

DiTeSt® SMARTprofile Fibre Optic Combined Strain And Temperature Sensing Cable

- Distributed strain and Temperature sensing
 - Multi-functional
 - Single Cable design
 - DiTeSt® compatible
- Mechanically reinforced
 - Chemically resistant
- Easy and rapid installation
- Light weight, small dimension

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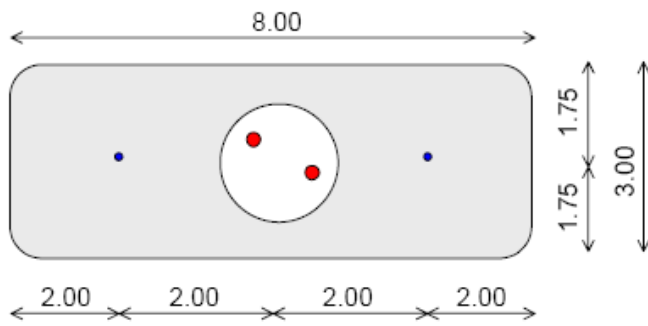
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Description

The DiTeSt® SMARTprofile combined strain and temperature sensors are designed for distributed deformation (average strain) and temperature monitoring over long distances.

The DiTeSt® SMARTprofile sensor consist of one or two bonded and two free single mode optical fibers embedded in a polyethylene thermoplastic profile. The bonded fibers are used for strain monitoring, while the free fibers are used for temperature measurements and to compensate temperature effects on the bonded fibers. For redundancy, two fibers are included for both strain and temperature monitoring. The profile itself provides good mechanical, chemical and temperature resistance. The size of the profile makes the sensor easy to transport and install by fusing, gluing or clamping. The SMARTProfile sensor is designed for use in environments often found in civil, geotechnical and oil & gas applications. However, this sensor cannot be used in extreme temperature environments, nor in environments with high chemical pollution. It is not recommended for installation under permanent UV radiation (e.g. sunshine).

The SMARTprofile sensor is fully compatible with DiTeSt® system. It is delivered on spools and with all the necessary accessories such termination and connectors (E2000, FC-PC or other) .



Dimensions in mm. Strain sensing fibers depicted in blue, temperature sensing fibers depicted in red.



Technical characteristics and performances

	SMART Profile
Dimensions	~ 3 mm x ~8 mm
Strain Monitoring fibers	2
Temperature Monitoring fibers	2
Maximal length	Aprox. 3 km
Strain range	-1.5% to +1.5%
Temperature range	-40°C to +60°C operating, long-term
Calibration	Only during production
Stability	>20 years
Temperature compensation	Compensated through temperature sensing fibers (strain < 0,5%)
Sensor weight	~ 22 kg/km
Minimal bending radius	~ 400 mm
Max. tensile strain	1.5%
Max. hydrostatic pressure	3x10 ⁷ Pa (300 bars)
Chemical resistance	Good to Fair
Connectivity	Protected pigtails and E2000 connectors