



Case Study: EVOLUTION®

Permeation Elimination & High Dielectric Strength

PROBLEM

An oil and gas operator located in Australia approached GPT Industries as they were encountering an issue with two flange connections that were experiencing leakage issues within hours of installation. On closer inspection it became clear that the leakage was not coming from the flange face but was in fact a result of the media permeating through the body of the gasket (See Images below).

SIGNIFICANCE

The media consisted of 60% sweet gas, containing CH₄, which resulted in the line needing to be shut down immediately. These shutdowns resulted in spiraling costs to the pipeline operator. Having never encountered the issue previously and due to the mounting costs, the issue was escalated to the top advisors at the operator to research and find a resolution to the issue.

While leakage was identified as the main problem it was still essential that an Isolation kit that provided electrical isolation was required to support their cathodic protection program, so a gasket with high dielectric strength was also a must.

OPERATING CONDITIONS

Temperature: 15☒
Pressure: #300
Media: Liquefied Natural Gas (LNG)
Size: 2" (Multiple Flanges)



Glass Reinforced Epoxy Gasket Permeating

SOLUTION

The solution chosen through consultation with GPT Industries and research performed by the operator was EVOLUTION®.

Permeation of media through GRE gaskets was known to GPT industries, having encountered the same problem on many occasions previously. EVOLUTION® is equipped with a patented ID seal that prevents the media from reaching the main substrate of the gasket. In addition, EVOLUTION® doesn't contain GRE in its design, instead the 316L Stainless Steel core is fully encapsulated in a proprietary coating eliminating the concern of media permeation. The fully encapsulated design has the added advantage of providing high levels of dielectric strength, 1400 Volts/Mil.

EVOLUTION® was installed and the issue was resolved. Operator no longer experiences permeation in their system, the line is back up and running successfully. Isolation has also been maintained by installing the EVOLUTION®.

For more information, please visit: <http://www.gptindustries.com>