



The illustration highlights the red firewater lines mounted on FRP SmartPads with bonded Hydroseal gaskets, secured by non-metallic SmartBands on steel beams, which isolates metal-to-metal contact and helps curb CUPS.

PIPELINES

Case study: System cuts corrosion risk and noise on a Gulf of Mexico offshore platform

Six years into its application, the SmartPad System shows promising results in corrosion prevention and noise reduction, with operators continuing to monitor long-term structural impacts and expanding its use across the platform.

[Hani Almufti](#) Related To: [Cogbill Construction LLC](#)

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Key Highlights

- The SmartPad System uses a non-metallic, sealed interface to prevent moisture ingress and break galvanic contact, reducing corrosion risk.
- Installation was quick and non-intrusive, allowing routine visual inspections without the need for hot-work permits or curing times.
- After six years, visual inspections show no active corrosion, and noise levels are significantly lower at treated supports, confirming initial benefits.

By Hani Almufti, Cogbill Construction (RedLineIPS)

This case study looks at a simple change at a familiar trouble spot: the pipe-to-support contact in an offshore piping system. In 2019, a major operator in the Gulf of Mexico replaced selected steel-on-steel contacts with [the RedLineIPS SmartPad System](#) from Cogbill Construction on one of its offshore platforms to mitigate corrosion under pipe supports (CUPS). The SmartPad System was one of several options under review.

The system pairs a contoured FRP (fiber-reinforced polymer) saddle with a bonded, closed-cell Hydroseal gasket, secured by non-metallic SmartBands and polymer buckles. The sealed, non-metallic interface keeps moisture and salt off the pipe and breaks the metal-to-metal path, and the gasket cushions micro-movement to reduce vibration and local sound.

Long-term benefits such as reduced structural fatigue were anticipated by the operator, but those typically take seven to 15 years to confirm. Six years into the trial, no structural life claims are being made.

The setting

Initial SmartPads went on a fixed offshore platform with dense pipe racks near washdown areas and HVAC drip points—zones that stay damp and salty. Crews focused on 4-inch to 8-inch carbon-steel lines serving produced water on the weather deck, where coating wear at supports had begun to appear.

Why change the interface

Conventional supports can trap a thin film of salt water in a shaded contact. Once that film finds a coating defect, corrosion can start and remain hidden. The SmartPad seals the gap; the closed-cell gasket compresses into paint texture to block wicking; the all-non-

metallic load path (FRP saddle + gasket + bands) removes galvanic continuity; and the contoured saddle spreads load to avoid harsh line contact that scuffs paint.

How it was installed and inspected

All work was cold on live lines. Crews set the saddle, tensioned bands with a preset tool, and trimmed the tails. For inspection, they cut the bands, lifted the saddle, wiped the surface, inspected and re-banded. In typical access, the open-inspect-reseal cycle took minutes per support, enabling supervisors to fold visual checks into routine rounds.



The SmartPad system (enlarged view) features non-metallic SmartBands, buckles clamp, a contoured FRP SmartPad saddle and a bonded Hydroseal gasket.

What was observed after four years

After four years in service, the operator reported measurable benefits at treated supports:

- **Corrosion:** Routine visuals showed no active corrosion at the pipe/pad contact. Paint touch-ups dropped, which was linked to the sealed interface, recessed strap grooves that kept pressure off paint edges, and there was no need for welding, drilling or epoxy.
- **Noise and vibration:** Quick sound readings suggested 6-10 dB(A) lower levels at treated supports versus nearby untreated ones under similar conditions. Crews also noted less rattle during sea-state changes.
- **Work execution:** No hot-work permits or cure times were needed, band/buckle engagement held preload, and there was no back-drive or pad creep when installed per procedure.
- **Inspection culture:** Faster open-ups shifted checks from indirect NDT (non-destructive testing) toward direct visuals, speeding decision-making.

Based on these observations, the operator extended SmartPad use during that fourth year, installing a second wave on other parts of the platform. Those supports are now two years into service, while the first set has passed six years.

Made for harsh environments

Early installs targeted hard environments: spray lanes near the produced-water skid, washdown zones by hose stations and sweating lines under HVAC discharge. Summer topside conditions were typically 85-95 °F (29-35 °C) with salt fog.

After the first dozen supports, more units were requested for a tight rack over a busy walkway, citing faster inspections and a noticeably quieter feel.

What the system is and isn't

The SmartPad System is an interface fix. It keeps brine off steel, breaks the metal path and damps micro-motion to cut noise and protect paint.

It doesn't replace proper piping design, guides, stops or spring selection.

Any structural-health effects require a decade or more of monitoring before conclusions.

Outcome and next steps

Today, six years after the first installs and two years after the second wave, the operator continues to track performance. Both sets remain in service, with corrosion resistance, faster inspections and reduced noise still reported. Structural benefits remain under study, and another update is expected in roughly two years as longer-term data becomes available.

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