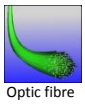
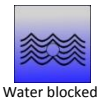
OT13000125-Ed1

TELECOMMUNICATION DIELECTRIC CABLE WITH PKP SHEATH (ENAGAS).


Optic fibre


Water blocked

ROHS Compliant

Dielectric

SPECIFICATION

Enagas ET118-5 y ET119-3 IEC 60794

DESCRIPTION AND APPLICATION

Telecommunications fibre optic cable for network Enagas pipeline.
The cable is formed by a dielectric material, and consists of 24, 32 or 64 singlemode optical fibre of normal dispersion, according to the ITU-T recommendation G.652D. It is ready for installation in polyethylene duct.
Optical fibre is loose protection and is arranged concentrically as SZ spiral on a middle layer of fiberglass. The assembly is protected by a double polyethylene sheath and incorporates between both mechanical reinforcement of aramid yarns.

CONSTRUCTION

- Monomode or multimode optic fibres.
- PBT loose tubes filled thixotropic compound. Optional filler rods depending on the cable structure. Color code as Tables 1 and 2.
- Central fiberglass dielectric reinforcement
- WB tape for protection and support.
- Polyethylene Inner sheath, black color.
- Aramid Yarns as tensile element.
- Rip cord under inner and outer sheath
- Polyethylene external sheath, black color, UV resistant.
- ***Sheath markings*** : The cable shall be marked at regular intervals with the following information:
  - PKP optic cable / ENAGÁS / Manufacturer / Year / Number of Fibers DN / length marking
  - Other marks are available upon customer request.

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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Certified Company **ISO 9001** - **ISO 14001**

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MONOMODE OPTICAL FIBRE CHARACTERISTICS- G.652D

General parameters of the optical fibre are described in the attached information. Those parameters that can change when the fiber is into the cable , see table below

PARAMETER	VALEU	UNIT	TEST METHODE
Typ./Max. Individual fibre attenuation at 1310 nm	0,32 / 0,36	dB/km	UNE-EN 188000-303 IEC 60793-1-40
Typ./Max. Individual fibre attenuation at 1383 nm	0,29 / 0,32	dB/km	
Typ./Max. Individual fibre attenuation at 1550 nm	0,20 / 0,22	dB/km	
Typ./Max. Individual fibre attenuation at 1625 nm	0,22 / 0,25	dB/km	
Polarization Mode Dispersion (PMD)	≤ 0,2	ps/√km	IEC 60793-1-48
Link Design Value. (PMD_Q)	≤ 0,2	ps/√km	
Wavelength cutoff (cabled fibre)	λ_{cc} < 1260	nm	UNE-EN 188000-313 IEC 60793-1-44

TABLE 1: LOOSE TUBES COLOUR CODE

		# fibres in cable		
	# Tube	24	32	64
1ª layer	1	Blue	Blue	Blue
	2	Green	Green	Green
	3	Violet	*Black**	Violet
	4	Yellow	Yellow	White
	5	Red	Red	Grey
	6	White	Black[f]	Orange
	7			Yellow
	8			Red
	Fibres per tube	4	8	8
	Active tubes	6	4	8
	Passive tubes	0	2	0

**Nota: Black tubes are pasive filler elements (without optic fibres)*

TABLE 2: OPTICAL FIBRE COLOUR CODE

Table 2.1 Cables of 24 fibres

Fibre	1	2	3	4
Colour	Yellow	Red	Blue	Green
Abrev.	ye	Rd	Bl	Gr

Tabla 2.2 Cables of 32 and 64 fibres

Fibre	1	2	3	4	5	6	7	8
Colour	Blue	Green	Black	White	Yellow	Red	Grey	Orange
Abrev.	Bl	Gr	Bc	Wh	Ye	Rd	Gr	Or

CARACTERÍSTICAS MECÁNICAS

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Tensile strength ($\Delta\varepsilon_f \leq 0{,}05\%$)	EN 187000 Mét. 501	1.500 N
Crush resistance	EN 187000 Mét. 504	3000 N / 10cm
Impact Resistance	EN 187000 Mét. 505	5 J, radio impact = 10mm
Bending	EN 187000 Mét. 513	r = 10 x cable diameter
Thermal cycle operating	EN 187000 Mét. 601	-20ºC / 70ºC
Water penetration	EN 187000 Mét. 605B	$L_{Pwater} \leq 1$ m (1 hours)

DIMENSIONES Y PESOS

	# fibres in cable		
	24	**32**	**64**
Nom diameter (mm.)	12,2	12,2	13,8
Nom. Weight (kg/km)	110	110	138

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