEC 60794-1-2-F1	-30 -> +70 °C, 2 cycles	$\Delta\alpha \leq$ 0.10 dB/Km, reversible
Water Penetration	IEC 60794-1-2-F5B	3 m sample, 24 h	No water penetration

* values for single-mode fibres, all optical measurements performed at 1550 nm

Optical Characteristics

See the attached 200 μ m cabled optical fibre data sheet.

Identification

Fibre Colors for G.657A2 200µm:

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	red	green	blue	yellow	white	grey	brown	violet	turquoise	black	orange	rose
No.	13	14	15	16	17	18	19	20	21	22	23	24
Color	red#	green#	blue#	yellow#	white#	grey#	brown#	violet#	turquoise#	white##	orange#	rose#

Fiber Colors: red, green, yellow, brown, blue, violet, black, pink, orange, turquoise, white, grey, red#, green#, yellow#, brown#, blue#, violet#, white#, pink#, orange#, turquoise#, white##, grey#, **#=one black ring, ##=two black ring**

Fibre Colors for G.657A1 200µm

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	red	green	blue	yellow	white	grey	brown	violet	turquoise	black	orange	rose
No.	13	14	15	16	17	18	19	20	21	22	23	24
Color	red#	green#	blue#	yellow#	white#	grey#	brown#	violet#	turquoise#	natural#	orange#	rose#

Fiber Colors: red, green, yellow, brown, blue, violet, black, pink, orange, turquoise, white, grey, red#, green#, yellow#, brown#, blue#, violet#, white#, pink#, orange#, turquoise#, natural#, grey#, **#=one black ring,**

Tube Colors:

Fiber Count	Elements					
No. of tubes x no. of fibres per tube	1	2	3	4	5	6
6 x 24	RD24T	GR24T	BL24T	YE24T	WH24T	GY24T

where: RD24T=Red tube with 24 fibers, GR24T=Green tube with 24 fibers, BL24T=Blue tube with 24 fibers, YE24T=Yellow tube with 24 fibers, WH24T=White tube with 24 fibers, GY24T=Grey tube with 24 fibers.

Sheath Color:

The outer sheath colour is black.

Sheath Marking:

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



where: yyyy = year of production, n = no. of tubes, zzzz = sequential length mark, <fiber type> = E9/125, E50/125, E62.5/125.

Logistic

Packing:

Wooden drums with protection.

Delivery Lengths:

4000 ± 200 m
Other lengths available upon agreement, up to a maximum of 10% of the total number of cable lengths could be shorter than nominal values.

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