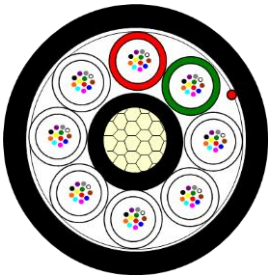
MICRO DUCT OPTICAL CABLE WITH PICO TUBES

Cable Design

IEC/EN 60794



-192F version illustrated not to scale -

- **Central Strength Member (CSM):** glass fibers reinforced plastic rod (GRP)
- **Tubes:** thermoplastic material containing 12 or 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

No. of Fibers	**-**	**96**	**192**	**288**
Design	-	8x12	8x24	12x24
Tube diameter - ø	mm	1.0	1.3	
CSM/Enlargement - ø	mm	1.7/-	2.4/-	2.4/3.9
Sheath thickness	mm	0.4		
Cable diameter - ø	mm	4.6±0.2	5.8±0.2	7.4±0.2
Cable weight	Kg/Km	20	35	51
Min. bending radius	mm	Under Maximum Tension: 20xCable-ø	Without Tension: 15xCable-ø	
Temperature range	°C	Transport: -40 -> +70	Installation: -5 -> +40	Operation: -30 -> +60

Main characteristics

Test	**Standard**	**Value**	**Requirement***
Max. Installation Tension	IEC 60794–1-2-E1	500N	$\Delta\alpha$ reversible, fiber strain ≤ 0.5%
Crush	IEC 60794-1-2-E3	1000 N / 100 mm, max. 5 min	$\Delta\alpha \leq$ 0.1 dB, 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 200µm** data sheet.

Identification

Fiber Colors:

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

Fiber Colors: *red, green, yellow, brown, blue, violet, grey, orange, pink, white, black, turquoise.*
|- *one ring* **||**-*two rings*

Tube Colors:

Fibre Count	Elements											
	1	2	3	4	5	6	7	8	9	10	11	12
96	RD12T	GR12T	WH12T	WH12T	WH12T	WH12T	WH12T	WH12T	-	-	-	-
192	RD24T	GR24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	-	-	-	-
288	RD24T	GR24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T

| - black ring

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:

PRYSMIAN SA yyyy FUMD LT E0 nn G.657A2 200µm mmmm

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