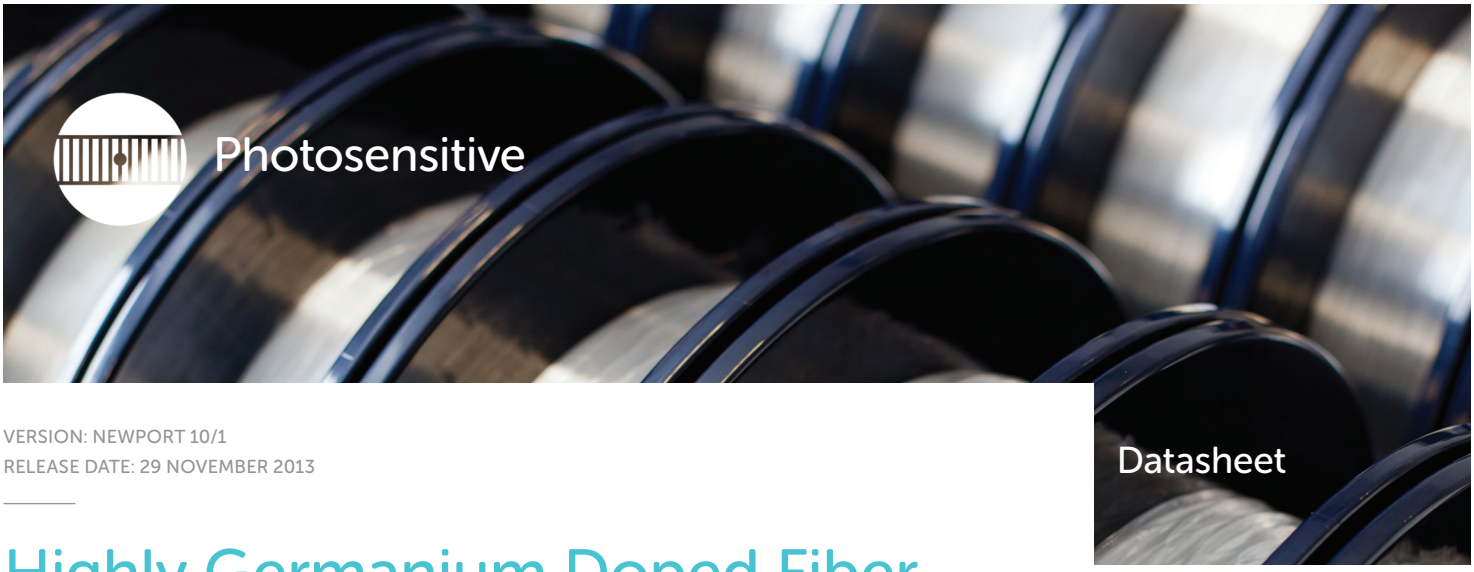

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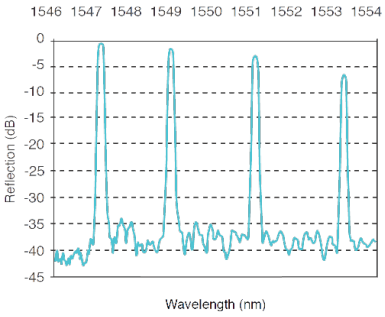
Highly Germanium Doped Fiber

For the fabrication of bend insensitive Fiber Bragg Grating (FBG) arrays, Fibercore offer three, high Germania fibers, SM1500(4.2/125), SM1500(4.2/80) and SM1500(4.2/50). These fibers have cores with more than 5X the Germania content of a telecoms fiber, enabling FBGs to be written with or without Hydrogen loading.

The high Numerical Aperture (NA) of these fibers gives exceptional resistance to bend-induced loss. Optional 'low-profile' 80μm or 50mm cladding diameters are available along with increased proof test levels make these fibers ideal for high reliability, coiled and tightly packaged applications, including fiber optic hydrophones and geophones.

Special coating variants are available on request for the 'Cold Writing' technique where FBGs are inscribed through the coating, without the need to remove the coating.



Advantages:

- High NA variants for extremely low macro and micro bend losses
- Reduced cladding options for high reliability coils and reduced package volume
- Highly photosensitive core design for high reflectivity
- FBGs

Typical applications:

- Temperature Sensors
- Strain Sensors
- Biomedical sensors
- Hydrophones
- Geophones
- FBGs

Related Products:

- SM Fiber for Visible Through to Near IR (SM)
- High Temperature Acrylate Coated Fiber (SM-HT)
- Polyimide Coated SM Fiber (SM-P)
- Pure Silica Core SM Fiber (SM-SC)

Product Variants:

• **SM1500(4.2/125)**	Highly photosensitive and bend insensitive fiber for FBGs around 1550nm
• **SM1500(4.2/80)**	Reduced cladding highly photosensitive fiber for FBGs in embedded sensors and coiled applications
• **SM1500(4.2/50)**	Reduced cladding highly photosensitive fiber for FBGs in embedded sensors and very tightly coiled applications
• **SM1500(4.2/125)P**	Polyimide coated highly photosensitive and bend insensitive fiber for FBGs around 1550nm
• **SM1500(4.2/80)P**	High temperature bend insensitive and photosensitive fiber for embedded and coiled sensors
• **SM1500(4.2/50)P**	Polyimide coated reduced cladding highly photosensitive fiber for FBGs in embedded sensors and very tightly coiled applications

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Specifications

	SM1500(4.2/125)	SM1500(4.2/80)	SM1500(4.2/50)
Operating Wavelength (nm)	1550		
Cut-Off Wavelength (nm)	1350 – 1500		
Numerical Aperture	0.29 – 0.31		
Mode Field Diameter (µm)	4.0 – 4.5 @1550nm		
Attenuation (dB/km)	≤1.5 @1550nm		≤2.0 @1550nm
Proof Test (%)	1, 2 or 3 (100, 200 or 300 kpsi)		
Cladding Diameter (µm)	125 ± 1	80 ± 1	50 ± 1
Core Cladding Concentricity (µm)	≤0.5		
Coating Diameter (µm)	245 ± 15	170 ± 10	110 ± 6
Coating Type	Dual Acrylate (Single by Special Order)		Single Acrylate

	SM1500(4.2/125)P	SM1500(4.2/80)P	SM1500(4.2/50)P
Operating Wavelength (nm)	1550		
Cut-Off Wavelength (nm)	1350 - 1550		
Numerical Aperture	0.29 - 0.31		
Mode Field Diameter (µm)	4.0 – 4.5 @1550nm		
Attenuation (dB/km)	≤2.5		≤3.0
Proof Test (%)	1 or 2 (100 or 200 kpsi)		
Cladding Diameter (µm)	125 ± 2	80 ± 2	50 ± 2
Core Cladding Concentricity (µm)	≤0.5		≤1.0
Coating Diameter (µm)	145 ± 5	95 ± 5	71 ± 5
Coating Type	Polyimide		
Maximum Temperature (°C)	300 Long Term / 400 Short Term		

Visit **fibercore.com/fiberpaedia** for our encyclopedia of industry terms/knowledge base.

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