

CASE STUDY

Carbontech Case study 010
6" Lpg Flare Gas Line



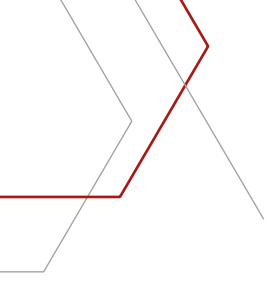


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PROJECT DETAILS

	Case Study Number CTCS:010	Design Pressure 20 Bar	
	Repair Summary 6" x 2" Lpg Line Repair	Operating Pressure 10 Bar	
	Client Refinery in Caspian Region	Design Temperature 144°C	
	Service Type LPG	Operating Temperature -40°C	
	Line Size 4"x2" Inch Line	Base Material Gost ST20	
	Line Class 300#		



ANOMALY DESCRIPTION

Through hole defects and external corrosion detected on propane line

Figure 1: External Pitting



Figure 2: Crack on Branch



Figure 3: Repair Area



INTEGRITY CONCERNS

External corrosion and a crack on the pipe negatively affect the integrity of the pipeline to an extent of being considered unsafe for service. Through wall defects and/or cracks will cause service leakage and if unattended may result in crack propagation followed by total rupture or detachment of the pipeline.



THE CARBONTECH SOLUTION

Surface preparation was done according to SSPC3. The crack was filled with Revofill before applying the wrap over the defect area and the rest of the T-pipe. The calculations required 20 layers of carbon fiber due to the extent of the crack. External heating was required to get a sufficient cure on the resin and this required a habitat to be built, a Tioga heater was used to keep the temperature to a sufficient heat for curing the wrap externally.

Surface Preparation achieved: SSPC3

Product used: Revowrap 185

Engineering calculations: ISO TS 24817

Layers used: 20 layers

Post cured: External using Habitat

Figure 4: Curing in progress



CONCLUSION

A successful repair resulted in the line being able to operate at normal capacity until the next planned turnaround when the line will be replaced.



CARBONTECH

The place chemistry, engineering and global expertise are brought together to drive progressive innovation in advanced composite technologies for the emergency repair of critical assets "There is nothing generic about us" we don't just sell pipe wraps; we provide accurate engineering backing to deliver tailored solutions

Sound and responsible engineering is the basis on which we build our company, products and services. It is the core to our success and it is the foundation on which we have engineered and manufactured our innovative and bespoke products

We strive by a zero-failure philosophy and warrant our engineered composite solutions are tested, proven and validated. We vow to provide dependable, responsible and accurate information regarding the capabilities of our systems

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