

HOCKWAY

RETROWRAP

Easy to install **corrosion prevention** for the world's toughest environments



Hockway now bring you **Retrowrap**

– a superior memory enhanced flexible corrosion protection system.

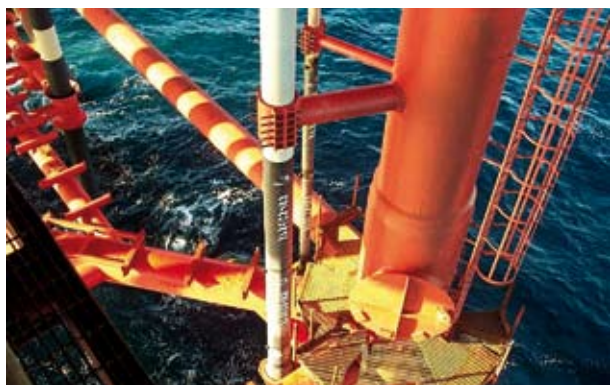
Retrowrap is designed to provide active corrosion protection of offshore structures, risers, conductors and pipelines in both splash zone and subsea locations.

Greater Flexibility

Retrowraps are built from a dedicated marine resistant material comprising of 3 in-line co-bonded components where a memory enhanced polyamide reinforcing scrim is sandwiched between alternating layers of polyurethane and a polyester felt inner layer to form a composite monocoque fabric.

A water repellent hydrophobic gel containing a wide range of corrosion inhibitors or biocidal treatments is factory impregnated into the absorbent inner layer at rates calculated to provide total substrate protection throughout the design life.

By adding additional layers during fabric production, the physical properties of impact, abrasion, and puncture resistance can be varied to provide a range of Retrowrap solutions for a variety of applications.



Retrowrap HD installed in interlocking lengths on risers in the North Sea.

Retrowrap

Retrowrap is designed for inshore and certain offshore applications to provide splash zone and subsea protection of jetty piles, cross braces and pipelines from 50mm to 3m in diameter and can be supplied in continuous interlocking lengths up to 4.5m which when installed in multiples provide any total protected length required. Retrowrap is specifically designed to provide easy one piece installation via full length “geon” closure flanges, factory drilled to accept a variety of permanent fasteners.

Hoop tension induced within the fabric during installation causes the gel to flow and encapsulate the pile surface irregularities and lock the jacket into position sufficient to resist Category 5 hurricanes throughout its design life.

- Cold applied – easier to fit, no hot work permit necessary
- Minimal surface preparation
- Easy installation, no primer, filler or tapes
- Easy removal and replacement for substrate inspection
- Environmentally safe
- Abrasion resistant



Retrowrap HD dual diameter top seal installed over cut back neoprene reducing down to riser OD. Note rigging lugs for easy rope access installation.

Retrowrap SL (Slim Line)

Retrowrap Slimline is specifically designed to accommodate requirements of the offshore conductor industry where simplicity of installation and long term corrosion protection are the prime design requirements.

Manufactured from the same fabrics as Retrowrap STD 19 and Retrowrap HD, the SL utilizes the unique mortise and tendon closure that provides easy passage through the guide tubes. When required the diametric increase within the vertical joint can be reduced to only 10mm standoff virtually eliminating the possibility of "snagging."

Installation can be achieved well within the connector make-up time thereby saving both time and money.

- Cold applied with minimal surface preparation requirement, hot work permits not required
- Fast and simple drill floor installation
- Easy passage through guide tubes
- Environmentally safe, corrosion inhibiting gel provides active long term corrosion protection
- Easy removal and replacement during pull back operations



Retrowrap SL installed over Vetco SR 20 conductor connector, Irish Sea.

Corrosion Rate Monitoring

When required, Retrowraps can be fitted with recoverable corrosion rate weight loss coupons which after independent analysis provide ongoing corrosion rate monitoring throughout the service life of the system. This facility can also be incorporated within a full after sales Q/A monitoring program where each Retrowrap carries a dedicated full traceability serial number for inclusion into as built drawings.



Rope access team installing dual diameter Retrowrap above riser clamp after cutting back disbanded neoprene.

Retrowrap HD (Heavy Duty)

Retrowrap Heavy Duty is built to cope with the greater abrasion and impact that confronts offshore oil and gas risers, and inshore facilities that are subject to external abrasion. Retrowrap HD has been designed to be as simple and quick saving time and money in rigging and diver costs.

- Multi-layer heavy duty, but easy to manage interlocking modular lengths
- Cold applied, easy installation, no hot work permit necessary
- No need for substrate shotblast preparation
- Full-length flange closure for easy installation
- Easy removal and refitting for substrate inspection
- Hoop tension created in outer skin resists high wave suction forces



Rope access installation of Retrowrap HD in multiple 3m lengths being tensioned by reusable draw bolts prior to fitting permanent bolt sets.

Laywrap

By utilizing Retrowrap hoop tension technology, Laywrap is simple to instal both via lay barge or by subsea divers to provide a total pipeline field joint solution for EPDM/PE or PE/FBE coated pipelines or riser "doglegs."

Installation is carried out similar to Retrowrap but uses custom build hydraulic or air operated closure calipers designed for the lay barge field joint work station. Thermal formed closure flanges permit the fabric to follow the contours of the field joint such that the system is often referred to as a "mechanical shrink sleeve." Laywrap is environmentally safe and can operate at temperatures up to and including 120°C.

- Cold applied – easier to install, no hot work permits necessary
- Does not need shotblast preparations
- Easy installation with factory installed corrosion resistant fasteners
- Hoop tension locks system in place
- Gel prevents water entrapment during underwater applications
- Easy removal and refitting for inspection



Laywrap PQT of subsea replacement field joint coating Arabian Gulf. Note thermally formed flanges follow joint contour. prior to fitting permanent bolt sets.

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