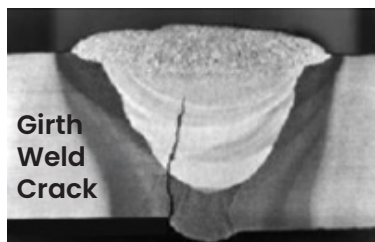


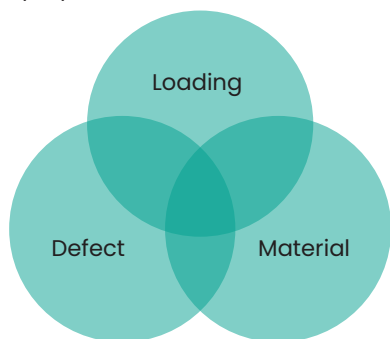
ILI Based Girth Weld Threat Assessment

Concerns regarding the integrity of girth welds in a pipeline?

Although girth weld failures are less common, there is an increasing awareness of the potential for in-service failure at girth welds.



Girth weld failures are usually a combination of interacting threats, comprising of axial loading (from ground instability or thermal loads), defects within welds (weld cracks, anomalies or corrosion attack) and material (substandard weld material properties).



Individually these threats may not present a significant threat to the integrity of the pipeline, however, where two or more of these indicators are coincident, they can be of greater concern.

An ILI based Girth Weld Threat Assessment, conducted with the results of a MagneScan™ inspection combined with other inspection technologies (e.g., caliper, IMU) can identify the presence of multiple girth weld threat indicators:

- Girth weld cracks, anomalies and discontinuities.
- Wall thickness transitions.
- Tie in welds.
- Dents/wrinkles/ovalities around weld area.
- Girth weld circumferential corrosion and rate of growth.
- Bending strain (from IMU) / Axial Strain (from AXISS™) acting at the weld.

The load bearing capacity (tensile strain capacity) of girth welds in a pipeline will be reduced by the presence of welding imperfections (weld defects, irregular weld profiles, under-matching), corrosion and other defects. Hence these affected girth welds are of concern particularly under axial loads.

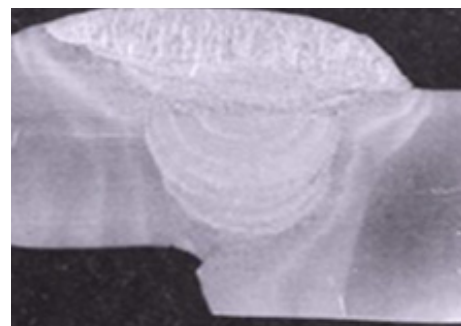


The strain demand at a girth weld will be increased by the presence of geotechnical hazards that cause axial strain and/or axial bending strain. In addition, axial strain can also be introduced and during construction

(e.g., due to roping) or afterwards (due to settlement).

Failure at a girth weld will occur when the strain demand exceeds the weld strain capacity. The aim of this service is to identify the girth welds at highest risk.

The deliverable, an Excel based report is provided listing the pipeline girth welds, the threat indicators and the qualitative prioritization both in isolation and accounting for coincident indicators.



Features and Benefits

- Multiple ILI data sets integrated into one consolidated girth weld listing.
- Used to identify and prioritise girth welds for investigation on the presence of multiple indicators and coincidences.
- By identifying combinations of threat indicators, girth welds are prioritized for investigation.
- Enables proactive intervention.