

Hutton TLP, United Kingdom | 1982 |

Case study

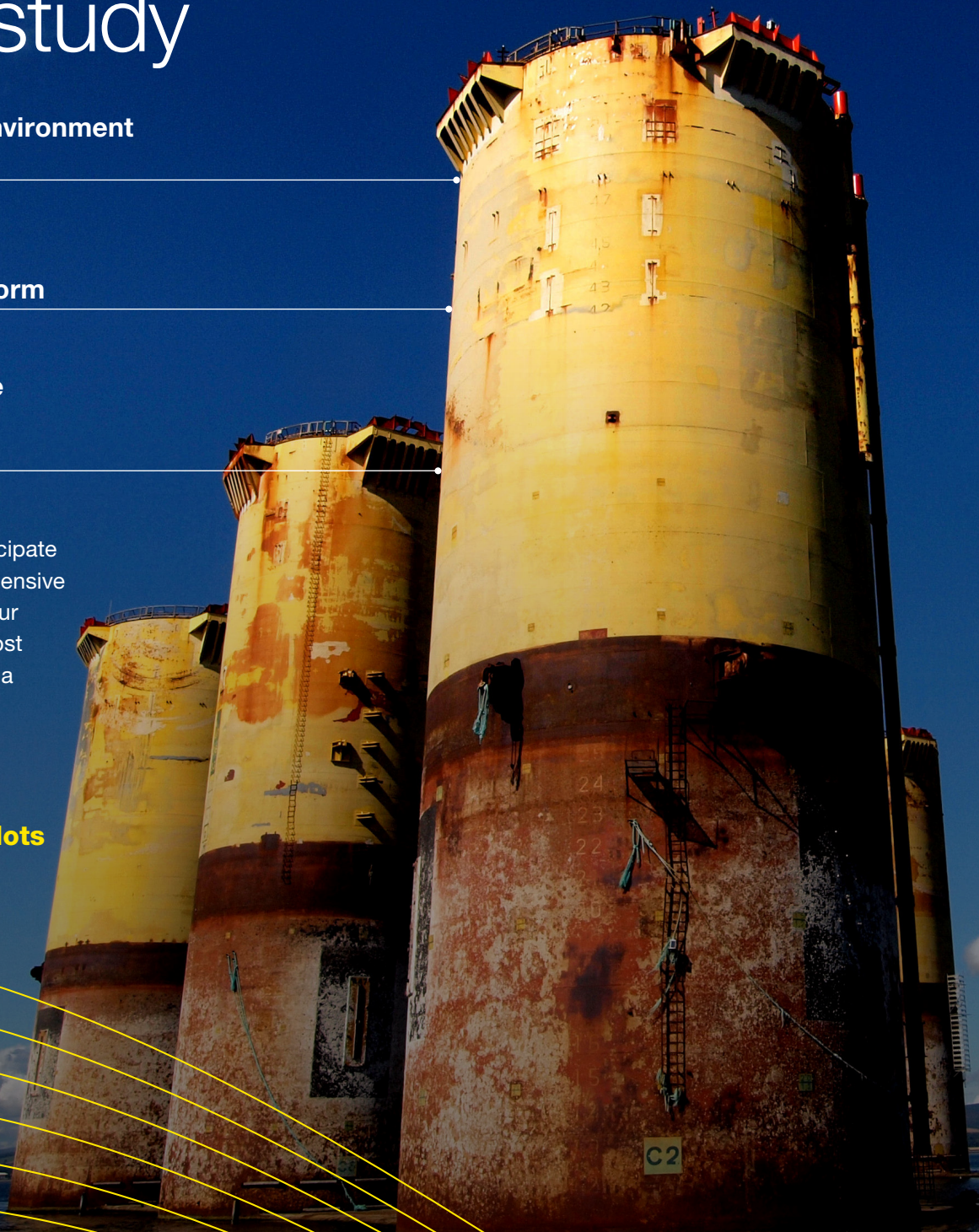
Harsh offshore environment
in the North Sea

First of its kind
Tension Leg Platform

20 year design life
with 40 years
of performance

While we actively participate
in developing comprehensive
testing standards for our
asset solutions, the most
important measure for a
coating's performance
is through extensive
in-field operation.

Connecting the dots



Hutton TLP

40 years of offshore performance

Originally operated in the Hutton field, located in the North Sea, the Hutton TLP (Tension Leg Platform) structure was the first of its kind to be constructed and installed anywhere in the world. Construction started in 1982 by ConocoPhillips at Highland Fabricators. The Hutton TLP is unlike any nearby oil platforms, as when in situ, it had no massive underwater steel structure. Instead, 16 steel tethers help to anchor the platform to the ocean floor.



Project details

Focus product	Interzone 1000
Year of project	1982
Location	North Sea, UK
Type of project	Tension Let Platform (TLP)
Project owner	ConocoPhillips
Applicator/fabricator	Highland Fabricators, UK
Project size	40,000 litres / 12,600m ²

The First assessment of the Hutton TLP took place in 2011. Interzone® 1000 was reported to be in excellent condition after almost 30 years in an ISO 12944 CX environment. Chris Jordan, Coatings Specialist for ConocoPhillips during construction of the Hutton and with more than 40 years' experience of surveying in the North Sea said at the time of inspection: "It is clear that after nearly 30 years in service the high loaded glass flake epoxy applied on the tubular splash zone sections of the Hutton TLP hull is performing very well. Even areas subjected to abrasion from topside equipment such as pumps, ropes and chains are in excellent condition considering the lifetime... I would consider a glass flake epoxy, as used on the Hutton TLP, to offer the best corrosion protection for the splashzone of offshore assets."

The Second assessment took place 11 years later with the support of Nerida Decommissioning, to independently verify and report the results. The second inspection helped to determine the performance of the coating system and the following results were found:

- **Visual Inspection:** no sign of coating breakdown, there was also no evidence of defects or cracking even when inspected under 40x magnification.
- **Adhesion:** in accordance with ISO 4624 using a self-aligned automatic adhesion tester – adhesion was shown to be between 11-13Mpa which is well above industry expectations.

• Electrochemical Impedance Spectroscopy:

An EIS test was conducted which is used as a non-destructive technique to determine a coating's barrier properties and potentially indicate substrate corrosion processes under the film. Impedance measurements were recorded and it was reported that the EIS results were in a high order of magnitude and indicate that the coating is continuing to act as a barrier.

Interzone 1000 meets the ISO 24656 specification standard on the use of a minimum 20% lamellar, non-micronized glass flake epoxy for category V corrosion protection, which is the highest performance category and the lowest breakdown factor for the entire lifetime expectation.

With the long-term projection of growth in the offshore wind energy industry in particular, the findings provide greater certainty for owners, engineers and specifiers on the choice of technology to protect and deliver against lifetime expectations. The Interzone epoxy technology continues to be one of the best solutions for fabricators and applicators to apply and supports HSE goals when compared to alternative technologies.

Reflecting on the 40-year offshore performance track record of Interzone 1000, AkzoNobel reinforce the message that its epoxy solutions remain the trusted and go-to technology for meeting lifetime performance expectations.