

## 11.1021 DITEST SMARTAPE II DISTRIBUTED STRAIN SENSOR



### GENERAL DESCRIPTION

The DiTeSt SMARTape II strain sensors are designed for distributed deformation (average strain) monitoring over long distances.

It is used for surface installation on smooth surfaces or embedding into composites.



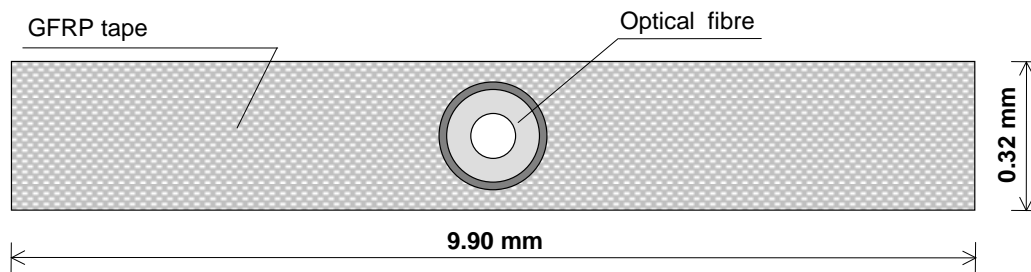
### TECHNICAL DESCRIPTION

The DiTeSt SMARTape sensor consists of a single mode optical fibre embedded in a Glass Fiber Reinforced Polymer / Epoxy tape. The tape itself provides high mechanical, chemical and temperature resistance. The size of the tape makes the sensor easy to transport and install. The SMARTape II sensor is designed for use in harsh environments often found in civil and Oil&Gas engineering applications. It is usually glued to the structures, but can also be clamped or embedded into composite.

SMARTape II sensors are fully compatible with DiTeSt system. They are delivered on spools and with all the necessary accessories such as gland nuts (IP65), pigtailed and connectors (E-2000, FC-PC or other on request).

### FEATURES

- Distributed strain sensing
- Wide strain range
- Mechanically reinforced
- Chemically resistant
- Easy and rapid installation
- Light weight & small dimensions



## TECHNICAL CHARACTERISTIC AND PERFORMANCES

<b>Strain monitoring fibers</b>	1
<b>Maximal length</b>	~ 800m, more upon request
<b>Strain range</b>	Max. -1% compression to +1% elongation (depending on installation manner)
<b>Calibration</b>	during production
<b>Temperature range</b>	-40°C to +120°C operating in long term -5°C to +50°C installation and storage -40°C to +80°C pigtail and connectors
<b>Temperature compensation</b>	not compensated
<b>Stability</b>	> 20 years
<b>Dimensions</b>	~ 0.2 x ~ 13 mm
<b>Sensor weight</b>	~ 3.8 ± 0.2 kg / km
<b>Minimal bending radius</b>	~ 100 mm operating in long-term ~ 50 mm installation and storage
<b>Tensile strength</b>	≥ 400 MPa (ASTM D3916)
<b>Elongation at break</b>	≥ 2.5 % (ASTM D3916)
<b>Max hydrostatic pressure</b>	3x10 <sup>7</sup> Pa (300 bars)
<b>Chemical resistance</b>	good
<b>Optical connectors</b>	E2000 APC with protected pigtails (other on request)