

OPTICAL AERIAL FIBRE CABLES - SHOTGUN RESISTANT, PKCP TYPE



Optic Fiber



Water blocked

UV
resistantShotgun
resistantOverhead line
cableNO
METALROHS
compliant

STANDARDS

Construction: Telefonica ERQ.f6.0224

Fibre: UIT-T G652 D

DESCRIPTION AND APPLICATION

8 to 64 fibres ADSS loose tube single mode optical fibre cables. The tubes are filled with a thixotropic filling compound. Water blocking between the tubes is achieved by swellable dry elements. Coated with a PKCP sheath containing woven aramid yarns against shootings. These cables are recommended for self-supporting aerial installation, with maximum spans of 80 m, in areas with risk of being hit by buckshot.

CONSTRUCTION

- **Central reinforcing element:** Dielectric fibreglass (FRP).
- **Loose tubes:** 2, 4 or 8 singlemode optical fibres in PBT loose tubes filled with thixotropic compound. 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.
- **Inner sheath:** polyethylene.
- **Reinforcement:** Aramid yarns as strength reinforcing element.
- **Shotgun protection:** Two aramid fabric tapes helically applied.
- **Outer sheath:** Black polyethylene, UV resistant.
- **Sheath marking :** The cable sheath will be marked with white ink at regular intervals with the following information :
 - *CABLESCOM / year / No. Fibres / Batch number /MN /PKCP + length markings*
 - *Other sheath marks available upon request*



OPTICAL FIBRE CHARACTERISTICS

The parameters of the optical fibres are compliant with the ITU-T G.652D recommendation.

See our fibre product sheet for the characteristics of the fibre

Optical transmission characteristics of cabled fibre ::

Attenuation coefficient:

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

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

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

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

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.

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TABLE 1: LOOSE TUBES COLOUR CODE

No. tubes in the core layer	No. fibres in the cable					
	8	16	24	32	48	64
1	White	White	White	White	White	White
2	Red	Red	White	Red	White	White
3	Black	Black	Red	Black	Red	Red
4	Blue	Blue	Red	Blue	Red	Red
5	Green	Green	Blue	Green	Blue	Blue
6	Black	Black	Blue	Black	Blue	Blue
7						Green
8						Green
tubes	4	4	6	4	6	8
fillers	2	2	0	2	0	0
No. fibres/tube	2	4	4	8	8	8

* Note: The black tubes are fillers

TABLE 2: OPTICAL FIBERS COLOUR CODE

Fibre Colour Abrev.	1	2	3	4	5	6	7	8
	Green	Red	Blue	Yellow	Grey	Violet	Brown	Orange
	G	R	Bl	Y	Gr	Vi	Br	Or

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

	Method	Tests conditions
Tensile strength ($\Delta\epsilon=0\%$, $\Delta\alpha<0.05$ dB)	EN 187000, Met. 501	4000 N (Up to 48 fo) 4300 N (64 fo cable)
Maximum tensile strength ($\Delta\epsilon<0,33\%$, $\Delta\alpha$ reversible)		7000 N
Crush resistance ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 504	3000N
Impact resistance ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 505	5J, R = 10mm
Static bending ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 513	$r = 15d$ mm ($r \geq 250$ mm)
Repeated bending ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 507	$r = 15d$ mm, 100 cycles
Torsion test ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 507	$\pm 360^\circ$, 100 N, 5 cycles
Galloping ($\Delta\alpha<0.05$ dB)	EN 187000, Met. 515/2	40m, 600 N, 100.000 cycles
Temperature cycling (operation, $\Delta\alpha<0.05$ dB)	EN 187000, Met. 601	-25°C / +70°C Cycles=4
Water penetration	EN 187000, Met. 605B	LP _{water} = 1 m (14 days)
Shotgun test (tubes not broken)	-	Distance 20 m pellets: numbers 5 and 7

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DIMENSIONS AND WEIGHT

Code	No. fibres	Diameter (mm)	Nominal Weight (kg/km)
EE6102P00000802N	8	17,0	220
EE6102P00001602N	16	17,0	220
EE6102P00002402N	24	17,0	220
EE6102P00003202N	32	17,0	220
EE6102P00004802N	48	17,0	220
EE6102P00006402N	64	19,0	260

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