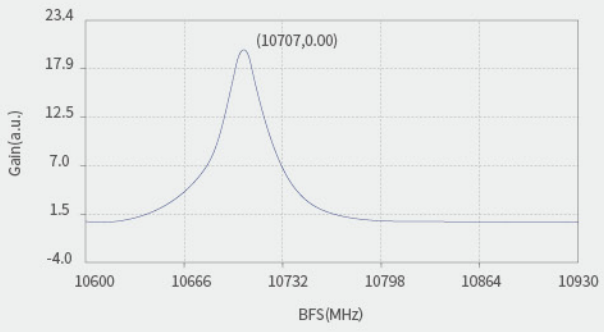
Brillouin Sensing Fibre

Brillouin sensing fibre is manufactured by the advanced plasma chemical vapor deposition(PCVD) process. The fibre shows extremely precise refractive index (RI) profile control, excellent geometrical performance, low attenuation, etc. Brillouin gain spectrum of the optical fibre has good single peak property through process control. Through testing experiment, temperature coefficient and strain coefficient are explicit. The double-layer UV-curable acrylate coating ensures the fibre excellent anti- bending performance.



Brillouin gain spectrum

Characteristics

- Excellent optical properties and geometrical properties
- Brillouin gain spectrum with single peak property
- Accurate Brillouin center frequency
- Definite temperature coefficient and strain coefficient
- Low attenuation
- Low splicing loss
- Excellent bending insensitivity

Applications

- Brillouin distributed temperature and strain sensing system

Specifications

Fibre Type		BR 9/125-14/250
Part No.		BR1010-A
Optical Properties		
Loss (dB/km)	@1310nm	⩽ 0.34
	@1383nm	⩽ 0.34
	@1550nm	⩽ 0.20
	@1625nm	⩽ 0.23
Cable Cut-off Wavelength (nm)		⩽ 1260
MFD (μm)	@1310nm	8.7 - 9.5
	@1550nm	9.9 - 10.9
Brillouin Ceter Frequency (GHz)	-	10.7
Strain Coefficient (με/MHz)	-	19.26 ± 0.20
Temperature Coefficient (°C/MHz)	-	0.97 ± 0.02
Geometrical Properties		
Cladding Diameter (μm)	-	125.0 ± 0.7
Non-circularity of Cladding (%)	-	⩽ 1.0
Coating Diameter (μm)	-	245.0 ± 7.0
Coating/Cladding Concentricity (μm)	-	⩽ 12.0
Non-circularity of Coating (%)	-	⩽ 6.0
Core/Cladding Concentricity (μm)	-	⩽ 0.6
Macro Bending Induced Attenuation		
Macrobend Loss (dB)	-	-
1 turn, Radius 16mm	@1550nm	⩽ 0.05
100 turns, Radius 25mm	@1310nm	⩽ 0.05
	@1550nm	⩽ 0.05
Mechanical Properties		
Proof Test Level (kpsi)	-	⩾ 100
Environmental Properties		
Temperature Additional Attenuation (dB/km)	- 60℃ to + 85℃	⩽ 0.05