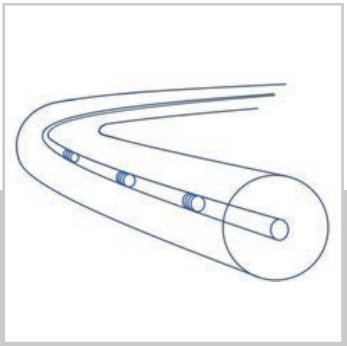
PHOTONICS BRETAGNE
Photonics Innovation Hub

SPECSHEET
01/2025

COMPONENTS

DRAW TOWER BRAGG GRATINGS



These fibre Bragg Gratings Arrays are perfectly suited to be used as thermal or strain sensors. The process to inscribe them directly during the fibre draw allows to preserve the pristine mechanical strength of the fibre as for a telecom grade one. An unlimited number of gratings can be inscribed in a repeatable way on standard or spun fibres. Reduced clad fibres, associated Fan in/Fan out and connectorisation available on request.

Product line PERFOS

MAIN CHARACTERISTICS

- Weak reflectivity
- Strong mechanical strength
- Customizable FBG length and spacing
- Customizable Sensor length

APPLICATIONS

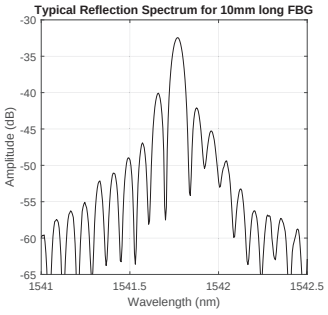
- Temperature and strain sensor
- Shape sensing
- Structural Health Monitoring

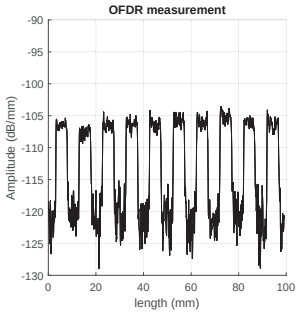
SPECIFICATIONS	FBGA1-LL-SSS*	FBGA2-LL-SSS*	FBGA7-LL-SSS*	FBGA7s-LL-SSS*
Optical parameters	**Single Core Fibre**	**Dual-core fibre**	**Seven-Core Fibre**	**Seven-Core Fibre**
Spin Version	None	None	None	Spun
Reflectivity (%)	0.1< R < 5			
Full-Width-at-Half-Magnitude (pm)	60 < FWHM < 700			
Center Wavelength (nm)	1540 +/- 2			
Side Lobe Suppression Ration (dB)	≥ 7			
FBG Length (mm)	1to 10			
FBG Spacing (µm)	≥ 50			
Mode Field Diameter @1550nm (µm)	5.6 +/- 0.5			
Numerical Aperture	0.23 +/- 0.02			
Physical/Material parameters				
Core Diameter (µm)	5 +/- 1			
Cladding Diameter (µm)	125 +/- 2			
Coating Type	One-layer Acrylate			
Coating Outside Diameter (µm)	> 155			
Spinning Rate (twist/m)	-	-	-	≥ 20
Proof-Testing (kpsi)	≥ 50			
Operational T° Range (°C)	- 20 to + 80			

* FBGAxa – LLb – SSSc with (a) cores number (adding 's' if Spin version) (b) FBG length (in mm), (c) FBG spacing (in mm)

Typical reflection spectrum

Typical reflection spectrum for a 10mm long FBG and OFDR trace for a 1-meter long FBGA made of 5mm long FBG spaced of 5mm.





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All our optical fibres and components are manufactured according to our ISO certified quality management system, which places the needs and values of customers and partners at the heart of our organization. Throughout the manufacturing process, our components and systems are subjected to rigorous tests and inspections, which guarantees their robustness and reliability in the most demanding environments.