



FTTx ODN





Desde principios de la implantación del Sistema de Gestión de Calidad ISO 9002, en el que nos certificamos en el año 1996, hemos venido renovando nuestro compromiso año tras año y lo hemos actualizado a la ISO 9001/2008 desde el año 2002.

Nuestro agradecimiento a clientes, proveedores y demás colaboradores que nos han ayudado a conseguir una mejora continua.

La Dirección



COMERCIAL ELECTRO-INDUSTRIAL, S.A., viene desarrollando su actividad comercial en el mercado del cable y sus complementos desde 1979, cubriendo una amplia gama de suministros:

- Fibra óptica y Coax
- Cables de alimentación, control y señal
- Sistemas ICT
- Cableado estructurado
- Complementos y herramientas

Y de servicios como:

- Ingeniería.
- Consultoría de soluciones
- Estudio y definición técnica de cables especiales
- Formación del producto

Para dar a conocer todos nuestros productos, participamos como empresa expositora en los salones internacionales, tanto directamente como apoyando a nuestros fabricantes, donde se pueden conocer las tendencias de futuro y las principales innovaciones de este mercado.

El amplio espectro que abarca el mercado de la Fibra Óptica y la especialización que COMEL tiene como proveedor integral de soluciones al fabricante número dos de fibra óptica del mundo, haciendo posible el estar presente en importantes proyectos. Operadores (Vodafone Ono, Movistar, etc), Automoción, industria naval, infraestructuras, informática y comunicaciones son algunos de los sectores donde COMEL está presente.

En este catalogo, hemos introducido los productos mas usuales para los despliegues de FTTH, FTTC y HFC, de una forma ágil y comprensible, número de referencias y modelos, con el ánimo de ser útiles a un más amplio sector del mercado.

Cabe destacar los stock de materiales que tenemos para entrega en 24-48 horas en cualquier parte de la península ibérica.

Además de lo incluido en este catalogo, podemos realizar cualquier tipo de configuración en la construcción de nuestros productos. Al igual que el rotulado con la descripción que nuestro cliente prefiera.



FIBRA OPTICA



- Fibras VP
- Fibras KP
- Fibras PKP
- Fibras PESP-DR
- Fibras RAISER
- Fibras Acometida
- Fibra invisible int.



CAJAS DE EMPALME

- Caja Mural Int/Ext IP65
- Caja de exterior IP68
- Torpedos
- Rosetas



SPLITTER

- Micro spliter
- Cassette spliter



VARIOS

- Enfrentadores
- Pig-Tails
- Latiguillos
- Protectores de fusion

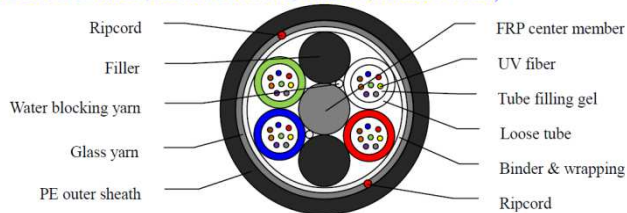


FIBRA OPTICA

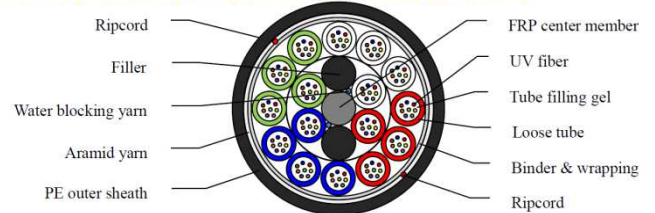
- Fibras VP
- Fibras KP
- Fibras PKP
- Fibras PESP-DR
- Fibras RAISER
- Fibras Acometida
- Fibra invisible int.

CABLES DE FIBRA OPTICA VP

(FIBER TYPE: G.652D; FIBER COUNTS: 32; TUBES: 4; FIBERS/TUBE: 8)



(FIBER TYPE: G.652D; FIBER COUNTS: 128; TUBES: 16; FIBERS/TUBE: 8)



Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	2500N, 10 min	No attenuation change & fiber strain $\leq$ 0.33% during test
Crush	IEC 60794-1-2-E3	2500N/10cm, 5min, 3 points	$\Delta\alpha\leq$ 0.05dB during test
Impact	IEC 60794-1-2-E4	5J, 3 points	No attenuation change after test
Repeated Bending	IEC 60794-1-2-E6	R=25D, 100cycles	No attenuation change during test
Bending	IEC 60794-1-2-E11	R=15D, 5times, 3cycles	No attenuation change during test
Temperature Cycling	IEC 60794-1-2-F1	-20~+70°C	$\Delta\alpha\leq$ 0.05 dB/km
Water Penetration	IEC 60794-1-2-F5	3m sample, 1days	No water leakage

