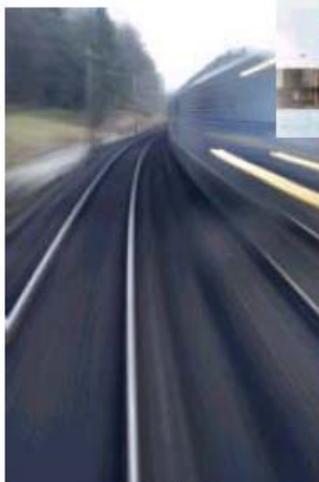
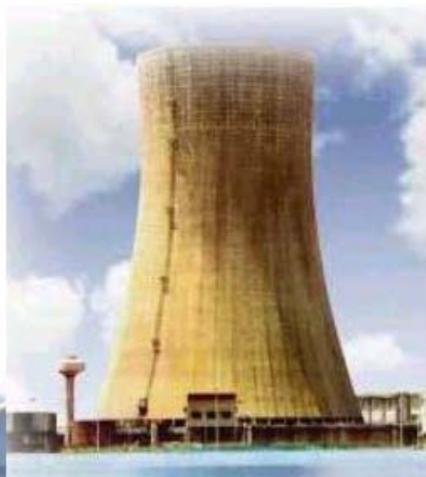




# DiTeSt® SMARTape Fibre Optic Strain Sensor

- Distributed strain sensing
  - Wide strain range
  - DiTeSt® compatible
  - Mechanically reinforced
- Extreme temperature environment
  - Chemically resistant
- Easy and rapid installation
- Light weight, small dimension



FT Automação Industrial

Rua Augusta, 905  
São Paulo—SP  
CEP 01305-100—Brasil

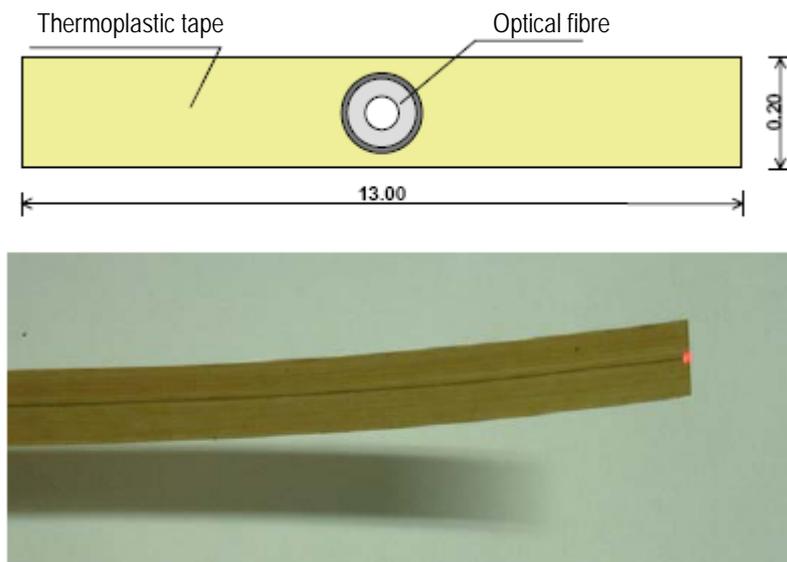
Tel: +55 11 32314333  
Fax: +55 11 32582207  
E-mail: [ft@ft.com.br](mailto:ft@ft.com.br)  
Internet: [www.ft.com.br](http://www.ft.com.br)

## Description

The DiTeSt® strain sensors are designed for distributed deformation (average strain) monitoring over long distances. Two types of sensors are developed for application in friendly and harsh environments. They are different in their construction and performances.

The DiTeSt® SMARTape sensor consist of a single mode optical fibre embedded in a fibre-reinforced thermoplastic composite 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 sensor is designed for use in harsh environments often found in civil and gas and oil engineering applications. The SMARTape sensor is usually glued to the structures, but can also be clamped or embedded.

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



## Technical characteristics and performances

	SMARTape
Typical dimensions	~0.2 mm x ~13 mm
Maximal length	400 m
Dynamic range	Max. -1% to +1% (depends on installation manner)
Calibration	Only during production
Stability	>20 years
Temperature compensation	Not compensated
Sensor weight	~4.2 kg/km
Minimal bending radius	100 mm operation in long-term 50 mm installation and storage
Max. tensile strain	1.5%
Max. hydrostatic pressure	$3 \times 10^7$ Pa (300 bars)
Temperature range	-55°C to +300°C operating, in long-term -5°C to +50°C installation and storage -40°C to +80°C pigtails and connectors
Chemical resistance	Good
Connectivity	Protected pigtails and E-2000 connectors