

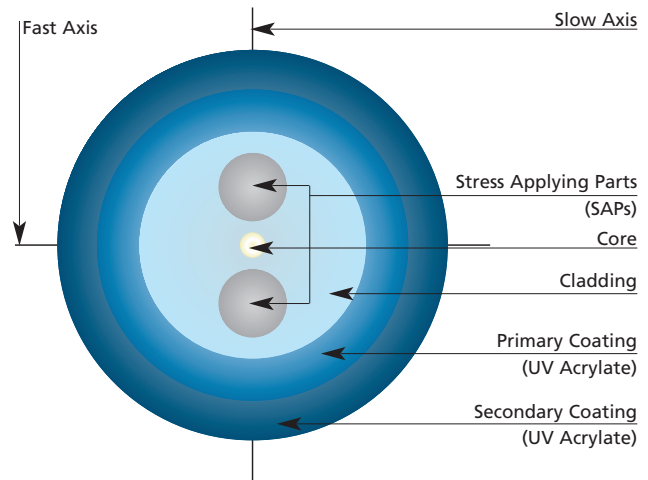


Leading Optical Innovations

# Clearlite Photonic Fibers

## Polarization-Maintaining

Fiber Name	Operating Wavelength	MFD at Operating Wavelength	Beat Length at Operating WL	Clad/Coating Diameter	Order by Part Number
TruePhase 980 Micro	980 nm	6.6	≤2.8 mm	80/165 μm	F11317
TruePhase 980 400	980 nm	6.6	≤2.8 mm	125/400 μm	F9920
TruePhase 980 245	980 nm	6.6	≤2.8 mm	125/245 μm	F9920-01
TruePhase 1310 400	1310 nm	9.3	≤3.8 mm	125/400 μm	F9922
TruePhase 1310 245	1310 nm	9.3	≤3.8 mm	125/245 μm	F9922-01
TruePhase 1310 Sensor	1310 nm	5.5	≤3.0 mm	125/245 μm	F11358
TruePhase 14XX 400	1400-1490 nm	9.8 (@ 1455 nm)	≤4.2 mm	125/400 μm	BF06832
TruePhase 14XX 245	1400-1490 nm	9.8 (@ 1455 nm)	≤4.2 mm	125/245 μm	BF06832-01
TruePhase 1550 400	1550 nm	10.5	≤4.5 mm	125/400 μm	BF06734
TruePhase 1550 245	1550 nm	10.5	≤4.5 mm	125/245 μm	BF06734-01



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### OFS Specialty Photonics Division

55 Darling Drive, Avon, CT 06001  
 25 Schoolhouse Road, Somerset, NJ 08873  
 Priorparken 680 DK-2605 Broendby, Denmark

[www.SpecialtyPhotonics.com](http://www.SpecialtyPhotonics.com)

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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 980 MICRO FIBER



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Polarization-Maintaining

#### Product Description

OFS Specialty Photonics Division offers a full line of ClearLite Polarization-Maintaining Photonic Fibers, including this TruePhase fiber with 80  $\mu\text{m}$  diameter cladding at the 980 nm wavelength, with 165  $\mu\text{m}$  dual-coat acrylate. TruePhase 980 Micro Fiber is designed for use in integrated EDFA modules. The fiber can be used to pigtail 980 pumps and to construct PM pump combiners or PM pump/signal WDM couplers.

TruePhase fibers utilize industry-standard, stress-applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design allows use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- EDFAs
  - 980 Pump Laser Pigtails
  - 980 Pump Combiners or Pump Multiplexers
  - 980/1550 PM Pump/Signal WDM Couplers

#### Features and Benefits

- Short beat length of  $\leq 2.8$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 3.0$  dB/km
- Low sensitivity to bending-induced attenuation

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.
- ClearLite Micro Photonic fibers are available in 80  $\mu\text{m}$  cladding sizes in a variety of wavelengths with no polarization.