Characteristics		Acceptance Value
Attenuation	@1310nm	$\leq$ 0.35dB/km
	@1383nm	$\leq$ 0.35dB/km
	@1550nm	$\leq$ 0.21dB/km
	@1625nm	$\leq$ 0.23dB/km
Mode Field Diameter	@1310nm	9.2 $\pm$ 0.4 μ m
	@1550nm	10.4 $\pm$ 0.5 μ m
Dispersion	@1285~1330nm	-3.5ps/(nm ² ·km)~3.5ps/(nm ² ·km)
	@1550nm	$\leq$ 18ps/(nm ² ·km)
	@1625nm	$\leq$ 22ps/(nm ² ·km)
Zero-Dispersion wavelength		1300nm~1324nm
Zero-Dispersion slope		$\leq$ 0.092ps/(nm ² ·km)
Cable cutoff wavelength λ_{cc} (nm)		$\leq$ 1260nm
PMD	Max. for fiber on the reel	0.20ps/km ^{1/2}
	Max. for linked	0.15ps/km ^{1/2}
Cladding diameter		125 $\pm$ 1.0 μ m
Cladding non-circularity		$\leq$ 1%
Core/cladding concentricity error		$\leq$ 0.5 μ m
Fiber diameter with coating (uncolored)		245 $\pm$ 5 μ m
Cladding/coating concentricity error		$\leq$ 12.0 μ m
Proof stress		$\geq$ 0.69GPa(100VPsi)
Dynamic stress corrosion susceptibility parameter (typical value)		$\geq$ 20

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



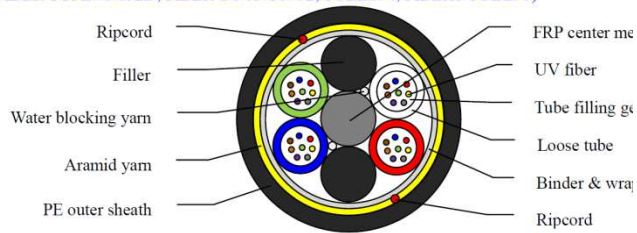
CABLES DE FIBRA OPTICA VP

CODIGO	TIPO	CONSTRUCCION
10900194	COMELFOP 8 FIBRAS CUBIERTA VP	2x4x9/125 G652
10900206	COMELFOP 16 FIBRAS CUBIERTA VP	4X4X9/125 G652
10900205	COMELFOP 32 FIBRAS CUBIERTA VP	4X8X9/125 G652
10900203	COMELFOP 48 FIBRAS CUBIERTA VP	6X8X9/125 G652
10900202	COMELFOP 64 FIBRAS CUBIERTA VP	8X8X9/125 G652
10900195	COMELFOP 80 FIBRAS CUBIERTA VP	10X8X9/125 G652
10900191	COMELFOP 128 FIBRAS CUBIERTA VP	16X8X9/125 G652

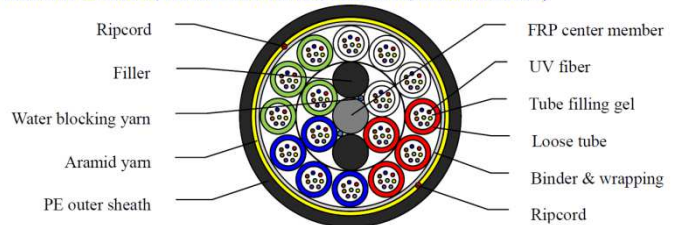


CABLES DE FIBRA OPTICA KP

(FIBER TYPE: G.652D; FIBER COUNTS: 32; TUBES: 4; FIBERS/TUBE: 8)



(FIBER TYPE: G.652D; FIBER COUNTS: 128; TUBES: 16; FIBERS/TUBE: 8)



Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	2500N, 10 min	No attenuation change & fiber strain $\leq 0.33\%$ during test
Crush	IEC 60794-1-2-E3	2500N/10cm, 5min, 3 points	$\Delta\alpha \leq 0.05\text{dB}$ during test
Impact	IEC 60794-1-2-E4	5J, 3 points	No attenuation change after test
Repeated Bending	IEC 60794-1-2-E6	R=25D, 100cycles	No attenuation change during test
Bending	IEC 60794-1-2-E11	R=15D, 5times, 3cycles	No attenuation change during test
Temperature Cycling	IEC 60794-1-2-F1	-20~+70°C	$\Delta\alpha \leq 0.05\text{ dB/km}$
Water Penetration	IEC 60794-1-2-F5	3m sample, 1days	No water leakage

Characteristics		Acceptance Value
Attenuation	@1310nm	$\leq 0.35\text{dB/km}$
	@1383nm	$\leq 0.35\text{dB/km}$
	@1550nm	$\leq 0.21\text{dB/km}$
	@1625nm	$\leq 0.23\text{dB/km}$
Mode Field Diameter	@1310nm	$9.2 \pm 0.4\mu\text{m}$
	@1550nm	$10.4 \pm 0.5\mu\text{m}$
Dispersion	@1285~1330nm	$-3.5\text{ps}/(\text{nm}^2 \cdot \text{km}) \sim 3.5\text{ps}/(\text{nm}^2 \cdot \text{km})$
	@1550nm	$\leq 18\text{ps}/(\text{nm}^2 \cdot \text{km})$
	@1625nm	$\leq 22\text{ps}/(\text{nm}^2 \cdot \text{km})$
Zero-Dispersion wavelength		$1300\text{nm} \sim 1324\text{nm}$
Zero-Dispersion slope		$\leq 0.092\text{ps}/(\text{nm}^2 \cdot \text{km})$
Cable cutoff wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
PMD	Max. for fiber on the reel	$0.20\text{ps}/\text{km}^{1/2}$
	Max. for linked	$0.15\text{ps}/\text{km}^{1/2}$
Cladding diameter		$125 \pm 1.0\mu\text{m}$
Cladding non-circularity		$\leq 1\%$
Core/cladding concentricity error		$\leq 0.5\mu\text{m}$
Fiber diameter with coating (uncolored)		$245 \pm 5\mu\text{m}$
Cladding/coating concentricity error		$\leq 12.0\mu\text{m}$
Proof stress		$\geq 0.69\text{GPa}(100\text{VPsi})$
Dynamic stress corrosion susceptibility parameter (typical value)		≥ 20

