

## ARMoured OPTIC FIBRE CABLE FOR OUTDOOR. DOUBLE SHEATH



Optic Fiber



Water blocked



Uv resistant



Dielectric



ROHS Compliant

### STANDARDS

Mechanical measuring methods: IEC 60794-1

Methods of measuring optical fiber: IEC 60793-1

### DESCRIPTION AND APPLICATION

Central Loose Tube cables up to 24 optical fibres, reinforced. Protected by an armour of corrugated steel tape and a double black polyethylene sheath UV resistant.

The recommended installation of the FvPSP cable is in underground ducts by pulling techniques with a maximum installation load of 2.0 kN.

### CONSTRUCTION

- **Loose tube:** PBT Central Loose Tube filled with thixotropic compound, containing up to 24 optical fibers Colour coding of tubes and fibres according to table 1.
- **Mechanical reinforcement:** Traction resistant Waterblocking fibreglass yarns to avoid water penetration and make the cable waterproof.
- **Inner sheath:** Black PE.
- **Armour:** Corrugated longitudinal annealed steel tape.
- **Outer sheath:** Black coloured PE, UV resistant.
- **Sheath marking:** The cables will be marked at regular intervals with the following information:
  - *Manufacturer / Year / Model / Nr Fibers / Fiber type / Length marking ( m)*
  - *Other marks are available upon request*



### OPTICAL FIBRE CHARACTERISTICS

The parameters of the optical fiber used in these cables meet the specific fiber datasheet parameters. See our fibre product for the characteristics of the fibre.

However, in case singlemode G.652D fiber is used, optical transmission parameters are as follows:

#### Optical transmission characteristics of cabled fibre :

Attenuation coefficient:

Average/ máximo at 1310 nm: 0,36 / 0,38 dB/km

Average / Maximum at 1550 nm: 0,22 / 0,25 dB/km

$PMD \leq 0,20 \text{ ps/km}^{1/2}$

$PMD \text{ link} \leq 0,10 \text{ ps/km}^{1/2}$

All drawings, designs, specifications and particulars of weights, dimensions, etc. in this documentation are only indicative and must not be considered contractual.

## ARMOURED OPTIC FIBRE CABLE FOR OUTDOOR. DOUBLE SHEATH

**TABLE 1: OPTICAL FIBERS COLOUR CODE**

<b>Fibre</b>	1	2	3	4	5	6	7	8	9	10	11	12
<b>Colour</b>	Green	Red	Blue	Yellow	Grey	Violet	Brown	Orange	White	Black	Turquoise	Pink
<b>Abrev.</b>	G	Rd	Bl	Y	Gr	Vi	Br	Or	W	Bk	Tu	Pk
<b>Fibre</b>	13	14	15	16	17	18	19	20	21	22	23	24
<b>Colour</b>	Green	Red	Blue	Yellow	Grey	Violet	Brown	Orange	White	Natural	Turquoise	Pink
<b>Abrev.</b>	G(*)	Rd(*)	Bl(*)	Y(*)	Gr(*)	Vi(*)	Br(*)	Or(*)	W(*)	Nt(*)	Tu(*)	Pk(*)

(\*): The fibers from 13 to 24 will be marked with black rings spaced 50 mm between them.

MECHANICAL CHARACTERISTICS	Method	Test conditions
<i>Installation Tensile strength (<math>\Delta\alpha = 0,33dB</math>)</i>	IEC 60794-1 Met E1A	2.000 N
<i>Permanent Tensile strength (<math>\Delta\alpha = 0,05dB</math>)</i>	IEC 60794-1 Met E1A	1.250 N
<i>Crush resistance (<math>\Delta\alpha &lt; 0.05 dB</math>)</i>	IEC 60794-1 Met E3	2.000 N / 10cm
<i>Impact resistance (<math>\Delta\alpha &lt; 0.05 dB</math>)</i>	IEC 60794-1 Met E4	5 J / radio 300mm
<i>Bending radius (<math>\Delta\alpha &lt; 0.05 dB</math>)</i>	IEC 60794-1 Met E11	$r = 20 \times$ cable diameter
<i>Water penetration</i>	IEC 60794-1 Met F5B	$L_{Pwater} \leq 3$ m (24 hours)
<i>Temperature cycling (<math>\Delta\alpha &lt; 0.05 dB</math>)</i>	IEC 60794-1 Met F1	-20°C / 70°C

### DIMENSIONS AND WEIGHT

Nr. fibres	Diameter (mm)	Weight (kg/km)
1 a 12	10,3	105
16 a 24	11,0	118

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