Ask us about options available for these fibers:

- Cabling**
- Connectorization**
- Metalization**
- Additional Coatings**
- Coils**

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- Avon, Connecticut  
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- or by email inquiry to:  
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# Fiber Specifications

## Optical Properties

### CL TRUEPHASE 980 MICRO

Operating wavelength	980 nm
Cutoff wavelength	≤970 nm
Mode field diameter @ 980 nm	6.6 ± 1.0 μm
Attenuation @ 980 nm	≤3.0 dB/km
Beat length @ 980 nm	≤2.8 mm
Crosstalk @ 980 nm/100 m	≤-25 dB
Crosstalk (typical) @ 980 nm/100 m	≤-30 dB
Numerical aperture (nominal)	0.13

## Dimensions/Geometric Properties

Core diameter	4.8 μm
Clad diameter	80 ± 1.0 μm
Coating/buffer diameter	165 ± 10 μm
Coating type	Dual UV Acrylate
Clad non-circularity	≤2.0%
Core/clad offset	≥0.7 μm

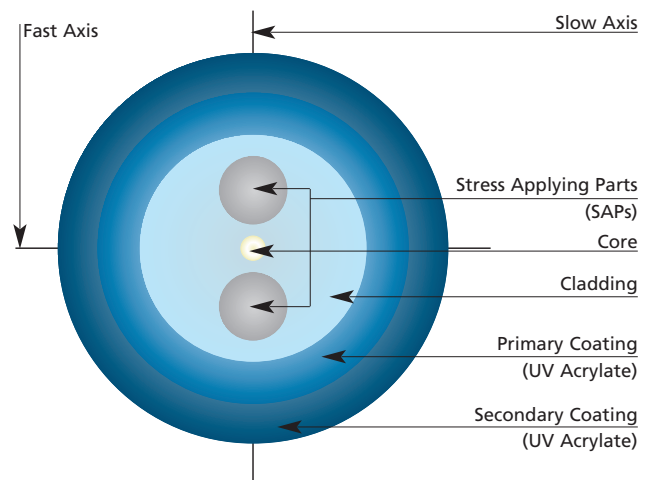
## Mechanical and Testing Data

Operating temperature	-40 to +85°C
Proof test level	≥100 kpsi (.689 GPa)

## Order by Part Number

**F11317**

Polarization-Maintaining



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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 980 400, and 980 245 FIBERS



Leading Optical Innovations

Polarization-Maintaining

#### Product Description

OFS Specialty Photonics Division offers a full line of ClearLite Polarization-Maintaining Photonic Fibers, including these TruePhase fibers at the 980 nm wavelength with both standard 400  $\mu\text{m}$  and reduced buffer 245  $\mu\text{m}$  sizes. TruePhase 980 fiber is designed for use in integrated EDFA modules. The fiber can be used to pigtail 980 pumps and to construct PM pump combiners of PM pump/signal WDM couplers.

TruePhase fibers utilize industry-standard, stress-applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design allows use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- EDFAs
  - 980 Pump Laser Pigtails
  - 980 Pump Combiners or Pump Multiplexors
  - 980/1550 PM Pump/Signal WDM Couplers

#### Features and Benefits

- Short beat length of  $\leq 2.8$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 2.5$  dB/km
- Low sensitivity to bending-induced attenuation

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.
- ClearLite 980 Photonics fibers and Micro Photonics fibers for reduced-cladding, 80  $\mu\text{m}$  construction, offer more options at this wavelength, non-polarized.

Ask us about options available for these fibers:

- Cabling
- Connectorization
- Metalization
- 900  $\mu\text{m}$  Hytrel or PVC Upbuffers
- Coils

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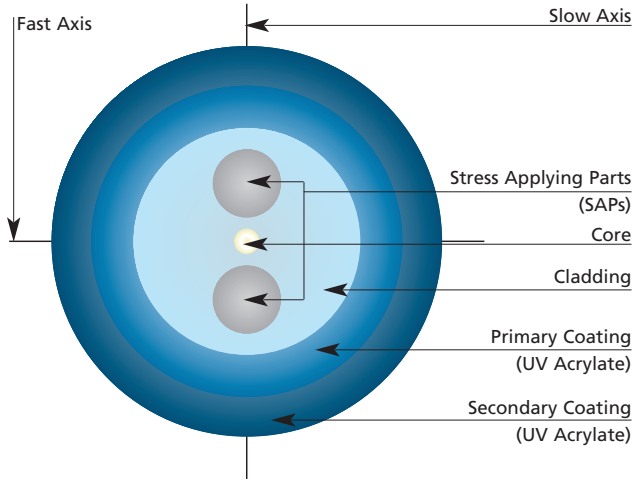
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# Fiber Specifications

