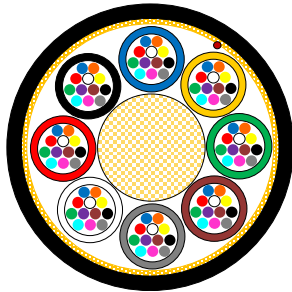


Miniduct Optical Cable

Cable Design

IEC/EN 60794



- 96FO version illustrated, not to scale -

- **Central Strength Member (CSM):** glass fibres reinforced plastic material (FRP).
- **Loose Tube:** thermoplastic material containing 6 or 12 optical fibres and filled with a suitable water tightness compound.
- **Filler Elements:** thermoplastic rods, when needed.
- **Identification Thread**
- **Stranding:** loose tubes, SZ stranded around the CSM.
- **Binding elements:** aramid yarns
- **Longitudinal Water Tightness:** water swellable materials (dry core).
- **Outer Sheath:** HDPE.

This optical cable is designed for duct installation by blowing technique.

Technical data

No. of Fibres		96	144
Design	-	8x12	12x12
Number of fillers	-	-	-
Tube diameter - ϕ	mm		1.35
CSM/Enlargement - ϕ	mm	2.3/-	2.6/4.2
Sheath thickness	mm		0.5
Cable diameter - ϕ	mm	6.0	8.0
Cable weight	Kg/Km	35	55

Min. bending radius	mm	Under Maximum Tension: 20xCable- ϕ	Without Tension: 15xCable- ϕ
Temperature range	$^{\circ}\text{C}$	Transport & Storage: -40 -> +70	Installation: -5 -> +55 Operation: -30 -> +60

Main characteristics

Test	Standard	Value	Requirement*
Tensile strength	IEC 60794-1-21-E1	96fo, 1000N 144fo, 1500N	$\Delta l/l$ fibre \leq 0.6%, $\Delta\alpha$ reversible
Cable Sheath Abrasion	IEC 60794-1-21-E2A	1m, 500 cycles, 4N	Sheath integrity
Cable Marking Resistance	IEC 60794-1-21-E2B/2	1m, 100 cycles, 4N	Legible marking
Crush	IEC 60794-1-21-E3	3 x 500N/100mm, 5min	$\Delta\alpha \leq$ 0.05 dB under test, no damage
Impact	IEC 60794-1-21-E4	1J, 3 impacts, R=300 mm	$\Delta\alpha \leq$ 0.10 dB after the test, no damage
Repeated Bending	IEC 60794-1-21-E6	R=40xOD, 2s, 25 cycles	$\Delta\alpha \leq$ 0.10 dB, no damage
Cable Torsion	IEC 60794-1-21-E7	$\pm 180^{\circ}$, 2 m, 5 cycles, 45N	$\Delta\alpha \leq$ 0.10 dB after the test, no damage
Kink	IEC 60794-1-21-E10	20xOD	No kink
Temperature Cycling	IEC 60794-1-22-F1	T _{A1} = -15 $^{\circ}\text{C}$ T _{B1} = +15 $^{\circ}\text{C}$ T _{A2} = -30 $^{\circ}\text{C}$ T _{B2} = +60 $^{\circ}\text{C}$ 2 cycles	$\Delta\alpha \leq$ 0.15 dB/Km under test, reversible
Water Penetration	IEC 60794-1-22-F5B	1m sample, 1m water, 24h	No water penetration

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

Optical Characteristics

See the attached cabled optical fibre data sheet.

Identification

Fiber colors:

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

Tube Colors:

Fibre Count	Elements											
	1	2	3	4	5	6	7	8	9	10	11	12
8x12	BL12T	OR12T	GN12T	BN12T	SL12T	WH12T	RD12T	BK12T	-	-	-	-
12x12	BL12T	OR12T	GN12T	BN12T	SL12T	WH12T	RD12T	BK12T	YE12T	VI12T	RS12T	AQ12T

where: BL12T = Blue tube with 12 fibers, OR12T = Orange tube with 12 fibers, GR12T = Green tube with 12 fibers, BN12T = Brown tube with 12 fibers, WH12T = White tube with 12 fibers, SL12T = Slate tube with 12 fibers, RD12T = Red tube with 12 fibers, BK12T = Black tube with 12 fibers, YE12T = Yellow tube with 12 fibers, VI12T = Violet tube with 12 fibers, RS12T = Rose tube with 12 fibers, AQ12T = Aqua tube with 12 fibers.

Sheath Color:

The outer sheath color is black.

Sheath Marking:

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

PRYSMIAN(S) yyyy OPTICAL CABLE A-DQ(ZN)2Y t x 12 <fiber type> ANSI zzzz

where: yyyy = year of production, t = no. of tubes, zzzz = sequential length mark, <fiber type> = i.e. G.652D, G.655C, G.657A2, etc.

Logistic

Packing:

Wooden drums with protection.

Delivery Lengths: 2000 ± 100 m; 4000 ± 200 m; 6000 ± 300 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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