

Primer on the PinPoint EFM System

PinPoint is a continuous, non-intrusive corrosion monitoring system for pipelines and process piping operating on the principal of electrical field mapping.

The system uses an array of electrodes to measure localized differential voltages and map the electrical field generated by a controlled current. Changes in resistance occur from variations in both metal thickness and temperature. Temperature variations normally occur with ambient and process condition changes. The PinPoint Electrical Field Mapping (EFM) system measures these temperature variations and compensates the resistance values accordingly. The system utilizes bi-directional, pulsed DC excitation current to provide a dual scan of the corroded area through up to 512 differential voltage sensors to dimensionally define isolated pit defects.

The PinPoint system comprises of the following major components:

1. Sensor Sleeve (including sensor array and thermocouple probes)
2. Remote Monitoring Station
3. Analysis Software

The Sensor Sleeve is installed on the outside of the line section to detect the onset and monitor the growth of internal corrosion. While electrodes have traditionally been required to be permanently installed on the pipe by welding, the PinPoint system employs an electrode array on removable sleeve design that requires no spot welding in the field.

Data is recorded at a Remote Monitoring Station that can be located up to 75m (250') from the pipe. Periodic data uploads from the remote monitoring station provide all of the information required for the corrosion interpretation.

DMAT software by FOX-TEK provides the data interpretation and analysis. Updated status reports are web-enabled for customer access as 3D maps and data trends.

Monitoring sites can either be new pipe at susceptible locations or pipe locations with known corrosion. The PinPoint EFM system is ideally suited for high resolution monitoring of complex, internal corrosion pit geometries, where sharp pitting normally results. It functions equally well on low and high pressure lines.

For more information please contact FOX-TEK
(416) 665-2288
<http://www.fox-tek.com/>