Optical Properties	CL TRUEPHASE 980 400	CL TRUEPHASE 980 245
Operating wavelength	980 nm	980 nm
Cutoff wavelength	≤970 nm	≤970 nm
Mode field diameter @ 980 nm	6.6 ± 1.0 μm	6.6 ± 1.0 μm
Attenuation @ 980 nm	≤2.5 dB/km	≤2.5 dB/km
Beat length @ 980 nm	≤2.8 mm	≤2.8 mm
Crosstalk @ 980 nm/100 m	≤-30 dB	≤-30 dB
Crosstalk (typical) @ 980 nm/100 m	≤-38 dB	≤-38 dB
Numerical aperture (nominal)	0.13	0.13
Dimensions/Geometric Properties		
Core diameter	4.8 μm	4.8 μm
Clad diameter	125 ± 1.0 μm	125 ± 1.0 μm
Coating/buffer diameter	400 ± 15 μm	245 ± 15 μm
Coating type	Dual UV Acrylate	Dual UV Acrylate
Core/clad offset	≤0.7 μm	≤0.7 μm
Clad non-circularity	≤2.0%	≤2.0%
Mechanical and Testing Data		
Operating temperature	-40 to +85°C	-40 to +85°C
Proof test level	≥100 kpsi (.689 GPa)	≥100 kpsi (.689 GPa)
Order by Part Number	F9920	F9920-01

Polarization-Maintaining



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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 1310 400, and 1310 245 FIBERS



Leading Optical Innovations

Polarization-Maintaining

#### Product Description

OFS Specialty Photonics Division offers a full line of ClearLite Polarization-Maintaining Photonic Fibers, including these TruePhase fibers at the 1310 nm wavelength with both standard 400  $\mu\text{m}$  and reduced buffer 245  $\mu\text{m}$  sizes. Both TruePhase 1310 fibers are used in a wide variety of polarization-sensitive components and devices.

TruePhase fibers utilize industry-standard, stress-applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design allows use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- PM fused fiber couplers
- External modulators at 1310 nm
- Source laser pigtailed
- Switches
- CATV components and devices

#### Features and Benefits

- Short beat length of  $\leq 3.8$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 1.2$  dB/km
- Low sensitivity to bending-induced attenuation
- Typical crosstalk of -35 dB/100 m

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.
- ClearLite 1310 and 1550, Micro, and specialty coated fiber lines contain other single-mode choices at 1310 nm with no polarization.

Ask us about options available for these fibers:

- Cabling**
- Connectorization**
- Metalization**
- 900  $\mu\text{m}$  Hytel or PVC Upbuffer**
- Other Upgrades**

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1-888-438-9936 toll free  
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#### OFS Specialty Photonics Division

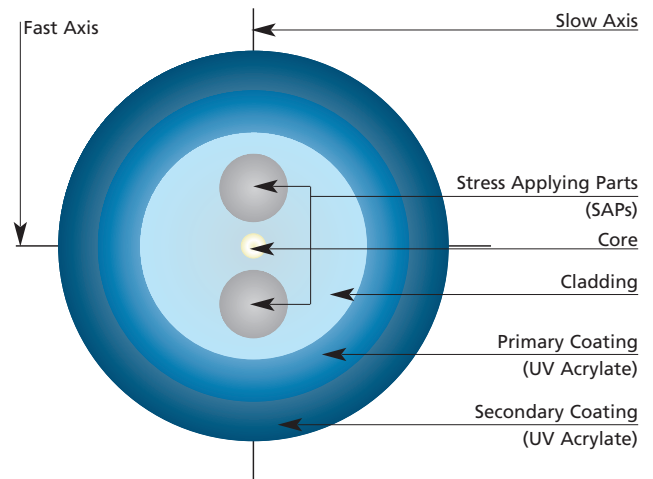
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# Fiber Specifications

