

FC-500-0SB FC-500-0DB Plastic Optical Fiber



Datasheet



DESCRIPTION

Firecomms Plastic Optical Fiber (POF) is a high performance optical fiber available in both simplex and duplex variants. This optical fiber has a high-purity 1 mm PMMA core with specially selected transparent polymer cladding. The core and cladding are surrounded by a 2.2 mm polyethylene (PE) jacket.

This POF cable is delivered on reels for convenience when installing runs of cable into equipment or buildings, making harness assemblies, or making custom length patch cords in small quantities.



Table 1

ORDERING INFORMATION / PART NUMBERS

Part Number	Name	Description
FC-500-0SB	500 m Reel Simplex POF Cable	SI-POF 2.2 mm simplex
FC-500-0DB	500 m Reel Duplex POF Cable	SI-POF 2.2 mm duplex
Partial reel also available as follows:		
FC-100-0SB	100 m Reel Simplex POF Cable	SI-POF 2.2 mm simplex
FC-100-0DB	100 m Reel Duplex POF Cable	SI-POF 2.2 mm duplex

APPLICATIONS

- Control links within high voltage electrical control equipment
- Data communication where extreme immunity to EMI is required
- Links between equipment that requires electrical isolation to be maintained
- Rugged links in hostile environments

FEATURES

- Cost-effective, rugged optical links
- Compatible with IEC 60793-2-40 Class A4a standard
- Flameproof to UL grade VW-1
- Available in reels for on-site installation, or for making complex harnesses
- Suitable for use with Firecomms POF transceivers, including RedLink®, LC and OptoLock®.

SPECIFICATIONS

Table 2
Cable Specifications

Parameter	Symbol	Min	Typical	Max	Unit
Storage Temperature	T_{stg}	-55		+85	°C
Operating Temperature	T_{op}	-55		+85	°C
Minimum Bend Radius	R_{min}	25			mm
Repeat Bending Endurance ^[1]		10,000			
Numerical Aperture	NA		0.5		
Attenuation at 650 nm	α			0.19	dB/m
Tensile Stress Simplex/Duplex		70/140			N
UL Flame Resistant Rating		VW-1			
Fiber Diameter, including Cladding	D_c	0.94	1	1.06	mm
Cable Diameter – Simplex	D_j	2.13	2.2	2.27	mm
Minor Axis – Duplex	D_j	2.13	2.2	2.27	mm
Major Axis – Duplex	D_m	4.3	4.4	4.5	mm
Jacket Material	Chlorinated Polyethylene				
Jacket Color	Black				

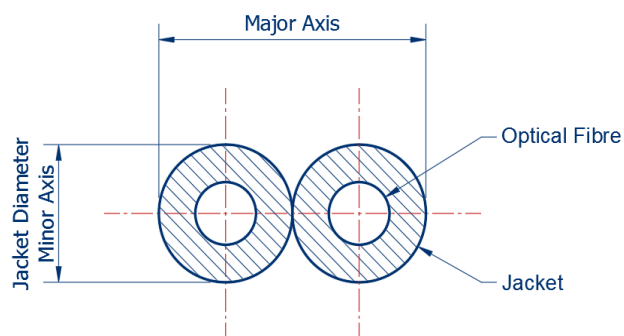


FIGURE 1 Duplex POF Cross-section

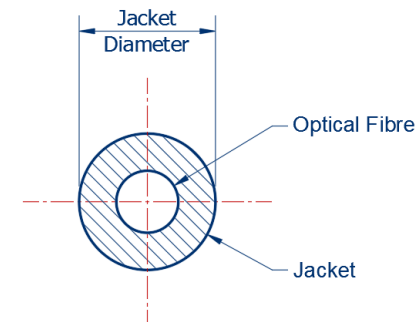


FIGURE 2 Simplex POF Cross-section

Notes:

[1] Repeat bending loss increment ≤ 1 dB

(90° bend in direction of minor axis, 25 mm radius, deadweight 500 g simplex or 1000 g for duplex POF).

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