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



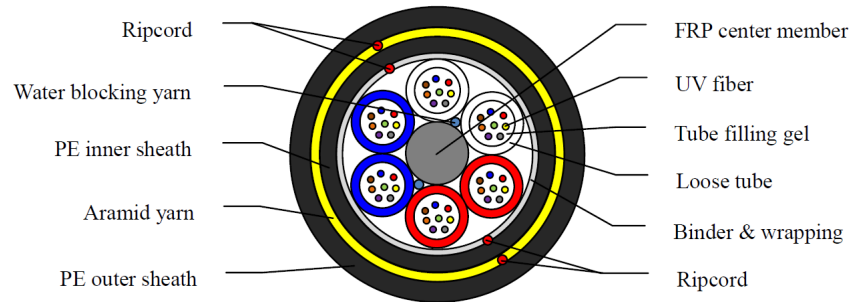
CABLES DE FIBRA OPTICA KP

CODIGO	TIPO	CONSTRUCCION
10900193	COMELFOP 8 FIBRAS CUBIERTA KP	2X4X9/125 G652
10900192	COMELFOP 16 FIBRAS CUBIERTA KP	4X4X9/125 G652
10900201	COMELFOP 32 FIBRAS CUBIERTA KP	4X8X9/125 G652
10901101	COMELFOP 48 FIBRAS CUBIERTA KP	6X8X9/125 G652
10900199	COMELFOP 64 FIBRAS CUBIERTA KP	8X8X9/125 G652
10900197	COMELFOP 128 FIBRAS CUBIERTA KP	16X8X9/125 G652



CABLES DE FIBRA OPTICA PKP

(FIBER TYPE: G.652D; FIBER COUNTS: 48; TUBES: 6; FIBERS/TUBE: 8)



Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	2500N, 10 min	No attenuation change & fiber strain $\leq$ 0.33% during test
Crush	IEC 60794-1-2-E3	3000N/10cm, 5min, 3 points	$\Delta\alpha\leq$ 0.05dB during test
Impact	IEC 60794-1-2-E4	5J, 3 points	No attenuation change after test
Repeated Bending	IEC 60794-1-2-E6	R=25D, 100cycles	No attenuation change during test
Bending	IEC 60794-1-2-E11	R=15D, 5times, 3cycles	No attenuation change during test
Temperature Cycling	IEC 60794-1-2-F1	-20~+70°C	$\Delta\alpha\leq$ 0.05 dB/km
Water Penetration	IEC 60794-1-2-F5	3m sample, 1days	No water leakage

Characteristics		Acceptance Value
Attenuation	@1310nm	$\leq$ 0.35dB/km
	@1383nm	$\leq$ 0.35dB/km
	@1550nm	$\leq$ 0.21dB/km
	@1625nm	$\leq$ 0.23dB/km
Mode Field Diameter	@1310nm	9.2 $\pm$ 0.4 μ m
	@1550nm	10.4 $\pm$ 0.5 μ m
Dispersion	@1285~1330nm	-3.5ps/(nm ² ·km)~3.5ps/(nm ² ·km)
	@1550nm	$\leq$ 18ps/(nm ² ·km)
	@1625nm	$\leq$ 22ps/(nm ² ·km)
Zero-Dispersion wavelength		1300nm~1324nm
Zero-Dispersion slope		$\leq$ 0.092ps/(nm ² ·km)
Cable cutoff wavelength λ_{cc} (nm)		$\leq$ 1260nm
PMD	Max. for fiber on the reel	0.20ps/km ^{1/2}
	Max. for linked	0.15ps/km ^{1/2}
Cladding diameter		125 $\pm$ 1.0 μ m
Cladding non-circularity		$\leq$ 1%
Core/cladding concentricity error		$\leq$ 0.5 μ m
Fiber diameter with coating (uncolored)		245 $\pm$ 5 μ m
Cladding/coating concentricity error		$\leq$ 12.0 μ m
Proof stress		$\geq$ 0.69GPa(100kpsi)
Dynamic stress corrosion susceptibility parameter (typical value)		$\geq$ 20

