

UNDERGROUND STA ARMoured FIBRE OPTIC CABLES - SP SHEATH



Optical fibre



Waterproof



UV resistant



Rodent resistant



Impact resistant



ROHS Compliant

STANDARDS

Construction: IEC 60794-3

Optical fibre: ITU-T G.652D and EN 60793-2 - Class B 50 B 1.3 (others on request)

Test method : IEC 60794-1-2

DESCRIPTION AND APPLICATION

Loose tube optical fibre cables from 24 to 144 fibres with STA armour and PE sheath. This armour gives a protection against rodent and a higher mechanical resistance to crushing. For installation in ducts by pulling or blowing with maximum tensile strengths of 150 Kp. These cables are designed for medium or long distance telecommunications networks with single mode fibre optic type ITU-T G 652D (EN 60793-2 - Class B 50 B 1.3). They can also be made with other types of fibres on request.

CONSTRUCTION

- **Central element:** Fibre-glass reinforced plastic element.
- **Loose tubes:** Gel filled PBT loose tubes with up to 12 single mode ITU-T 652D fibres each. Colour coding of tubes and fibres according to tables 1 and 2.
- **Core formation:** Loose tubes stranded in SZ. Swellable yarns and tapes to avoid water penetration and make the cable waterproof.
- **Armour:** Corrugated copolymer coated steel tape longitudinally applied with overlap.
- **Outer sheath:** Black PE, UV resistant.
- **Sheath marking:** The cables will be marked with the following information:
 - CABLESCOM / Year / Nº fibres / fibre type / sheath / length marking
 - Other marks are available upon request



OPTICAL FIBRE CHARACTERISTICS

The parameters of the optical fibre used in these cables meet the ITU-T G.652D and EN 60793-2 - Class B 50 B 1.3. See our fibre product for the characteristics of the fibre.

Note: Upon request they can be incorporated other types of single mode or multimode fibre in these cables.

Optical transmission characteristics of cabled fibre :

Attenuation coefficient:

Average / Maximum at 1310 nm: 0,36 / 0,37 dB/km

Average / Maximum at 1550 nm: 0,22 / 0,26 dB/km

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

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

Cut-off wavelength (λ_{cc}) $\leq 1260 \text{ nm}$

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

UNDERGROUND STA ARMOURED FIBRE OPTIC CABLES - SP SHEATH

TABLE 2: OPTICAL FIBRE COLOUR CODE

Fibre no.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Red	Blue	Green	Yellow	Violet	White	Orange	Grey	Brown	Black	Turquoise	Pink

TABLE 1 : LOOSE TUBES COLOUR CODE

Tube position in the layer	Colour
First	Red
Direction	Blue
Rest	White

MECHANICAL CHARACTERISTICS	Specification	Test conditions
Maximum tensile strength ($\Delta\epsilon < 0,33\%$, $\Delta\alpha$ reversible)	IEC 60794-1-2 E1	150 daN
Impact resistance ($\Delta\alpha$ reversible)	IEC 60794-1-2 E4	20 J, $r_{\text{impact}} = 300\text{mm}$
Crush resistance ($\Delta\alpha < 0,1 \text{ dB}$)	IEC 60794-1-2 E3	30 daN/cm
Torsion test ($\Delta\alpha < 0,1 \text{ dB}$)	IEC 60794-1-2 E27	25 N, $\pm 180^\circ$, 20 cycles
Bending ($\Delta\alpha < 0,1 \text{ dB}$)	IEC 60794-1-2 E11B	D= 15 x $\varnothing$ cable, 5 cycles
Temperature cycling (operation, $\Delta\alpha < 0,1 \text{ dB/km}$)	IEC 60794-1-2 F1	-25° C / +70° C
Water penetration	IEC 60794-1-2 F5B	LP _{water} $\leq$ 3 m (24 hours)

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CONSTRUCTION, DIMENSIONS AND WEIGHTS

Code	No. fibres	Fibres per tube	Tubes No.	Fillers No.	Diameter (mm)	Weight (kg/km)
EE2116200002400N	24	6	4	2	12,6	150
EE2106200002400N	24	8	3	3	12,6	150
EE2126200002400N	24	12	2	4	12,6	150
EE2106200003200N	32	8	2	4	12,6	150
EE2116200003600N	36	6	6	-	12,6	150
EE2126200003600N	36	12	3	3	12,6	150
EE2116200004800N	48	6	8	-	13,8	170
EE2106200004800N	48	8	6	-	12,6	150
EE2126200004800N	48	12	4	2	12,6	150
EE2116200006000N	60	6	10	-	15,5	198
EE2126200006000N	60	12	5	1	12,6	150
EE2106200006400N	64	8	8	-	13,8	170
EE2116200007200N	72	6	12	-	17,1	224
EE2106200007200N	72	8	9	-	14,5	183
EE2126200007200N	72	12	6	-	12,6	150
EE2126200008400N	84	12	7	-	13,1	160
EE2106200009600N	96	8	12	-	17,1	224
EE2126200009600N	96	12	8	-	13,8	170
EE2126200010800N	108	12	9	-	14,5	183
EE2126200012000N	120	12	10	-	15,5	198
EE2126200013200N	132	12	11	-	16,3	212
EE2126200014400N	144	12	12	-	17,1	224

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