



PIPEOTECH

CASE STUDY

Best Available Technology to reduce ATEX zones, increase reliability, and improve safety

Europe's most advanced refinery wanted to further pioneer by only utilizing Best Available Technology to ensure a safe and reliable operation with minimal impact on the environment, enhanced reliability, and reduced ongoing maintenance. The DeltaV-Seal™ has enabled the refinery to not only do this but also reduce ATEX zones, improving safety and reducing operating costs.

● INDUSTRY CHALLENGES

The DeltaV-Seal™ had to be proven "tight and durable" to be considered to reduce the ATEX zone, with EN 1127 (2011) referenced explicitly by the client and their supporting organizations. A consistent quality installation was also essential to ensure the gaskets performed and remained leak-tight throughout their many intended years of service.

● BACKGROUND

A European refinery specializing in recycling lubrication oil suffered a fire in 2017. As a part of the refinery rebuild, the decision was taken to utilize the Best Available Technology (BAT) wherever possible. Using the BAT enabled the refinery to reduce emissions and, therefore, ATEX zones, improving the air for all working in the facility. Utilizing BAT also increases reliability and reduces the time between maintenance

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Material

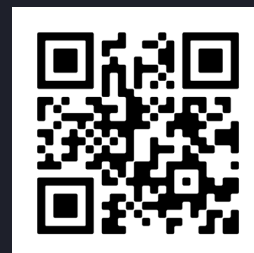
S235 Carbon Steel & 316L Stainless Steel

Industry

Refining

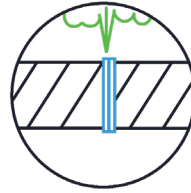
Customer

Oil Refinery



● BENEFITS

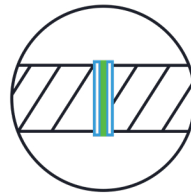
Working with Pipeotech, the client utilized the Best Available Technology with the lowest emission rate. The DeltaV-Seal™ flange gasket ensured the client had tight and durable bolted flange joints. Reducing the emission rate resulted in cleaner air and reduced ATEX zones, along with a refinery that will require less maintenance of the gaskets throughout its lifetime.



PREVENT FUGITIVE EMISSIONS



PREVENT ATEX ZONES



INSTALL AND FORGET



OPERATIONAL CONDITIONS

PRESSURE: Various

ATMOSPHERIC CONDITIONS: Exterior Refining Unit

TEMPERATURE: Up to 400°C

MEDIA (PRODUCT): Lubrication Oil

SIZE: Various

MEDIA (CLEANING): Steam

● SOLUTIONS

The tightness of the gasket was proven concerning Pipeotech's extensive leak testing, including EN13555 and TA Luft. Pipeotech's TA Luft testing demonstrated a leakage rate below 1.0×10^{-8} mbar x l/(s x m). Pipeotech's DNV GL testing was also referenced as it highlighted the durability of the DeltaV-Seal flange gasket to withstand extreme vibration loading and pressure pulse cycling simultaneously. Pipeotech's impressive API 6FB data proved the ability of the gasket to remain leak free, even during unplanned extreme fire events. Finally, a tag system was developed to ensure the correct installation of gaskets - as well as reasonably practicable.



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