

FBG Sensors

Fiber Bragg Gratings for Sensing Applications

ITF Technologies' Fiber Bragg Gratings for sensor applications are manufactured with a robust process that has been proven over the years. This assures the highest quality level with optimum optical and mechanical performances at low price.

Our single FBG or array sensors are offered with precise peak wavelengths and different bandwidth and reflectivity values. They can be produced from standard or specialized acrylate or polyimide coated fibers and our recoating process ensures high mechanical strength.



KEY FEATURES

Proven and reliable process

Available as single FBGs or customized arrays

Very high strength FBGs available:

Acrylate coated fiber:
up to 400 kpsi

Polyimide coated fiber:
up to 300 kpsi

Customizable features:

Fiber type and recoating

Central wavelength

Bandwidth

Reflectivity

APPLICATIONS

Stress and temperature sensing in:

Industrial / Oil & Gas
applications

Aerospace and Defense

Research

FOR MORE INFO

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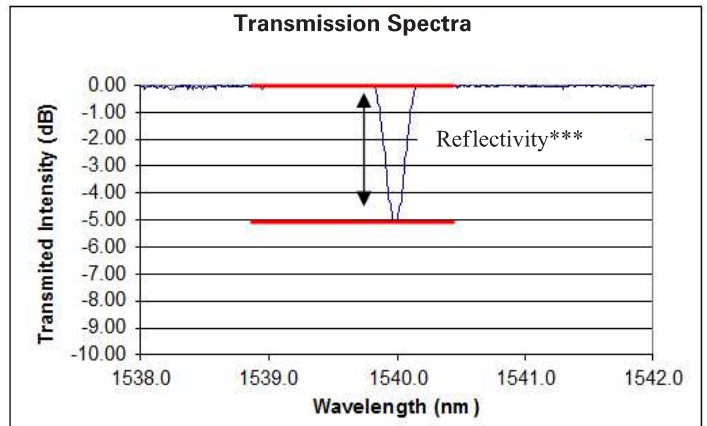
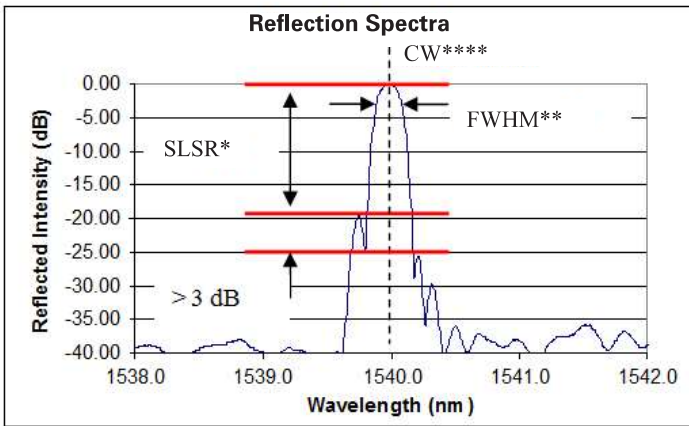
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FIBER BRAGG GRATINGS FOR SENSING APPLICATIONS

Typical FBG sensor spectra

FIBER TYPE	RECOATING	BW	REFLECTIVITY	APODIZATION
SMF-28 Compatible fiber	Polyimide. Proof test: up to 300 kpsi	0.3 nm +/- 0.1 nm	R ≤ 10%	Apodized (SLSR > 15 dB)
Bend Insensitive fiber	Acrylate. Proof test: up to 400 kpsi	0.5 nm +/- 0.1 nm	10% < R ≤ 50%	Uniform
80um cladding fiber		1.0 nm +/- 0.2 nm	50% < R ≤ 80%	
			R > 80%	

Standard Central Wavelengths available: from 1460 to 1585 nm
Custom designs and prototypes also available, including other wavelengths



* SLSR (Side Lobe Suppression Ratio): Highest secondary peak larger than 3 dB amplitude within +/- 3 nm from CW. For Standard FBG SLSR > 15 dB.
 ** FWHM (Full Width at Half Maximum): FBG width at 50% (-3 dB) from FBG maximum Reflectivity, measured from Reflection Spectra.
 *** Reflectivity R% = 1-10(T(dB)/10): Measured from transmission spectra.
 **** CW (Central Wavelength): FBG CW is calculated as the mid point of the wavelength located at -3 dB level from the reflection spectra peak.

Stock Standard Parts

Fiber type		SMF-28 compatible polyimide coated fiber	
Recoating		Polyimide	
Proof test		200 kpsi	
Signal Reflectivity		> 80%	
Bandwidth (FWHM)		0.3 nm +/- 0.1 nm	
Apodization		Apodized (SLSR > 15dB)	
CW (NM)	PRODUCT CODE	CW (NM)	PRODUCT CODE
1530 ± 0.5	FOSS3DXBNH30	1555 ± 0.5	FOSS3DXBNH55
1535 ± 0.5	FOSS3DXBNH35	1560 ± 0.5	FOSS3DXBNH60
1540 ± 0.5	FOSS3DXBNH40	1565 ± 0.5	FOSS3DXBNH65
1545 ± 0.5	FOSS3DXBNH45	1570 ± 0.5	FOSS3DXBNH70
1550 ± 0.5	FOSS3DXBNH50	1575 ± 0.5	FOSS3DXBNH75

ORDERING INFO

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