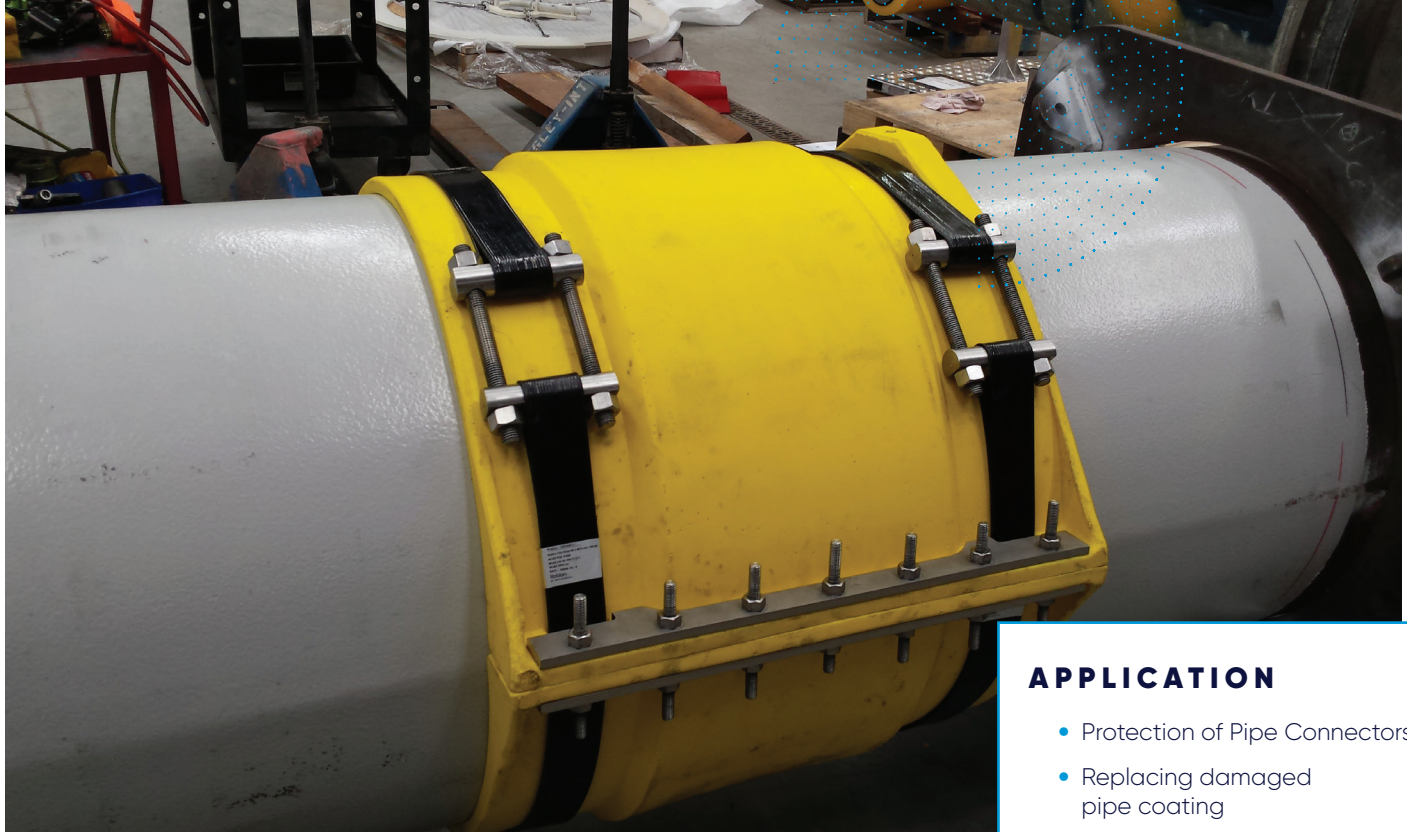


MARINE SHIELD



Matrix Marine Shield is a wraparound corrosion protection system for the preservation of pipelines, risers, piles and other critical field infrastructure. It may be installed at the start of service, or as a retrofit following repairs/damage of the existing pipe/coating. Marine shield effectively seals off the encapsulated pipe from the corrosive environment, preserving its condition and extending its life.

Marine Shield has a dual sealing method. Firstly the flexible material is stretched around the pipe by bringing the two end-flanges together, providing both an axial and circumferential seal. Secondly a high strength aramid strap is tightened around either end of the Marine Shield applying a high sealing pressure around the full circumference.

In addition to a redundant sealing method, the system also provides redundancy with respect to keeping the Marine Shield in place.

The Marine Shield is fitted with a felt carrier on the ID of the cavity that may be impregnated with a protective and/or preserving product. The cavity can be tailor made to suit the profile to be encapsulated, ensuring a snug fit, and even tension throughout the wrap.