Optical Properties	CL TRUEPHASE 1310 400	CL TRUEPHASE 1310 245
Operating wavelength	1310 nm	1310 nm
Cutoff wavelength	≤1290 nm	≤1290 nm
Mode field diameter @ 1310 nm	9.3 ± 1.0 μm	9.3 ± 1.0 μm
Attenuation @ 1310 nm	≤1.2 dB/km	≤1.2 dB/km
Beat length @ 1310 nm	≤3.8 mm	≤3.8 mm
Crosstalk @ 1310 nm/100 m	≤-30 dB	≤-30 dB
Crosstalk (typical) @ 1310 nm/100 m	≤-35 dB	≤-35 dB
Numerical aperture (nominal)	0.13	0.13
Dimensions/Geometric Properties		
Core diameter	8.4 μm	8.4 μm
Clad diameter	125 ± 1.0 μm	125 ± 1.0 μm
Coating/buffer diameter	400 ± 15 μm	245 ± 15 μm
Coating type	Dual UV Acrylate	Dual UV Acrylate
Clad non-circularity	≤2.0%	≤2.0%
Core/clad offset	≤0.7 μm	≤0.7 μm
Mechanical and Testing Data		
Operating temperature	-40 to +85°C	-40 to +85°C
Proof test level	≥100 kpsi (.689 GPa)	≥100 kpsi (.689 GPa)
Order by Part Number	F9922	F9922-01

Polarization-Maintaining



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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 1310 SENSOR FIBER



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Polarization-Maintaining

#### Product Description

TruePhase 1310 Sensor is a polarization-maintaining fiber that offers specialized performance for sensor applications. The fiber is designed with a smaller MFD (5.5  $\mu\text{m}$ ) than the standard telco TruePhase 1310 (MFD of 9.3  $\mu\text{m}$ ). This allows improved bend performance, a critical fiber parameter in sensor applications, where fiber is wound on small diameter coils. This design also achieves a shorter beat length ( $\leq 3.0$  mm) for increased birefringence and better crosstalk per length as compared with standard TruePhase 1310 fiber. The 125  $\mu\text{m}$  fiber is coated with a dual UV acrylate with 245  $\mu\text{m}$  diameter.

TruePhase fibers utilize industry-standard, stress-applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design allows use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- Sensors
- Gyroscopes
- Current Sensors
- Couplers

#### Features and Benefits

- Short beat length of  $\leq 3.0$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 1.5$  dB/km
- Low sensitivity to bending-induced attenuation

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.

Ask us about options available for these fibers:

- Cabling**
- Connectorization**
- Metalization**
- 900  $\mu\text{m}$  Hytrel or PVC Upbuffer**
- Other Upgrades**

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# Fiber Specifications

## Optical Properties

### CL TRUEPHASE 1310 SENSOR

Operating wavelength	1310 nm
Cutoff wavelength	$\leq 1290$ nm
Mode field diameter @ 1310 nm	$5.5 \pm 1.0$ $\mu$ m
Attenuation @ 1310 nm	$\leq 1.5$ dB/km
Beat length @ 1310 nm	$\leq 3.0$ mm
Crosstalk @ 1310 nm/100 m	$\leq -30$ dB
Crosstalk (typical) @ 1310 nm/100 m	$\leq -35$ dB
Numerical aperture (nominal)	0.20

## Dimensions/Geometric Properties

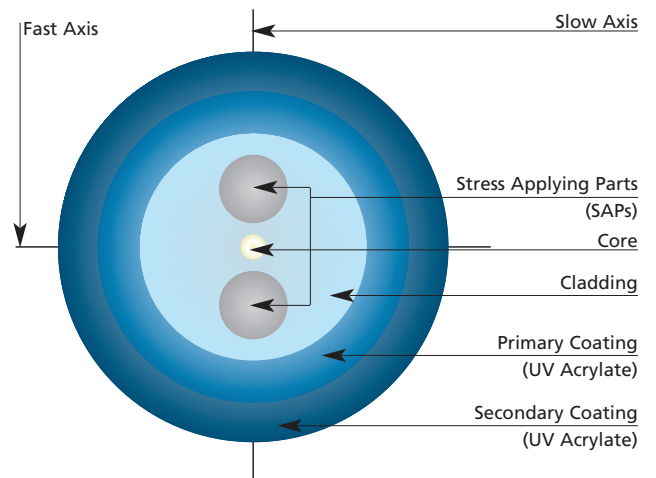
Core diameter	5.0 $\mu$ m
Clad diameter	$125 \pm 1.0$ $\mu$ m
Coating/buffer diameter	$245 \pm 15$ $\mu$ m
Coating type	Dual UV Acrylate
Clad non-circularity	$\leq 2.0\%$
Core/clad offset	$\geq 0.7$ $\mu$ m

