



A Furukawa Company

### Product Description

OFS offers the R37003-80  $\mu\text{m}$  and R37102-80  $\mu\text{m}$  erbium-doped fibers specifically for compact amplifier designs operating in either the C- or L-band. The fibers provide high efficiency and low noise figure, while allowing for very tight bend radii and high reliability, building on OFS' more than ten years of experience in manufacturing 80  $\mu\text{m}$  clad Er-doped fibers.

#### Spectral Uniformity and Reproducibility.

For EDFA manufacturers designing DWDM amplifiers, an important EDF parameter is the uniformity of the spectral shape from one coil of EDF to the next. More than 15 years of experience with EDF production at OFS has brought our EDF uniformity to an unprecedented level. This world class manufacturing is supported by precision characterisation of the EDF in a DWDM amplifier setup.

**Hydrogen Immunity.** These erbium-doped fibers are co-doped negligible loss increase in the presence of hydrogen, even at elevated temperatures. The change in background loss is predicted to be less than 0.1 dB in the signal band over the lifetime of an amplifier at 70°C and 1% hydrogen (based on accelerated aging tests and models for temperature and H<sub>2</sub> pressure dependence).

**OASiX Software Package.** Accurate prediction of EDF performance is essential to applications design. To meet this need, OFS offers the OASiX Optical Amplifier Simulation System software to design and predict EDFA performance. This specialized software package allows you to accurately predict the performance at all pump powers. OASiX includes modeling parameters specific to the lot of EDF you purchase. OASiX is also available in a DLL version to combine with external optimization tools.

### Typical Applications

- Compact DWDM and CATV systems operating in either the C- or L-Band
- Pump applications at 980 nm or 1480 nm

### Features and Benefits

- 80  $\mu\text{m}$  cladding diameter allowing for smaller coil diameters with less fiber stress
- High Numerical Aperture for improved bend loss performance
- H<sub>2</sub> insensitive
- High gain and efficiency
- Broad gain spectrum by aluminum co-doping
- High strength
- Excellent fiber uniformity
- Dual-layer acrylate coating for excellent micro-bending, abrasion resistance, and mechanical strength
- OASiX modeling support

### Related Products & Capabilities

- RE120101, 80  $\mu\text{m}$  source EDF
- R37003, R37003X, and R37004X, EDF for C-band amplifier
- R37103, EDF for L-band amplifier

Ask us about other options available:

- Colored or Natural Buffers
- Tighter Optical Property Specifications
- Coils
- Custom Designs

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

- Broendby, Denmark  
+45 4345 8888
- or by email inquiry to:  
Info@SpecialtyPhotonics.com



OFS Specialty Photonics Division

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

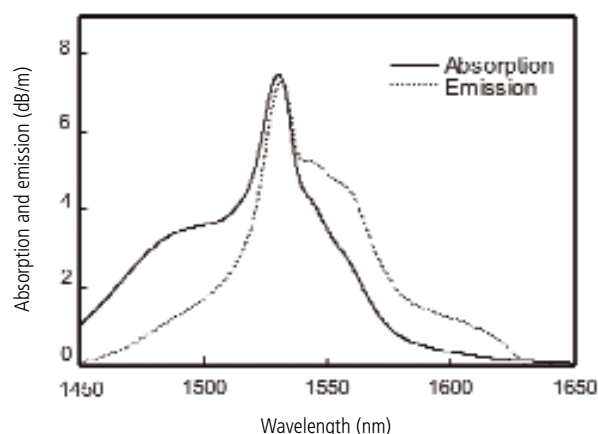
[www.SpecialtyPhotonics.com](http://www.SpecialtyPhotonics.com)

# Fiber Specifications

Optical Properties	R37003-80	R37102-80
Peak absorption @ 1530 nm	6 - 8 dB/m	16 - 24 dB/m
Cutoff wavelength	800 - 960 nm	800 - 980 nm
Mode field diameter	4.9 ± 0.5 μm	4.9 ± 0.5 μm
Loss at 1200 nm	<15 dB/km	<15 dB/km
Numerical aperture	0.27 ± 0.02	0.28 ± 0.02
PMD (typical)	0.002 ps/m	0.002 ps/m
Physical Properties		
Core diameter (typical)	2.9 μm	2.9 μm
Cladding diameter	80 ± 1 μm	80 ± 1 μm
Cladding non-circularity	<1%	<1%
Core eccentricity	<0.3 μm	<0.3 μm
Coating diameter	165 ± 10 μm	165 ± 10 μm
Mechanical and Testing Data		
Proof test level	2.0% (200 kpsi)	2.0% (200 kpsi)
Order by Part Number	R37003-80	R37102-80

erbium-doped

Absorption and Emission Spectra



*This document is for informational purposes only and is not intended to modify or supplement any OFS warranties or specifications relating to any of its products and services.*

Copyright © 2007 Furukawa Electric North America, Inc.

All Rights Reserved.

OASIX is a registered trademark of Furukawa Electric North America, Inc. 0907