



# PIPEOTECH

## CASE STUDY

### **Cleaned gaskets within a peroxide system of a chemical processing plant**

*Ensuring product quality and plant safety with a clean, bespoke, tight, and durable seal*

#### ● INDUSTRY CHALLENGES

Given the hazardous nature of peroxide and the high levels of purity and cleanliness required, the DeltaV-Seal™ flange gasket was a natural choice. Bespoke-sized gaskets with a reduced inside diameter were required to minimize any potential for debris to collect at the flange locations. In addition, the peroxide within the pipe required extremely high levels of purity and cleanliness to prevent cross-contamination.

#### ● BACKGROUND

One of the world's leading providers of innovative solutions in polyolefins, base chemicals, and fertilizers decided to upgrade one of its facilities in Western Europe. The facility is required to produce highly pure products fulfilling high-level industry standards. These high-purity products are essential to connect renewable energy sources across the globe as we move to a carbon and methane net-zero future.

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#### Material

316L, Stainless Steel

#### Industry

Chemical Manufacturing

#### Customer

International Chemical Major



## ● BENEFITS

The special DeltaV-Seal™ flange gaskets ensure a long-lasting, clean, and durable gas-tight seal. The gaskets were chemically cleaned at 90 °C to the required industry standard before being packaged in a double plastic seal in a “clean room” environment to prevent contamination before installation. The architecture of the DeltaV-Seal allows simple cleaning and surface preparation for all requirements where cross-contamination can be an issue. At the same time, the exceptionally tight and durable seal ensures the safety and integrity of the bolted flange joint, providing security of operation to those working within the facility and protection of the environment.



ENDURING QUALITY



CLEAN ROOM CLEANLINESS



CUSTOM MACHINED SEAL

## OPERATIONAL CONDITIONS

PRESSURE: PN10-40

ATMOSPHERIC CONDITIONS: Ambient Outdoor

TEMPERATURE: 80 °C

MEDIA (PRODUCT): Peroxide

SIZE: DN15 - DN80

MEDIA (CLEANING): Steam

## ● SOLUTIONS

Pipeotech's experienced engineering team designed a special DeltaV-Seal™ with a precision CNC machined ID ridge to provide a reduced internal diameter to reduce voids on the bore of each flange location. Unlike traditional spiral wound and Kammprofile gaskets, the DeltaV-Seal™ is a single piece of solid metal construction of compatible material as the mating flange. Pipeotech specially cleaned the DeltaV-Seal™ to remove oils, metal fragments, and dust which can impact the purity of the client's end product.



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