

SYNTHO-GLASS® XT

24" OD TEE REHABILITATION AND REPAIR, UK



Problem

A crack propagated on this 24" OD conifer tee in a UK refinery after the pipe support was removed.

Conditions

The location of the leak and geometry of the tee make sealing the leak more complex.

Solution

After the pipe was cleaned to near white metal using an MBX Bristle Blaster® to remove rust, paint, and foreign matter in accordance with Sa2.5 NACE 2, Syntho-Steel™ was used as the initial leak sealing material. A restricting strap was used to force the Syntho-Steel into the crack, then the defect area was coated with Syntho-Poxy™HC to fill all pits and other anomalies, effectively transferring the hoop load to the high tensile strength composite. Syntho-Subsea™LV epoxy was applied over the entire repair area at 30mils to ensure a water tight seal while also providing chemical resistance. Syntho-Glass®XT, a high strength, bi-directional fiberglass composite, repairs and reinforces both the leak and any external corrosion damage effectively creating a new "pipe section" of reinforcement. The completed repair was then painted with a UV stable topcoat to protect the composite repair system from UV degradation. The Syntho-Glass XT system enabled the crew to quickly and efficiently repair this challenging geometry while still allowing full encapsulation of the damaged tee.

Result

The Syntho-Glass XT composite repair system eliminated the need to immediately replace the defective section of pipe. The repair was completed inexpensively in a matter of hours. Syntho-Glass XT fully restored the pipe's hoop and axial strength to enable full operation at the design pressure of the system.



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