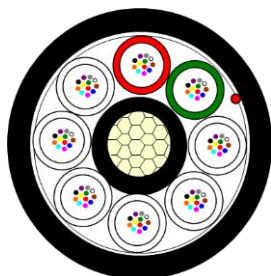


# MICRO DUCT OPTICAL CABLE WITH PICO TUBES

## 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 - $\varnothing$	mm	1.0		1.3
CSM/Enlargement - $\varnothing$	mm	1.7/-	2.4/-	2.4/3.9
Sheath thickness	mm		0.4	
Cable diameter - $\varnothing$	mm	4.6 $\pm$ 0.2	5.8 $\pm$ 0.2	7.4 $\pm$ 0.2
Cable weight	Kg/Km	20	35	51
Min. bending radius	mm	Under Maximum Tension: 20xCable- $\varnothing$		Without Tension: 15xCable- $\varnothing$
Temperature range	$^{\circ}$ 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 $\leq$ 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 $^{\circ}$ , 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 $^{\circ}$ C to +60 $^{\circ}$ 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:

<b>No.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>Color</b>	red	green	blue	yellow	white	grey	brown	violet	aqua	black	orange	pink
<b>No.</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
<b>Color</b>	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
<b>96</b>	RD12T	GR12T	WH12T	WH12T	WH12T	WH12T	WH12T	WH12T	-	-	-	-
<b>192</b>	RD24T	GR24T	WH24T	WH24T	WH24T	WH24T	WH24T	WH24T	-	-	-	-
<b>288</b>	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

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