



The **Excalibur Shield** is the most sophisticated internal pipeline corrosion system in the world and used by trusted oil and gas service companies. Utilizing a weight loss coupon with liquid and solid sample collection, **the Excalibur Shield provides the most accurate assessment of the internal pipeline condition.**

How it works? Starting with a primary filtering system at the mouth of the 100 ML cavity, a weight loss coupon is installed inside the cavity, and a second filtering system surrounds the coupon. Installed in the pig receiver area, the external body is octagon shaped for easy install and removal, the base adapter is also outfitted with an O-ring with drain and ventilation valves for easy removal and secure sealing. By collecting internal samples for MIC analysis, or microbial induced corrosion, and monitoring the weight loss coupon in millimeters per year (MPY), we produce a highly accurate and data driven assessment of the internal pipeline condition.

MIC Analysis. Precision manufactured with corrosion resistant 316L stainless steel, the Excalibur Shield is perfect for acquiring liquid and solid samples from inside the pipeline. MIC analysis of planktonic and sessile bacteria, duplicate serial dilution, and the ability to monitor chemical inhibitor residuals maximizes the reliability of the analysis and assessment of the internal corrosion management program.

Coupon Monitoring. Weight loss coupon monitoring provides the most accurate reading of the low lying areas, or worst case scenario in the pipeline. By inserting a carbon steel coupon, or steel rod, internally in the pipeline over a period of time, we can determine the corrosion rates in MPY. The corrosion rate is calculated using the start and ending weight, surface area, density and exposure period. The weight loss coupon is easily removed to avoid mechanical damage.





Add-Ons. A **Disc coupon** mounting device can be installed between the mouth and the safety isolation valve to measure MPYs in the worst case solid buildup area. A **3-Rod coupon** mounting device can be installed to provide triple the coupon analysis for MPYs, full coverage testing, and oxygen testing. The **reducing coupler** allows reduction from female 2" to 1" for attachment to male 1" fitting.

Mitigation & Summary. The Excalibur Shield Internal Corrosion Program analyzes internal samples for MIC, establishes corrosion rates monitoring weight loss coupons and results in the most effective maintenance program maximizing the life of the pipeline asset. The Excalibur Shield can also be used in conjunction with the National Association of Corrosion Engineers (NACE) Standards RP0775-87 and TM0194-2004.

Technical Specifications.

- 316 Stainless Steel
- 2000 PSI
- 7" Body Length
- 1", 2" Pipe Connections
- 1, 2, 3-Rod Coupon Holder
- 1 / 2"NPT Ball Valve
- 1 / 4" Needle Valve
- 100 ML Cavity

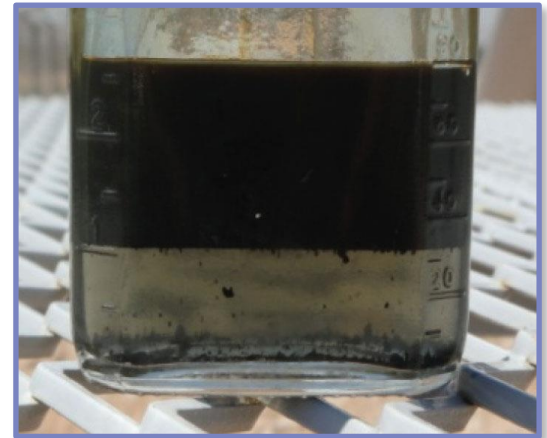
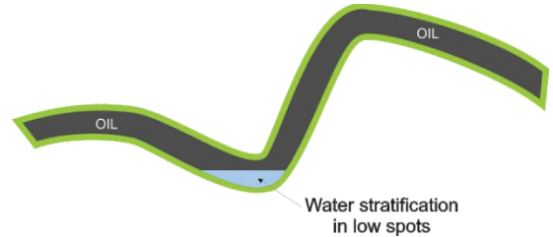


Figure 2



Add-Ons



Figure 1