CASE STUDY

WALKER TECHNICAL

High Temperature Flare Line Repair

Overview
A high temperature flare line was suffering from a combination of external corrosion and internal erosion. The pipework contents also included high levels of H^2S implying difficulty in maintaining safe access with potential of sour gas egress.

Scope
The replacement of pipework could not be scheduled until a further 3 ½ years. It was therefore critical a fully engineered composite repair be installed with total encapsulation of the temporary clamps and corresponding pipe work.

HSE regulations state in the Guidelines for Repairs to Pipework - HSE 2001/038 Temporary/Permanent Repairs, that temporary clamps must be replaced or upgraded within a 2 year period.

Challenges
Due to the H^2S factor, this content was diverted through another flare system during installation of the composite repair. Despite this the Client's Safety Case stated that breathing apparatus must be worn until the first 3 layers of Technowrap 2K H.T™ was applied. Thereafter the system was deemed safe to apply the remaining layers as per design application and without breathing apparatus.

Because the composite repair was used to encapsulate clamps already being used as a temporary repair on the line, a design calculation was also required for each of these clamps, due to their additional weightings and the impact this would have within designing an overall successful, fit-for-purpose composite repair.

Our Approach
As per design calculations a repair was installed using Technowrap 2K H.T™, a high temperature system capable of installing a repair to this particular lines design operating temperature of 204□C. A post cure method was used with Barcol hardness checks to ensure the repair systems full cure.