## Mechanical and Testing Data

Operating temperature	-40 to +85°C
Proof test level	$\geq 100$ kpsi (.689 GPa)

## Order by Part Number

**F11358**



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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 14XX 400, and 14XX 245 FIBERS



Leading Optical Innovations

Polarization-Maintaining

#### Product Description

OFS Specialty Photonics Division offers a full line of ClearLite Polarization-Maintaining Photonic Fibers, including these TruePhase fibers at the 14XX nm wavelength with both standard 400  $\mu\text{m}$  and polarization-sensitive components in advanced communication systems. TruePhase 14XX fibers are made specifically for use in Raman Gain Modules, a key component of ultra long haul and 40 Gb/s systems. Fiber performance is optimized for the 1400 nm to 1490 nm band so that Raman pumps can provide high steady output power over this range of wavelengths.

TruePhase fibers utilize industry-standard, stress applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design is industry standard, allowing use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- Raman Gain Modules
  - Raman Pump Pigtailed
  - Raman Pump Combiners or Pump Multiplexors

#### Features and Benefits

- Short beat length of  $\leq 4.2$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 1.2$  dB/km
- Low sensitivity to bending-induced attenuation
- Typical crosstalk of -35 dB/100 m

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.
- Raman fiber

Ask us about options available for these fibers:

- Cabling**
- Connectorization**
- Metalization**
- 900  $\mu\text{m}$  Hytrel or PVC Upbuffer**
- Other Upgrades**

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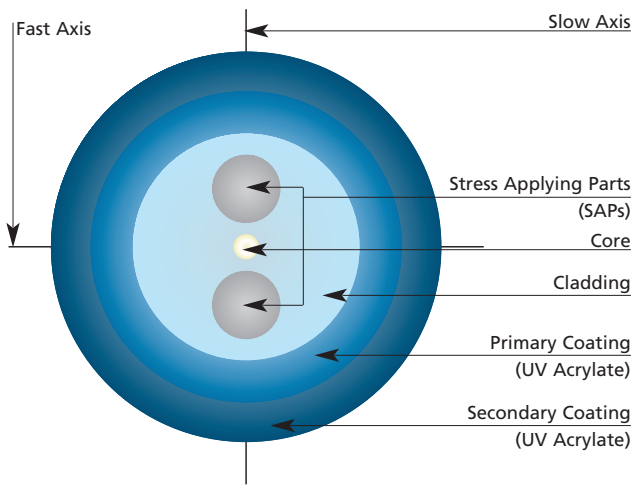
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# Fiber Specifications

Optical Properties	CL TRUEPHASE 14XX 400	CL TRUEPHASE 14XX 245
Operating wavelength	1400 to 1490 nm	1400 to 1490 nm
Cutoff wavelength	≤1390 nm	≤1390 nm
Mode field diameter @ 1455 nm	9.8 ± 1.0 μm	9.8 ± 1.0 μm
Attenuation @ 1455 nm	≤1.2 dB/km	≤1.2 dB/km
Beat length @ 1455 nm	≤4.2 mm	≤4.2 mm
Crosstalk @ 1550 nm/100 m	≤-30 dB	≤-30 dB
Crosstalk (typical) @ 1550 nm/100 m	≤-35 dB	≤-35 dB
Dimensions/Geometric Properties		
Cladding diameter	125 ± 1 μm	125 ± 1 μm
Coating diameter	400 ± 15 μm	245 ± 15 μm
Coating type	Dual UV Acrylate	Dual UV Acrylate
Core/clad offset	≤0.7 μm	≤0.7 μm
Clad non-circularity	≤2.0%	≤2.0%
Mechanical and Testing Data		
Operating temperature	-40 to +85°C	-40 to +85°C
Proof test level	≥100 kpsi (.689 GPa)	≥100 kpsi (.689 GPa)
Order by Part Number		
	BF06832	BF06832-01

Polarization-Maintaining



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## POLARIZATION-MAINTAINING FIBER

### Specification Sheet

## ClearLite Polarization-Maintaining Photonic Fibers

### CL TRUEPHASE 1550 400, and 1550 245 FIBERS



Leading Optical Innovations

Polarization-Maintaining

#### Product Description

OFS offers a full line of ClearLite Polarization-Maintaining Photonic Fibers, including these TruePhase fibers at the 1550 nm wavelength with both standard 400  $\mu\text{m}$  and reduced buffer 245  $\mu\text{m}$  sizes, enabling polarization-sensitive components in advanced communication systems.

