

TECHNICAL SPECIFICATION

Wall Thickness Monitoring - Electrical Field Mapping/PinPoint (EFM)

The Electrical Field Mapping (EFM) or PinPoint system is the latest wall thickness and deformation tool to be added to Stork's Corrosion Monitoring portfolio.

PinPoint is a non-intrusive device, which uses the electrical properties of the spool to monitor the rate and volume of metal loss – vital for process operations. The technology can be installed using stud welded pins, but is ideally installed as a spring loaded bolt sleeve – a two piece assembly that carries an array of electrodes, thermocouples and current injectors. This eliminates the requirement to weld.

The system is ideal for detecting localised metal loss and deformation, such as pitting and cracking. As a result, it provides a clearer picture on pipeline/structure integrity than traditional methods, which monitor relative wall thickness.



By installing a series of pins (using the stud welded or bolt sleeve methods) across the structure and injecting a controlled current, the potential voltage change is logged and used in tandem with control measures to calculate metal lost.

The data produced during the measurement process is logged and automatically uploaded to a server where it is processed into calculated data, such as metal lost and corrosion/erosion rate. 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.

The design of the pin matrix is dependent on the project's requirements. The technology is suitable for a wide range of applications, including:

- Process piping and vessels:-
 - Bends
 - Welds
- Buried pipelines
- Pressurised vessels and tanks
- High temperature applications
- Remote locations