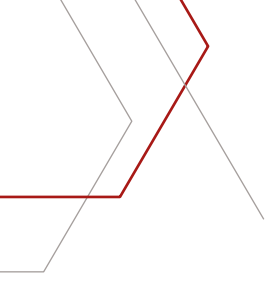


# CASE STUDY

Carbontech Case study 006  
3" x 24" Acid Gas Composite Wrap Repair





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## PROJECT DETAILS



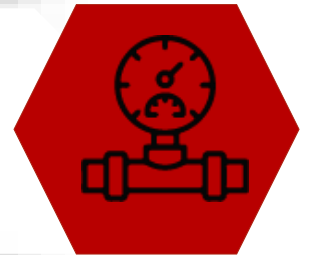
Case Study Number  
CTCS:006

Design Pressure  
6 Bar



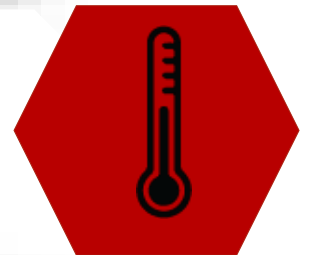
Repair Summary  
4 Layer Tee Piece Repair

Operating Pressure  
1 Bar



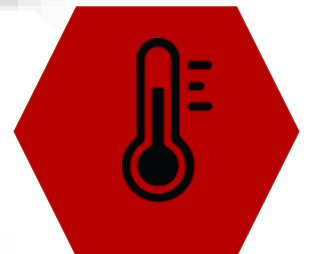
Client  
Refinery in Caspian Region

Design Temperature  
100°C



Service Type  
Acid Gas

Operating Temperature  
50°C



Line Size  
24 Inch Tee

Base Material  
SA-333 Gr-6



Line Class  
150#



## ANOMALY DESCRIPTION

RT of Claus Gas line has found significant wall loss thickness due to internal corrosion, Minimum remaining wall thickness was found to be 1.5mm, while minimum allowable structural thickness is 3.0mm, nominal thickness is 5.49mm.

Figure 1: Radiographic scan showing wall loss

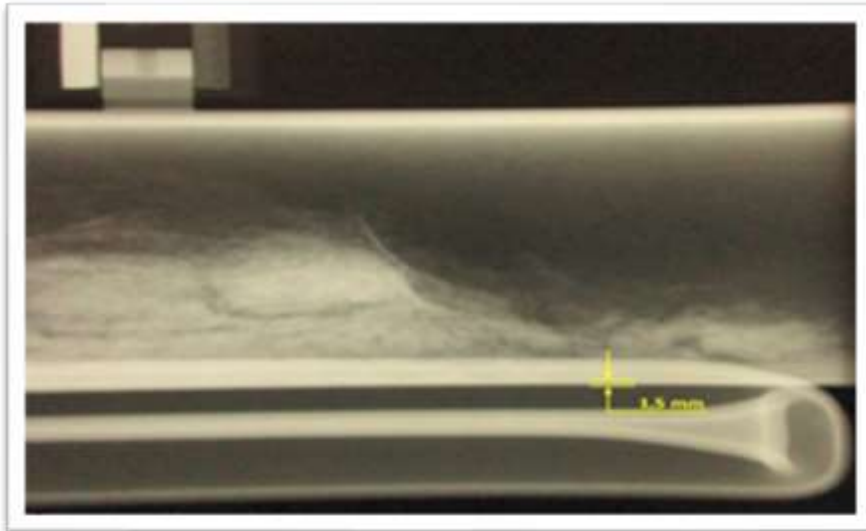


Figure1: Illustrating 2" take off with insulation still attached.



## INTEGRITY CONCERNS

The occurrence of internal corrosion in the line represents compromised structural integrity. Considering the process service, this hazard poses a significant risk that, if not resolved, could potentially lead to loss of containment. This would ultimately be disastrous for the plant, and the environment and any personnel in the vicinity of the pipe defect.

Figure 3: The final repair completed



## THE CARBONTECH SOLUTION

Surface Preparation achieved: SA2.5  
Product used: Revowrap 110  
Engineering calculations: ISO TS 24817  
Layers used: 4 layers  
Post cured: Not required.

## CONCLUSION

The best possible solution for this case was to use a High Temperature composite Wrap. The engineering team used the design parameters to calculate the number of layers and effective length of repair to ensure asset integrity. The wrap would start on the 24inch pipe and lead onto the 3inch pipe as a T-piece repair. The surface is prepared with Bristle blaster as per the SSPC3 specifications and profile confirmed with Testex to ensure surface specifications and cleanliness standards are met.



## 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

[www.revowrap.com](http://www.revowrap.com)

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PROGRESSIVE COMPOSITE ENGINEERING