TruePhase 1550 fiber is made specifically for use with premium photonic devices such as phase-sensitive Lithium Niobate Modulators. Used as a source laser pigtail, TruePhase 1550 fiber preserves the coherence of emitted laser light. Devices at 1550 nm which use longer lengths of fiber, such as PMD Compensators, will benefit from the option of a 245  $\mu\text{m}$  coating size.

TruePhase fibers utilize industry-standard, stress applying parts (SAPs) to create two axes in the core, each of which guides light at a different velocity. Crosstalk between the two axes (slow and fast) is suppressed so that polarized light launched into either of the axes will remain polarized as it is guided.

Precise alignment of PM fibers is absolutely essential for high performance splices. Our dual, circular SAP design is industry standard, allowing use of standard splice recipes from all major splice equipment manufacturers. When spliced correctly, TruePhase fibers exhibit low loss and high extinction ratios.

#### Typical Applications

- Lithium Niobate and other external modulators
- Laser Pigtails
- PMD compensators
- Polarizing beam splitters
- Other polarization-sensitive components

#### Features and Benefits

- Short beat length of  $\leq 4.5$  mm
- High birefringence
- Tight geometrical tolerances
- Low attenuation of  $\leq 0.5$  dB/km
- Low sensitivity to bending-induced attenuation
- Typical crosstalk of -35 dB/100 m

#### Related Products & Capabilities

- See our full line of ClearLite TruePhase Photonic fibers for operation at different wavelengths in full-size 400 or 245  $\mu\text{m}$  cladding constructions.
- Can be manufactured to a higher proof test level specification.

Ask us about options available for these fibers:

- Cabling**
- Connectorization**
- Metalization**
- 900  $\mu\text{m}$  Hytrel or PVC Upbuffer**
- Other Upgrades**

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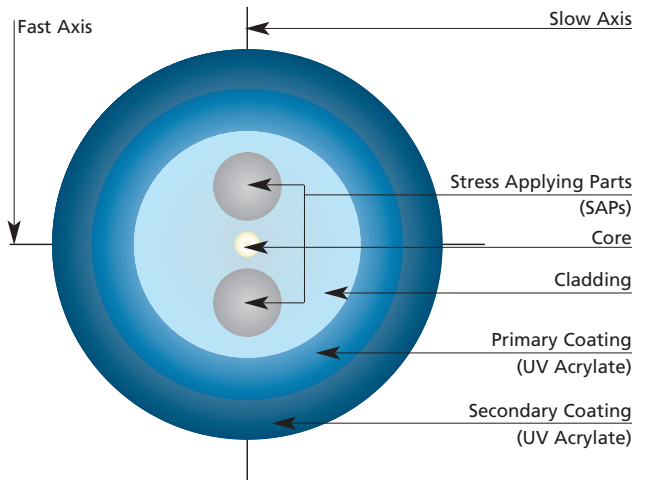
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# Fiber Specifications

Optical Properties	CL TRUEPHASE 1550 400	CL TRUEPHASE 1550 245
Operating wavelength	1550 nm	1550 nm
Cutoff wavelength	≤1470 nm	≤1470 nm
Mode field diameter @ 1550 nm	10.5 ± 1.0 μm	10.5 ± 1.0 μm
Attenuation @ 1550 nm	≤0.5 dB/km	≤0.5 dB/km
Beat length @ 1550 nm	≤4.5 mm	≤4.5 mm
Crosstalk @ 1550 nm/100 m	≤-30 dB	≤-30 dB
Crosstalk (typical) @ 1550 nm/100 m	≤-35 dB	≤-35 dB
Dimensions/Geometric Properties		
Cladding diameter	125 ± 1 μm	125 ± 1 μm
Coating diameter	400 ± 15 μm	245 ± 15 μm
Coating type	Dual UV Acrylate	Dual UV Acrylate
Core/clad offset	≤0.7 μm	≤0.7 μm
Clad non-circularity	≤2.0 %	≤2.0 %
Mechanical and Testing Data		
Operating temperature	-40 to +85°C	-40 to +85°C
Proof test level	≥100 kpsi (.689 GPa)	≥100 kpsi (.689 GPa)
Order by Part Number		
	BF06734	BF06734-01

Polarization-Maintaining



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