

# MICRO DUCT OPTICAL CABLE WITH PICO TUBES

## Cable Design

IEC/EN 60794



-288F version illustrated not to scale -

- **Central Strength Member (CSM):** glass fibers reinforced plastic rod (GRP)
- **Tubes:** thermoplastic material containing 24 optical fibers and filled with a suitable water tightness compound.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** water swellable elements (dry core)
- **Outer Sheath:** HDPE, UV resistant, 1 red ripcord beneath.

This dielectric optical cable is designed for blowing installation technique.

## Technical data

<b>No. of Fibers</b>	-	<b>288</b>		
Design	-	12x24		
Tube diameter - $\varnothing$	mm	1.4		
CSM/Enlargement - $\varnothing$	mm	2.4/3.9		
Sheath thickness	mm	0.4		
Cable diameter - $\varnothing$	mm	7.4 $\pm$ 0.2		
Cable weight	Kg/Km	51		
Min. bending radius	mm	Under Maximum Tension:		Without Tension:
		20xCable- $\varnothing$		15xCable- $\varnothing$
Temperature range	°C	Transport:	Installation:	Operation:
		-40 -> +70	-5 -> +40	-30 -> +60

## Main characteristics

Test	Standard	Value	Requirement*
Max. Installation Tension	IEC 60794-1-2-E1	500N	$\Delta\alpha$ reversible, fiber strain $\leq$ 0.5%
Crush	IEC 60794-1-2-E3	1000 N / 100 mm, max. 5 min	Attenuation reversible, no damage
Impact	IEC 60794-1-2-E4	2 J, 3 impacts, R=300 mm	$\Delta\alpha \leq$ 0.1 dB after test
Repeated Bending	IEC 60794-1-2-E6	R=20xOD, 100N, 25 cycles	$\Delta\alpha \leq$ 0.1 dB no damage
Torsion	IEC 60794-1-2-E7	+/-180°, 2m, 100N	$\Delta\alpha \leq$ 0.1 dB no damage
Cable Bend	IEC 60794-1-2-E11	R=20xOD, 5 turns, 3 cycles	$\Delta\alpha \leq$ 0.05 dB after test
Temperature Cycling	IEC 60794-1-2-F1	-30°C to +60°C	$\Delta\alpha \leq$ 0.1dB/km
Water Penetration	IEC 60794-1-2-F5B	3 m sample, 1 m water column, 24 h	No water penetration

\* values for single-mode fibers, all optical measurements performed at @1550nm

## Optical Characteristics

See the attached cabled optical fiber **G.657A2 200 $\mu$ m** data sheet.

## Identification

### Fiber Colors:

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

| - one ring || - two rings

### Tube Colors:

No.	1	2	3	4	5	6	7	8	9	10	11	12
Color	blue	orange	green	brown	grey	white	red	black	yellow	violet	pink	aqua
12x24												

### Sheath Color:

The outer sheath color is black.

### Sheath Marking:

The outer sheath is marked in 1 meter intervals by ink-jet method as follows:



where: nn= total number of fibers, yyyy= year of production, mmmmM= Sequential Length Mark,

## Logistic

### Packing:

Wooden drums with protection.

### Delivery Lengths:

2100 ± 50 m, 3150 ± 80 m, 4200 ± 100 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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