

OptiMet-OMF

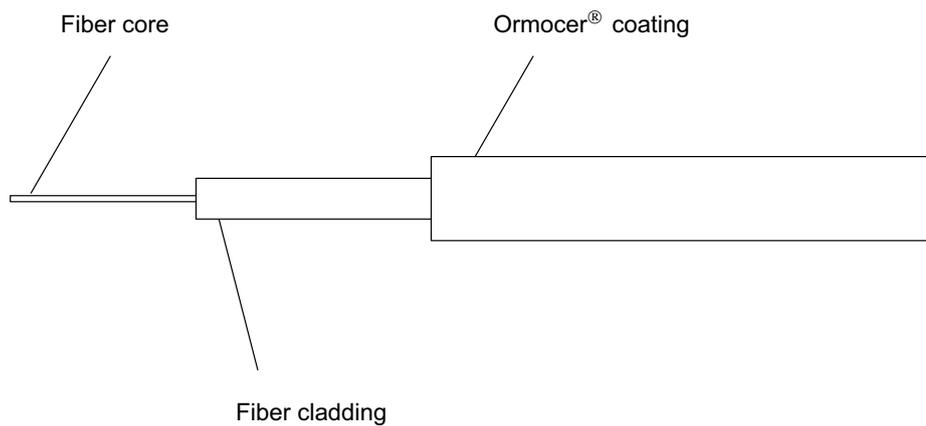
Ormocer®-
strain measuring fiber



Special features

- Optical fiber with fiber Bragg gratings
- Ormocer® coating featuring optimal strain transfer
- 13 fiber Bragg gratings 60 cm apart
- Suitable for laboratory applications
- Insensitive to electromagnetic interferences
- Application in Ex-areas possible
- Lower wiring outlay compared to electrical strain gauges
- Lower mass of glass fiber compared to standard connecting cables

Principal layout



Specifications OptiMet-OMF

Design		Ormocer [®] -coated glass fiber with 13 Bragg gratings
Core diameter of glass fiber, approx.	µm	6
Diameter of fiber cladding, approx.	µm	125
Outer diameter with coating, approx.	µm	195
Bragg grating length	mm	6 ±1
Connection (plug) ¹⁾		FC/APC
Available Bragg wavelengths ²⁾	nm	1520 ... 1580
Bragg wavelength tolerance	nm	±0.4
Bragg signal width (FWHM)	nm	0.13 ±0.02
Gage factor		0.78
Gage factor tolerance	%	±2
Degree of reflection	%	<20
Attenuation at 1550 nm (single light path)	dB/km	8.6
Reference temperature	°C	23
Operating temperature range	°C [K]	-268.9 ... +200 [4.2 ... 473]
Storage temperature range	°C [K]	-268.9 ... +200 [4.2 ... 473]
Thermal cross sensitivity (TCS) ³⁾ thermal contribution of sensor to strain sensor	µm/m/°C	8.0
Tolerance of thermal cross sensitivity (TCS)	µm/m/°C	±1
Tensile load at break	N µm/m	> 50 50,000 (5%)
Smallest bend radius at reference temperature ⁴⁾	mm	2.5
Applicable bonding materials		EP310S ⁵⁾ , X60, X120

1) 1.5 m Pigtail spliced on one end.

2) Standard configuration with 13 Bragg gratings, grating to grating distance 60 cm, Bragg wavelength distance 5 nm, 1.5 m Pigtail spliced on one end; available ex stock. Customer-specific configurations on request.

3) The temperature response was determined in the range -40 ... +140 °C. The thermal expansion coefficient of the measurement object must be added after bonding the fiber.

4) This radius of curvature applies outside the Bragg grating. Minimal bending radius at Bragg grating is 10 mm.

5) Preferred adhesive

Subject to modifications.

All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

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