

RoMat PGS Service

In-line High-Resolution Pipe Grade Determination

Understanding the materials properties of your pipeline assets is not only essential for threat management, but a regulatory requirement. We offer a wide variety of pipeline material verification procedures as part of our RoMat service suite. These are based on technologies that are industry proven and produce reliable, high-resolution data that can underpin your holistic pipeline management strategy.

These procedures are designed to work flexibly around the specifications of your network and can be applied across a range of pipe diameters, flow rates, temperatures and pressures. Our capacity to record, process and analyze the acquired material data makes us your ideal pipeline integrity partner from the planning stage through to remedial work.



Data acquisition and storage for code compliance



Multiple services possible in a single test run



Draws on the largest tool fleet in the world

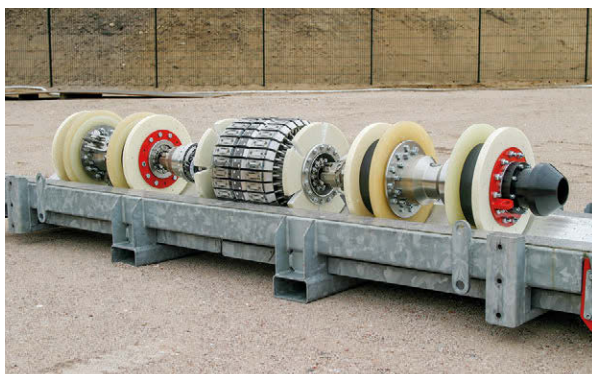
As asset operators, you must keep traceable, verifiable, complete and reliable records of pipeline design and construction. Where traditional pipe sampling methods involve multiple excavations and tests, our award-winning PGS service can create a comprehensive and reliable pipeline record on the basis of a single in-line inspection.

A picture of pipeline DNA can be built up over consecutive datasets to make additional engineering judgements on pipeline integrity. Parameters such as pipe diameter, length and wall thickness are measured so that:

- Ultimate tensile stress and yield strength can be verified against the design
- Operating pressures can be optimized for greater production
- The pipe grade can be determined and documented

Inform Your Pipeline Integrity Strategy with Pipeline Material Data

- A PGS inspection run can be scheduled for the same time as your usual in-line inspection, eliminating the expense of additional measurements
- High availability and a wide range of proven tool configurations addressing individual operational pipeline requirements
- A periodic characterization of each pipe section and joint will strongly support your asset life extension projects, reducing waste, process downtime and replacement costs



RoMat PGS Service

In-line High-Resolution Pipe Grade Determination

Technical Specifications

Standard Operating Specifications

Tool sizes available	6" - 56"
Pipeline product	Gaseous or liquid
Product temperature range	0 °C - 65 °C (32 °F - 149 °F)
Maximum operating pressure	15 MPa (2175 psi) 25 MPa (3625 psi) optional
Operating speed range	up to 2,0 m/s (5.6 mph)*
Product flow range	up to 12 m/s (26.8 mph)**
Minimum pipeline bend radius	1.5D
Wall thickness range	4-25 mm (0.15"-0.98")
Maximum operating time	400 hours
Maximum inspection length	800 km (500 miles)

* Depending on inspection parameters.

** Fitted with optional speed control unit

Note: Please contact ROSEN for conditions outside of these specifications.

Wall Thickness Detection

± 1 mm (± 0.04") or ±0.1t, whichever value is greater at 80 % certainty

Performance Specifications

Strength sizing accuracy at 80 % certainty:

±8 ksi (55.2 mpa)

Remarks and Features

- API 1163 compliant services
- CE and ATEX certification available
- Tailored solutions with different specifications upon request: multiple tool sizes or multi-diameter tools, higher pressure rating
- Contact ROSEN for more detailed information about the presented service
- Specifications are subject to change, depending on specific requirements or tool configurations

Location and Orientation Capabilities

Axial position accuracy from reference marker 1 m on 1000 m (1 ft on 1000 ft) marker distance	1:1000
Axial position from closest weld	±0.1 m (±4")
Circumferential position accuracy	±5°

The axial positioning accuracy specified is based on following criteria:

1. Distance between upstream and downstream marker/reference point < 2.000 m (1.2 miles)
2. Actual aboveground distance to both upstream and downstream marker/reference points to be measured and correlated eligible difference between pipeline and soil contour