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



CABLES DE FIBRA OPTICA PKP

CODIGO	TIPO	CONSTRUCCION
10901310	COMELFOP 8 FIBRAS CUBIERTA PKP	2X4X9/125 G652
10901314	COMELFOP 48 FIBRAS CUBIERTA PKP	6X8X9/125 G652
10709323	COMELFOP 64 FIBRAS CUBIERTA PKP	8X8X9/125 G652
10901361	COMELFOP 128 FIBRAS CUBIERTA PKP	16X8X9/125 G652
10709326	COMELFOP 256 FIBRAS CUBIERTA PKP	16X16X9/125 G652



CABLES DE FIBRA OPTICA PESP-DR

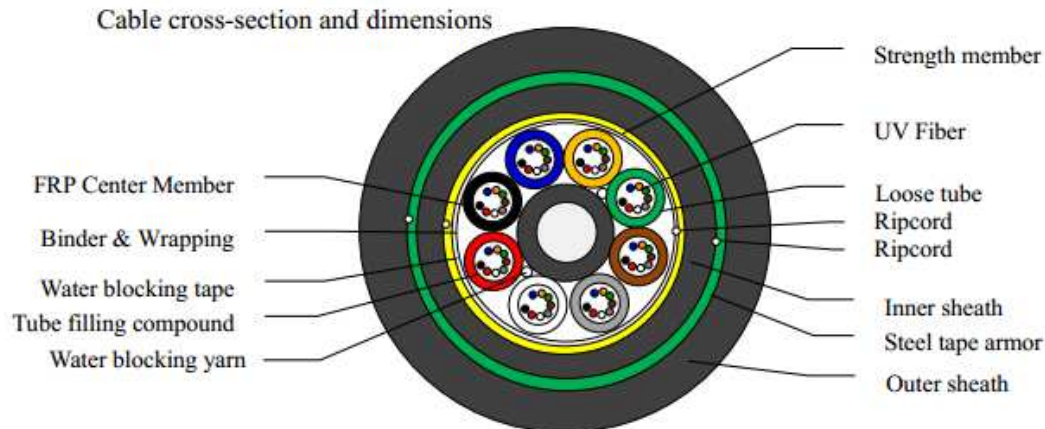


Figure. Cable Cross-Section (A-end)

Item	Material	Description
Outer sheath	HDPE	Nominal thickness:1.7mm
Steel tape armor	Steel tape	Two side coated steel tape , Anti-roedor
Inner sheath	MDPE	Nominal thickness:0.8mm
Strength member	Aramid yarns	Additional strength member
Binder & Wrapping	Polyester yarns	Cable core binding
Water blocking tape	Water blocking tape	Water blocking & moisture proof
Water blocking yarn	Water blocking yarn	Water blocking & moisture proof
Loose tube	PBTP	Colors of tubes: blue, orange, green, brown, grey, white, red, black
Tube filling compound	Thyrotrophic gel	Water Blocking & Moisture Proof
Fiber	Silicon-based fiber (G.652D)	UV colored fiber in sequence of blue, orange, green, brown, grey, white, red, black
Center Member	FRP	FRP+PE
Cable O.D.	$15.1 \pm 0.5\text{mm}$	
Cable weight	$200 \pm 15\text{kg/km}$	

Cable main mechanical properties and application

Serial No.	Item	Requirement
1	Allowable tension strength(N)	3000N
2	Allowable crush resistance (N)	3000N /10cm
3	Application	Direct buried
4	Operation temperature	-40° C +70 ° C

CABLES DE FIBRA OPTICA PESP-DR

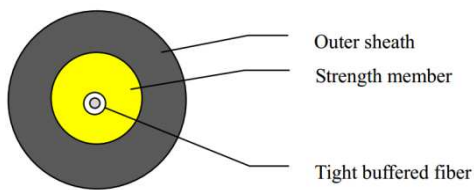
CODIGO	TIPO	CONSTRUCCION
081939122	COMELFOP PESP-DR 12X9/125-G.652D	2X6X9/125 G652
081939164	COMELFOP PESP-DR 16X9/125-G.652D	4X4X9/125 G652
081939243	COMELFOP PESP-DR 24X9/125-G.652D	3X8X9/125 G652
081939324	COMELFOP PESP-DR 32X9/125-G.652D	4X8X9/125 G652
081939366	COMELFOP PESP-DR 36X9/125-G.652D	6X6X9/125 G652
081939486	COMELFOP PESP-DR 6X8X9/125-G.652D	6X8X9/125 G652

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

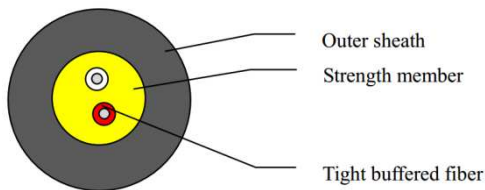
**Para otra configuración consultar a su comercial



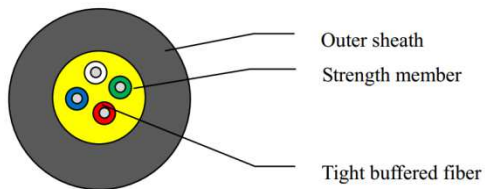
CABLES DE FIBRA OPTICA - ACOMETIDA



Item	Material	Description
Outer sheath	LSZH	LSZH
Strength member	Aramid yarn	Strength member
Tight buffered fiber	LSZH	O.D:0.9mm, Color with White, Red
Fiber	Silicon-based fiber (G.657A2)	UV fiber
Cable O.D.	3.0±0.3mm	
Cable weight	12±3kg/km	



