

Magnetic Flux Leakage (MFL)



What is Magnetic Flux Leakage?

Magnetic Flux Leakage (MFL) is the most accurate method of metallic pipeline inspection using advanced nondestructive testing methods. In-line **MFL** is used to scan the full circumference and length of a pipeline at an extra-high resolution. **MFL** scans the pipe through linings to measure remaining wall thickness and provides depth and location of metal wall loss.

How it Works

High powered magnets are used to temporarily magnetize ferrous pipelines. Sensors are positioned to record any deviation in the field. If the magnetic field is uniform, there are no flaws in the wall of the pipe. If internal or external flaws are present, such as pitting or corrosion, the magnetic field is distorted, and this distortion or 'leakage' can be measured by the sensors. Contact with the pipe wall is not a requirement to accurately detect flaws.

Why Use MFL?

- *Rather than replace a metallic main, condition assessment and spot repair can often extend the remaining useful life of a pipe for decades*
- *MFL provides detailed data on the pipe wall thickness for pipe diameters eight inches (203 mm) and larger*
- *Allows pipeline managers to proactively manage a pipeline by repairing problematic locations*
- *Inspection and repair reduces the risk of pipeline failure*

The Pure MFL Solution

- *MFL offers a method of locating and quantifying the extent of corrosion in metallic pipelines*
- *Structural analysis based on the MFL data offers an early indication of failure mechanisms and determines the risk associated with a pipeline*
- *Allows clients to prioritize pipeline repair, replacement and monitoring programs*
- *Extra High Resolution (XHR) geometry sensors for detecting dents, bulges, wrinkles, buckles, and other geometric anomalies*

Magnetic flux leakage (MFL) is used to detect corrosion and pitting in lined metallic pipelines.

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