APPLICATION

- Protection of Pipe Connectors
- Replacing damaged pipe coating
- Protection of pipeline repairs
- Protection of pipelines in splash zone or other corrosive environment

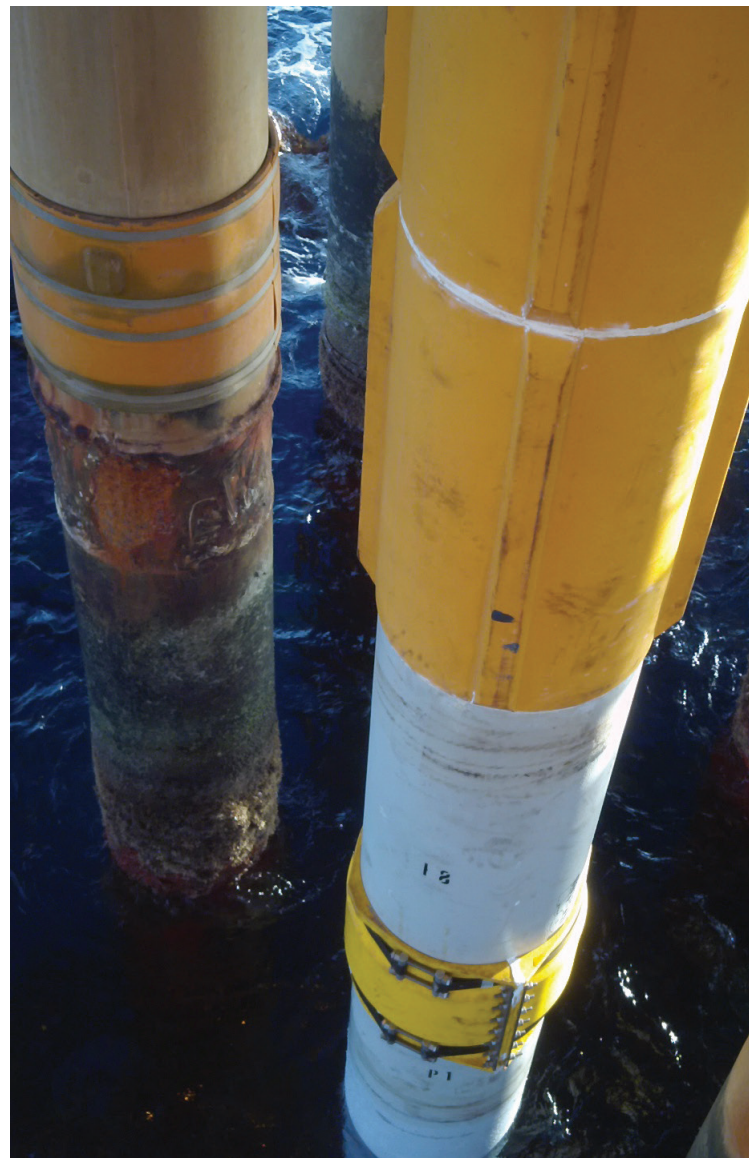
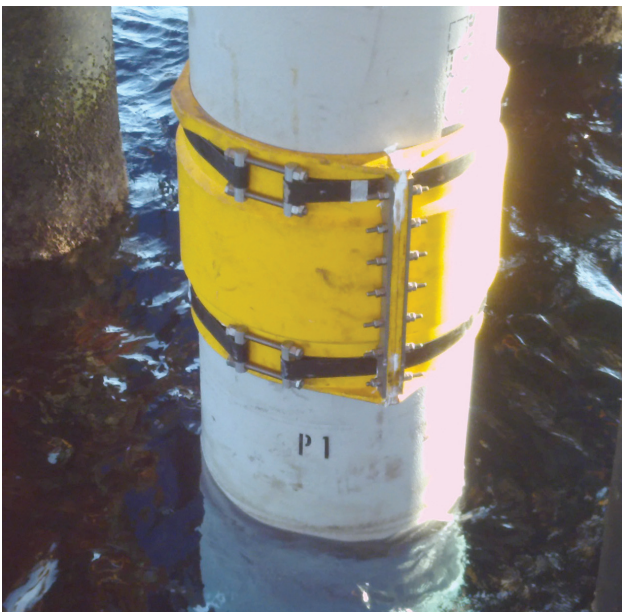
ADVANTAGES

- Adjustable sealing pressure
- May be supplied in overlapping design to provide protection of longer length
- High sealing Pressure ensure seal on pipe surface imperfections
- Dual sealing retaining method
- Allows temporary removal and inspection
- Quick installation on critical path
- Fitted with lifting point for safe installation
- No special installation tools required

Materials are selected on the basis of our long term experience in providing ancillary products for subsea production operations and platform splash zones.

Short installation time means application on the critical path remains cost effective. No special tools are required to install the Marine Shield. This also allows the Marine Shield to be temporarily removed by third party personnel for scheduled inspections.

Infrastructure exposed to moisture and air at varying environmental conditions over time are especially at risk of corrosion with potential catastrophic results. Examples include splash zones and soil penetrations. The Marine Shield provides additional protection for the safeguarding of people, assets and the environment.



ITEM	MATERIAL	FEATURES
Wrap	90A Polyurethane	High Performance Elastomer with good impact and abrasion resistance. Long term use in water/brine
Straps	Aramid EVA Copolymer	High Tensile, Very Low Creep, Long term use in seawater.
Fixtures	Duplex Stainless Steel	High Mechanical Strength & Corrosion Resistance