Item	Material	Description
Outer sheath	LSZH	LSZH
Strength member	Aramid yarn	Strength member
Tight buffered fiber	LSZH	O.D:0.9mm, Color with White, Red
Fiber	Silicon-based fiber (G.657A2)	UV fiber
Cable O.D.	3.6±0.3mm	
Cable weight	15±3kg/km	



Item	Material	Description
Outer sheath	LSZH	LSZH
Strength member	Aramid yarn	Strength member
Tight buffered fiber	LSZH	O.D:0.9mm, Color with White, Red, Blue, Green
Fiber	Silicon-based fiber (G.657A2)	UV fiber
Cable O.D.	4.3±0.3mm	
Cable weight	20±3kg/km	

Cable main mechanical properties and application

Serial No.	Item	Requirement
1	Allowable tensile strength (N)	350N
2	Allowable crush resistance (N)	800N /10cm
3	Application	Outdoor/Indoor
4	Operation temperature	-15° C +60 ° C

	1310 nm	1550 nm
Attenuation(SM)	Max 0.4 dB/km	Max 0.3 dB/km

G657A2 fiber characteristics			
Optics specifications			
Attenuation	@1310nm		≤0.35dB/km
	@1383nm		≤0.32dB/km
	@1550nm		≤0.22dB/km
	@1625nm		≤0.25dB/km
Attenuation Range	1285nm-1330nm		≤0.05dB/km
	1525nm-1575nm		≤0.05dB/km
Point discontinuity			≤0.05dB
Macrobend loss	R=7.5mm, 1Turn	1550nm	≤0.5dB
		1625nm	≤1dB
	R=10mm, 1Turn	1550nm	≤0.1dB
		1625nm	≤0.2dB
	R=15mm, 10Turn	1550nm	≤0.03dB
		1625nm	≤0.1dB
Fiber cutoff wavelengthλ _c (nm)			1150 nm ≤ λ _c ≤1330 nm
Cable cutoff wavelength λ _{cc} (nm)			≤1260nm
MFD at 1310nm			(8.6—9.5) ±0.4μm
Dispersion	@1285nm~1330nm		≤3.2ps/(nm·km)
	@1525nm~1575nm		≤20ps/(nm·km)
Zero-Dispersion slope			≤0.092ps/(nm ² ·km)
Zero-Dispersion wavelength			1300nm~1324nm
PMD	Max. for fiber on the reel		≤0.20ps/km ^{1/2}
Geometrical characteristics			
Cladding diameter			125±1.0μm
Cladding non-circularity			≤1%
Core/cladding concentricity error			≤0.8μm
Fiber diameter with coating (uncolored)			245±5μm
Cladding/coating concentricity error			≤12.0μm
Mechanical characteristics			
Proof stress			≥0.70GPa(100kpsi)
Coating strip force			1.5≤F≤5N

CABLES DE FIBRA OPTICA - **ACOMETIDA**

CODIGO	TIPO	CONSTRUCCION
F08025901FR	COMELFOP DROP CABLE-1FO G657A2 (Outdoor/Indoor)	1X9/125 G657A2
F08025902FR	COMELFOP DROP CABLE-2FO G657A2 (Outdoor/Indoor)	2X9/125 G657A2
F08025904FR	COMELFOP DROP CABLE-4FO G657A2 (Outdoor/Indoor)	4X9/125 G657A2

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



MINI CABLE INVISIBLE

Invisible mini cable is a new solution for FTTH, which is designed especially for fast cable laying in decorated houses and public places, without changing existing decoration style. This kind of cable has a bright future as it solves the problem that caused many subscribers refuse to change to FTTH: the tradition cable laying process may break the original decoration style.

The diameter of invisible mini cable is only 900 μ m, can be used on the surface of different decoration materials like brick, paint, wallpaper, wood, or metal.

Invisible mini cable is easy to install without help of professional help. Installation cost can be greatly reduced.

Invisible installation can be carried on with accessories such as glue and cable fixer.



Invisible installation, no visible damage;



High performance, bending insensitive fiber



Can be installed on all kinds of decoration surface ;



Low installation cost



Can be installed by one single person



Environment friendly

Product features :

- Using high performance bending insensitive fiber, better bending performance than traditional G.657A2 fiber;
- Round structure with 900 μ m tight buffer fiber;
- Transparent structure, invisible to naked eye after installation;
- RoHS approved



Invisible mini cable

Parameters	Outer diameter	Cable weight	Breaking force	Minimum bending radius		Attenuation	
				Dynamic	Static	1310nm	1550nm
Requirement	0.9mm	1kg/km	≥ 65 N	10mm	5mm	≤ 0.4 dB/km	≤ 0.3 dB/km
Storage	-10°C ~ +50°C						
Operation	-10°C ~ +50°C						

