

# TECHNICAL SPECIFICATION

## Strain Monitoring – Fibre Optic Strain Gauge

With over 30 years' experience in the field, Stork is an expert provider of intrusive and non-intrusive Monitoring Solutions to the global Oil & Gas industry.

Stork provides fibre optic strain sensors and acquisition systems for monitoring strain, focusing on corrosion and bending. The fibre optic Strain Gauge is Stork's latest Strain Monitoring technology.

The fibre optic Strain Gauge is both robust and completely immune to EMI Noise. It offers a flexible solution for Operators seeking a versatile solution to their Strain Monitoring requirements and can be installed on almost any pipeline or structure across a wide range of industries.

The system can be used for corrosion monitoring when in a coil configuration and pipeline movement in linear configuration. It can be deployed in high temperature areas up to 250°C and is epoxy bonded to the structure of interest to ensure secure and repeatable measurements can be obtained.

The data produced during the measurement process is logged and automatically uploaded to a server where it is processed into calculated data, such as microstrain. Once installed, the logger can be configured to automatically send the data securely to the online web portal where it is analysed and displayed in a user friendly interface, designed to suit client requirements.

### Fundamental Principles

- Optical detection
- Precise measurement of sensor length
- Analogous to strain gauge
- Changes in length are microscopic
- Longer gauge length gives higher sensitivity
- Both thermal and mechanical strain

Installing fibre optic Strain Gauges on critical areas increases safety, equipment life and reduces the cost of repetitive site visits due to remote monitoring.

