NON-STANDARD FIBER
Specification Sheet

Termination Fiber

Leading Optical Innovations

Product Description

Termination fiber is a coreless silica fiber. It is a useful device for eliminating back reflections from unused branches of a multi-port device as well as performing return loss measurements.

A termination of better than 65 dB is achieved by splicing approximately 0.25 meters of this fiber to the desired component. A fusion splice also provides higher reliability and long-term stability over conventional termination methods.

There is excellent repeatability since there is no potential for subsurface damage, fiber breakage, or fiber contamination as with polished or angled cleaves. A quality termination is possible for all fiber designs including high delta fibers such as erbium-doped fiber.

Features and Benefits

- Return loss >65 dB (for 0.25 m of termination fiber)
- Useful for all fiber designs
- High reliability and long-term stability
- Patented termination method (U.S. Patent No. 5,263,103)

Related Products & Capabilities

- Microstructure Fibers
- GRIN fiber lenses

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Ask us about options available for these fibers:

- ☑ **Complete MicroStructure Fiber Assemblies**
- ☑ **Termination**

To order items on this spec sheet, please contact our facility in:

- ☑ Somerset, New Jersey 1-732-748-7402
- ☑ or by email inquiry to: Info@SpecialtyPhotonics.com

Fiber Specifications

Physical Properties	
Cladding diameter	125 ± 2.5 µm
Coating diameter	250 ± 15 µm
Mechanical and Testing Data	
Proof test level	>100 kpsi
Order by Part Number	**107 567 661**

Leading Optical Innovations

OFS Specialty Photonics Division

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Air-Clad

Leading Optical Innovations

Product Description

Air clad fiber is a double clad erbium-doped fiber with broad gain spectrum, making the fiber ideal for high-power broadband DWDM amplifiers.

The pump guide is surrounded with air cladding, giving ultra high numerical aperture and high reliability. The diameter of the pump guide has been chosen to give good overlap between the pump and the signal core, which makes the use of Yb in the signal core obsolete. Due to the glass composition of the core, this fiber has a spectral gain shape similiar to R37003 erbium-doped fiber for C-Band.

Typical Applications

- CATV amplifiers
- High-power broadband optical amplifiers
- High power booster amplifiers
- DWDM systems

Features and Benefits

- Double clad Yb free EDF
- Flat gain spectrum from 1530 to 1565 nm
- Dual layer acrylate coating
- High strength

Related Products & Capabilities

- EDF for C-Band amplifiers, R37003 and R37004

Non-Standard

Fiber Specifications

Optical Properties	
Signal guide, typical values:	
Peak absorption @ 1530 nm	35 dB/m
Cutoff wavelength	1350 nm
Mode field diameter @ 1550 nm	7.2 µm
Numerical aperture	0.1
Pump guide, typical values:	
Peak absorption @ 978 nm	1 dB/m
Pump guide NA @ 978 nm	>0.55
Physical Properties	
Pump guide diameter	40 µm
Outer cladding diameter	125 µm
Coating diameter	245 µm
Mechanical and Testing Data	
Proof test level	0.5% (50 kpsi)
Order by Part Number	**AC 37001**

To order items on this spec sheet, please contact our facility in:

☑ Broendby, Denmark
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NON-STANDARD FIBER
Specification Sheet

Highly Non-Linear Fiber

Leading Optical Innovations

Product Description

Highly non-linear fiber combines a numerically small group velocity dispersion with a small effective area.

The fiber design includes a high core index, a deeply depressed ring yielding an effective area around 11-12 μm^2, a Kerr coefficient around 10.5 W^{-1}/km^{-1}. In addition, the fiber dispersion is around 0 ps/nm/km at 1550 nm.

Fiber is supplied on a spool with 1-2 m short standard single-mode fiber pigtails spliced directly to the highly non-linear fiber providing minimum splice loss and pigtail dispersion. Shorter lengths are available, but with increased dispersion uncertainty due to measurements. Connectorized pigtails available.

Typical Applications

- Optical regeneration based on SPM
- Pulse compression
- Parametric amplification
- Wavelength conversion by XPM
- Supercontinuum generation

Features and Benefits

- High non-linear coefficient
- Numerically low dispersion
- Low dispersion slope
- Germanium doped high-index core

Related Products & Capabilities

- Connectorized pigtails

Non-Standard

Ask us about options available for these fibers:

- ☑ **Shorter Lengths**
- ☑ **Connectorization**
- ☑ **Other Dispersion Values**

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- ☑ Broendby, Denmark
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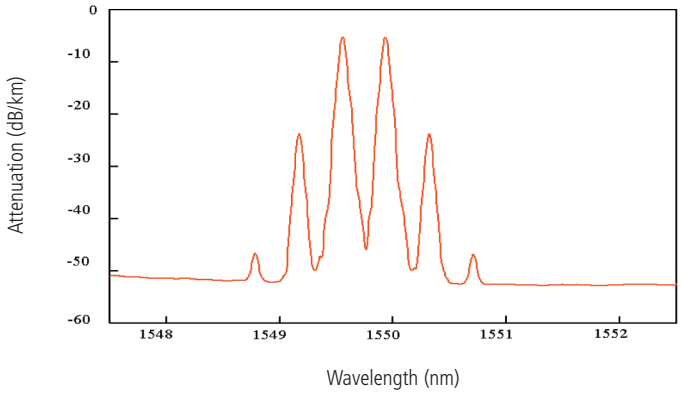
Fiber Specifications