Optical fiber characteristics (G.657)		
Fiber Brand: Fiberhome Fujikura		
Measurement standard		IEC 60794
Optical specifications		
Attenuation	@ 1310nm	≤ 0.4 dB/km
	@ 1550nm	≤ 0.3 dB/km
Mode field diameter (MFD) at 1310nm		$8.6 \pm 0.4 \mu\text{m}$
Mode field diameter (MFD) at 1550nm		$9.8 \pm 0.5 \mu\text{m}$
Cable cutoff wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
Back scatter characteristics(at 1310nm & 1550nm)		
Point discontinuity		$\leq 0.05\text{dB}$
Attenuation uniformity		$\leq 0.05\text{dB/km}$
Attenuation coefficient difference for bi-directional measurement		$\leq 0.05\text{dB/km}$
Geometrical characteristics		
Cladding diameter		$125 \pm 0.7 \mu\text{m}$
Cladding non-circularity		$\leq 0.7\%$
Core/cladding concentricity error		$\leq 0.5 \mu\text{m}$
Mechanical characteristics		
Proof stress		$\geq 0.69\text{GPa}(100\text{kpsi})$
Coating strip force (typical value)		1.4N
Dynamic stress corrosion susceptibility parameter (typical value)		≥ 20
Macro bend loss at 1550nm	$\Phi 20\text{mm}$, 1 turn	$\leq 0.03\text{dB}$
	$\Phi 15\text{mm}$, 1 turn	$\leq 0.08\text{dB}$
	$\Phi 10\text{mm}$, 1 turn	$\leq 0.15\text{dB}$
Macro bend loss at 1625nm	$\Phi 20\text{mm}$, 1 turn	$\leq 0.10\text{dB}$
	$\Phi 15\text{mm}$, 1 turn	$\leq 0.25\text{dB}$
	$\Phi 10\text{mm}$, 1 turn	$\leq 0.45\text{dB}$

CODIGO	TIPO	CONSTRUCCION
F08026901	COMELFOP MINIICABLE INVISIBLE G657A2 (Indoor)	1X9/125 G657A2

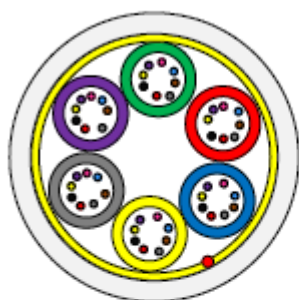
* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



CABLE RISER G657-A2

Cable Design



- **Micro-modules:** Thermoplastic material, containing optical fibers and filled with a suitable water tightness compound.
- **Micro-modules assembly.**
- **Peripheral Strength Elements:** Aramid yarns..
- **Outer Sheath:** LSZH

Cable Specification

Cable Cores		16	24	32	48
No. of Module		4	6	8	6
Fiber Counts in Module		4			8
Module- Φ	mm	0.95			1.2
Thickness of Outer Sheath	mm	1.2			
Cable Diameter	mm	$7.6 \pm 0.4\text{mm}$			
Cable Weight	Kg/km	45	45	47	49

CODIGO	TIPO
F08027916FR	Cable Riser 16 F.O. G657-A2
F08027924FR	Cable Riser 24 F.O. G657-A2
F08027932FR	Cable Riser 32 F.O. G657-A2
F08027948FR	Cable Riser 48 F.O. G657-A2

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial

CABLE UNITUBO G657-A2

Cable Design



- **Central Loose Tube:** thermoplastic material, containing optical fibers and filled with a suitable water tightness compound.
- Water swellable elements to ensure cable core watertightness
- **Peripheral Strength Elements:** Aramid yarns..
- **Outer Sheath:** LSZH/PE

Cable Specification

Cable Cores		4	6	8
Fiber Counts in loose tube		4	6	8
Loose tube - Φ	mm	3.2		
Thickness of Outer Sheath	mm	1.5		
Cable Diameter	mm	6.9		
Cable Weight	Kg/km	53		

CODIGO	TIPO
F08028904FR	CABLE UNITUBO 4 F.O. G657-A2
F08028906FR	CABLE UNITUBO 6 F.O. G657-A2
F08028908FR	CABLE UNITUBO 8 F.O. G657-A2

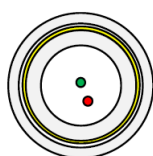
* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial

CABLE INTERIOR G657-A2

Indoor Drop Cable Specification

Cable Design



- **Central Loose Tube:** thermoplastic material, containing optical fibers and filled with a suitable water tightness compound.
- **Peripheral Strength Elements:** Aramid yarns..
- **Outer Sheath:** LSZH

Cable Specification

Cable Cores		1	2
Fiber Counts in loose tube		1	2
Loose tube - Φ	mm	2	
Thickness of Outer Sheath	mm	0.6	
Cable Diameter	mm	4.2	
Cable Weight	Kg/km	17	

CODIGO	TIPO
F08029901FR	CABLE INTERIOR 1 F.O. G657-A2
F08029902FR	CABLE INTERIOR 2 F.O. G657-A2

* Se suministra en bobinas de 2,000 m. ó 4.000 m.

