

VIPER-SKIN™

42" OD OFFSHORE JETTY PIPELINE, TURKEY REINFORCEMENT AND REPAIR



Problem

During an annual inspection of this 42" OD pipeline located at an offshore jetty terminal, inspectors found an area of concern which was experiencing 40% wall loss. The pipeline transports oil to the ships' fueling station and in order to maintain the design pressure of 975 psi (65 bar), a repair was required.

Conditions

The pipeline was located about 13' (4 m) above sea level with the corrosion damage located approximately 5" (12.37 cm) on each side of the welded joint.

Solution

In order to promote adhesion, the 20" (0.5 m) section of pipe was sandblasted to remove rust, paint, and other foreign matter in accordance with Sa2.5, NACE 2, or near white metal. The environmental elements required that the surface be prepared immediately before the composite application since it was at high risk to flash rust. Syntho-Poxy™HC load transfer epoxy was used to fill any dents and pits on the pipe, effectively transferring the hoop load to the high tensile strength composite. Syntho-Subsea™LV, a high compression Kelvar® filled anti-corrosion epoxy, was applied around the circumference of the pipe along the 20" repair length, ensuring a water tight seal. A preliminary layer of Syntho-Glass®XT extreme tensile strength bi-directional fiberglass composite, was applied before the primary repair material, Viper-Skin™, was wrapped. Finally SynthoGlass®UV was used to protect composite material from UV rays.

Result

The two man crew successfully installed Viper-Skin system within 2 hours, effectively restoring the structural integrity of the pipeline.

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