Optical Properties	HNLF
Cutoff wavelength	<1200 ± 100 nm
Mode field diameter @ 1550 nm	3.9 ± 0.2 µm
Attenuation @ 1550 nm	≤0.90 dB/km
Dispersion	0.0 ± 1.0 ps/nm/km
Dispersion slope	0.019 ± 0.004 ps/nm^2/km
Non-linear coefficient (typical) ($W^{-1} \bullet km^{-1}$)	10.5
Splice loss to SSMF pigtail (maximum)	≤0.3 dB
	(typical) ≤0.2 dB
Polarization mode dispersion	≤0.2 ps/ √km
Physical Properties	
Cladding diameter	125 ± 1 µm
Cladding non-circularity	≤1%
Core eccentricity	≤1.0 µm
Coating diameter	200 ± 10 µm
Coating non-circularity	≤2.5%
Coating/cladding concentricity error	≤16 µm
Fiber length	1-6 km
Order by Part Number	**HNLF**

OFS measures the fiber Kerr coefficient by a CW beat signal method: A. Boskovics et al, Optics Letter, Vol. 21., No. 24, December 1996, pp 1966-1968. An example of a beat signal is shown below.

Measurement of n_2



FWM spectrum generated by propagation of CW dual frequency beat signal in 500 m of non-linear fiber. Input power is 17 dBm.

NON-STANDARD FIBER
Specification Sheet

Raman Fiber

Leading Optical Innovations

Product Description

OFS raman fiber is specifically designed for applications where a high raman gain coefficient is required, such as discrete broad raman amplifiers.

The fiber is designed with a high index core and a small effective area yielding a high raman gain.

With appropriate choice of pumps the raman fiber can provide gain at any wavelength from 1200 to 1700 nm.

Features and Benefits

- High Raman gain coefficient
- Small effective area
- High pump efficiency
- Low cutoff wavelength
- Excellent bending performance
- Low water peak attenuation
- Excellent splicing properties

Related Products & Capabilities

- EDF for C-Band amplifiers, R37004, and R37003 80
- Reduced cladding fibers for L-Band: EDF 80 and R37102 80
- ClearLite TruePhase 14XX fibers

Non-Standard

Ask us about options available for these fibers:

- ☑ **Cabling**
- ☑ **Connectorization**
- ☑ **Metalization**
- ☑ **Additional Coatings**
- ☑ **Other Upgrades**

To order items on this spec sheet, please contact our facility in:

- ☑ Avon, Connecticut
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  1-888-438-9936 toll free
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- ☑ or by email inquiry to:
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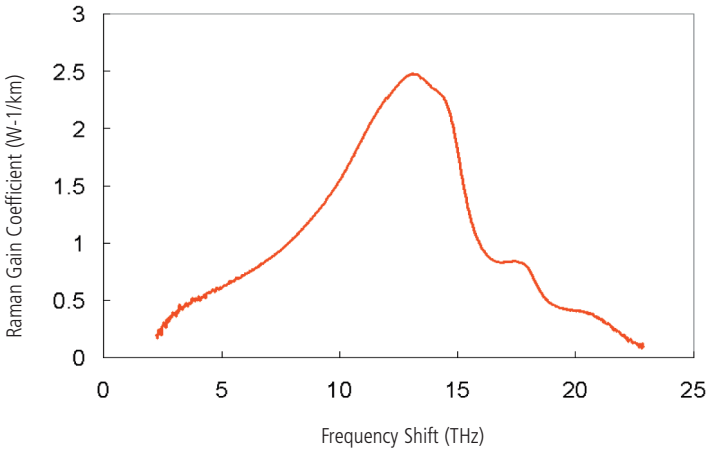
Fiber Specifications

Optical Properties	Raman Fiber
Cutoff wavelength	<1100 nm
Effective area @ 1450 nm (typical)	16.1 ± 1.5 µm
Effective area @ 1500 nm (typical)	18.7 ± 1.5 µm
Attenuation @ 1450 nm (typical)	0.42 dB/km
Attenuation @ 1450 nm (maximum)	0.46 dB/km
Attenuation @ 1500 nm (typical)	0.32 dB/km
Attenuation @ 1500 nm (maximum)	0.36 dB/km
Dispersion @ 1550 nm (typical)	-20 ps/nm/km
Dispersion slope (typical)	0.030 ps/nm/km
Raman gain coefficient	2.5 w^{-1}/km*
Polarization mode dispersion	≤0.5 $ps/km^{-0.5}$
Physical Properties	
Cladding diameter	125 ± 1 µm
Cladding non-circularity	<0.5%
Core eccentricity	<0.5 µm
Coating diameter	245 ± 10 µm
Coating non-circularity	<1%
Coating/cladding concentricity error	<10 µm
Mechanical and Testing Data	
Proof test level	100 kpsi
Order by Part Number	**RAMAN FIBER**

* Raman Gain Coefficient (gr/Aeff) at 1551 mm for randomly polarized light.

Non-Standard

Raman Gain Spectrum



Raman gain spectrum generated by propagation of a broadband signal while backward pumping @ 1453 nm.