**Para otra configuración consultar a su comercial



CAJAS DE EMPALME

- Caja Mural Int/Ext IP65
- Caja de exterior IP68
- Torpedos
- Rosetas

CAJA MURAL FDP410B PARA 12 Y 24 FIBRAS



Caja mural interior/exterior para 12 y 24 fibras con grado de protección IP65 y cerradura de seguridad, entrada para sangría del cable y salidas independientes.

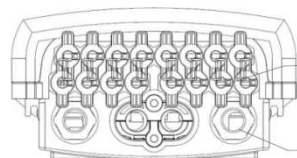
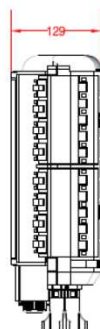
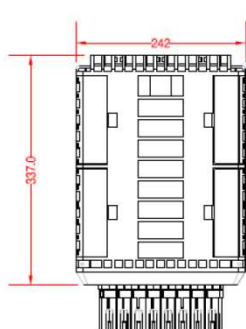
	ENTRADAS	SALIDAS	MEDIDAS	POSIBILIDAD AD SPLITER	FLAME RETARDANT	UV-PROOF
FDP410B-12	3	12	200*225*65	SI 2 UDS MAX	SI	SI
FDP410B-24	3	24	310*250*103	SI 3 UDS MAX	SI	SI

CODIGO	TIPO
F48202212	CAJA MURAL FDP 410B - 12 FIBRAS
F48202224	CAJA MURAL FDP 410B - 24 FIBRAS

CAJA EXTERIOR IP68 PARA 16 FIBRAS



Item	Specification
Weight	1.5~1.9kg
Splice capacity	Maximum 40F
Protection Level	IP68
Color	Black
Operating Temperature(°C)	-40~+65



16 Drop cable port:
Φ4.0~8.0mm cable available

4 Distribution cable port: Φ6~16mm

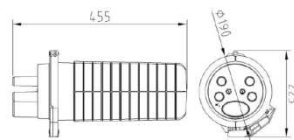
CODIGO	TIPO	ENTRADAS	SALIDAS	MAX MICRO SPLITER	MAX. SPLITER PRECONECTO RIZADO
F48202516	CAJA EXT. IP68 16 FIBRAS	4	16	3 (1X4/1X8 - 3 UDS)	2 (1X4/1X8 - 2 UDS)

CODIGO	ACCESORIOS	CAPACIDAD ENFRENTADORES	MAX MICRO SPLITER	MAX. SPLITER PRECONECTORIZADO
F482026R1	R1	18	2 (1X4/1X8)	0
F482026R2	R2	18	3 (1X4/1X8)	0
F428026R3	R3	18	0	2 (1X4/1X8) Ó 1 (1X16)

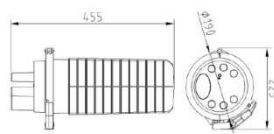
TORPEDOS



FOSC-230 Series



FOSC-230R-104



FOSC-230R-106



Item	Parameter	
	FOSC-230R-104	FOSC-230R-106
Weight	3.8~4.8 kg	4.8~5.0 kg
Splice tray	No.7 splice tray	Single fiber capacity: 24F 8F ribbon fiber and 12F ribbon fiber capacity: max 8pcs Splitter could be configured inside.
	No.8 splice tray	Single fiber capacity: 24F 4F ribbon fiber and 6F ribbon fiber capacity: max 12pcs
Number of splice tray	1~6 pcs	
Max capacity	144 cores/ single fiber	
Operating temperature	-40℃ ~ +65℃	
Insulation resistance	≥ 2×10 ⁴ MQ	
Withstand voltage strength	15 KVDC/min	

CODIGO	TIPO
F48203004	TORPEDO 144 F.O. CON 4 ENTRADAS MAS 1 OVAL
F48203006	TORPEDO 144 F.O. CON 6 ENTRADAS MAS 1 OVAL
F48203100	BANDEJA DE FUSION PARA TORPEDO FOSC-230
F48203200	BANDEJA SPLITER PARA TORPEDO FOSC-230
F482033104	JUEGO TERMOS 230R-104
F482033106	JUEGO TERMOS 230R-106

ROSETA



FTB-501

Features

- Shutter built-in SC adapter
- Built-in fiber cable management, fiber bend radius protection

Application

- Used to bring fiber to the home or to the desk

Product Model	FTB-501
Dimension (mm)	86x86x23
Adaptor Type	SCx1
Application	On- wall, indoor
Drop Cable Termination	Pigtail or FA-SC connector



FTB-506

Features

- Shutter built-in SC adapter
- Built-in fiber cable management, fiber bend radius protection

Application

- Used to bring fiber to the home or to the desk

Product Model	FTB-506
Dimension (mm)	120x78x25
Adaptor Type	SCx2
Application	On- wall, indoor
Drop Cable Termination	Pigtail or FA-SC connector

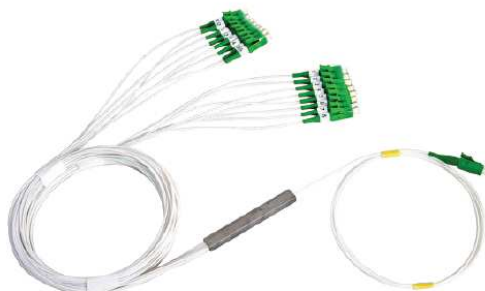
CODIGO	TIPO
F44307901	ROSETA MURAL F.O. 1XSC 86X86X23
F44307902	ROSETA MURAL F.O. 2XSC 120X78X23



SPLITTER

- Micro splitter
- Cassette splitter

MICRO SPLITTER



Split ratio	1x2	1x4	1x8	1x16	1x32	1x64	1x128
Size(mm)	40x4x4	55x7x4	55x7x4	65x11x4	70x20x6	100x40x6	140x70x8
Package material	Nickel and copper alloy						
Port description ¹⁾	0.9mm loose tube pigtail, standard length is 0.7m						
Note: [2] Customized packaging size available.							

Feature

- 0.9mm loose tube pigtail
- G.657A fiber, with small bending loss
- Installed in Fiber DP, optical closure or other small termination box, which becomes more efficient

Operation wavelength (nm)	1260~1650
Max. carried optical power (mW)	>300
Fiber type	G.657A
Operation temp. (°C)	-40~+85
Storage transmission temp. (°C)	-40~+85
Storage humidity(% R H)	20~95

CODIGO	TIPO
F48108804	MICRO-SPLITTER 1X4 G657-A2 SC/APC
F48108808	MICRO-SPLITTER 1X8 G657-A2 SC/APC
F48108816	MICRO-SPLITTER 1X16 G657-A2 AC/APC

CASSETTE SPLITTER



Split ratio ^[1]	NxM	Nx64	1x128
Size (mm) ^[2]	128x78x15	128x78x20	138x96x26
Package material	Plastic (black)		
Port description ^[3]	2.0mm pigtail, standard length is 1.5m		
[1] N= 1,2; M= 2,4,8,16,32			
[2] [3] Customized packaging size and cable length are available.			

Feature

- 2.0mm pigtail
- G.657A fiber, with small bending loss
- Small package size
- Special tray for installation on standard or non- standard rack and boxes

CODIGO	TIPO
F48108904	CASSETTE-SPLITER 1X4 G657-A2 SC/APC
F48108908	CASSETT-SPLITER 1X8 G657-A2 SC/APC
F48108916	CASSETT-SPLITER 1X16 G657-A2 AC/APC

**VARIOS**

- Enfrentadores
- Pig-Tails
- Latiguillos
- Protectores de fusion



CODIGO	TIPO
48204600	ENFRENTADOR SC/APC SIMPLE



CODIGO	TIPO
48042100	ENFRENTADOR SC/APC DUPLEX



CODIGO	TIPO
481605020	PIGTAIL SC/APC L=2M



CODIGO	TIPO
481170005	LATIGUILLO F.O. SC/APC-SC/APC L= 0,5M
481170010	LATIGUILLO F.O. SC/APC-SC/APC L= 1M
481170020	LATIGUILLO F.O. SC/APC-SC/APC L= 2M
481170030	LATIGUILLO F.O. SC/APC-SC/APC L= 3M
481170050	LATIGUILLO F.O. SC/APC-SC/APC L= 5M
481170100	LATIGUILLO F.O. SC/APC-SC/APC L= 10M



CODIGO	TIPO
48204220	PROTECTOR FUSION 40MM
48204210	PROTECTOR FUSION 45MM
48204260	PROTECTOR FUSION 61MM

CONECTOR MECÁNICO PARA F.O.



Pre-polished Surface	UPC or APC
Suitable Fiber Diameter(um)	250 or 900
Applicable Cable Type (mm)	3.0×2.0mm bow-type drop cable or 2.0~3.0mm round single-core cable
Insertion Loss (dB)	<0.3(mean); <0.5(max);
Return Loss (dB)	≥45 (UPC); ≥60 (APC) at room temp.
Compliant Standard	GR-326; GR-1081
Cable Retention Force (N)	≥ 20
Mean Assembly Time (s)	<60(including the cable stripping time)
Times of Re-assemble	≥ 5

El conector de montaje mecánico tiene las siguientes características
 No se requieren herramientas especiales
 Fácil montaje y alta fiabilidad
 El conector se puede volver a colocar

CODIGO	CONCEPTO	CONECTOR
F48109500	CONECTOR MECANICO SC/UPC	SC/UPC
F48109501	CONECTOR MECANICO SC/APC	SC/APC

VARIOS



COMEL S.A. ofrece a todos sus clientes una gran gama de productos destinados a los despliegues de FTTH, HFC, FTTC, y cualquier tendido de fibra óptica, coas y cobre.



Dentro del porfolio que ofrecemos, pueden encontrar nuestros armarios Rack desde 3U hasta 47U, con anchos y fondos ajustados a las necesidades del cliente. Bandejas de fibra óptica, pares (CAT.3, CAT.5E, CAT.6 Y CAT.6^a tanto en solución apantallada como en sin apantallar) en formato 19" y con cualquier tipo de conector.



Electronica de red tanto para usuarios como para operadores.

Routers y convertidores de medio

Sais desde 0,5kW_a hasta 400 kW_a

Mangueras de fibra preconectorizadas.



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