

GPT®
Industries



EVOLUTION® high pressure isolation gaskets

- » Patent pending ID seal
- » Built in fire safe metal seal
- » Built to match pipe bore
- » Unaffected by moisture or humidity
- » Zero creep relaxation

evolution®

EVOLUTION® has a number of advantages over GR-laminated products.

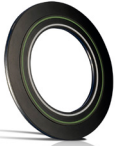
- » It offers a considerable increase in operating temperature over GRE products.
- » It does not use laminations, and it can withstand high pressures with no ill effects, unlike GRE gaskets which are prone to delamination.
- » Not prone to permeation issues that plague GRE gaskets.

The First Fully Encapsulated Fire Safe Isolating Gasket

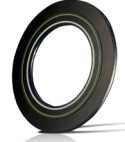
Since 1909, electrical isolation has undergone significant advancements with the introduction of various gasket designs, materials, and configurations. The most significant improvement was made in the late 1970s with the introduction of the VCS gasket, which provided higher pressure and strength capabilities compared to earlier products. Over time, variations of the VCS were developed to address its inherent limitations.

The VCFS was introduced to provide the benefits of the VCS gasket with added fire safety, while the VCS-ID added a PTFE barrier for protection against chemicals and steam in oil and gas pipelines. High temperature isolation gaskets were also developed for oil and gas pipelines where G-11 was not thermally rated. However, these products required users to potentially use multiple products for successful isolation.

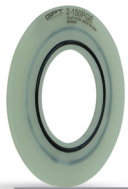
EVOLUTION® offers a one-stop solution for pipeline isolation, incorporating all of these benefits into one complete and robust package. EVOLUTION® is a patent-pending product that is the first of its kind to be a fully encapsulated isolating gasket. Its thin, 1/8-inch design minimizes installation difficulties often encountered with thicker gaskets, while the total encapsulation allows for hydro-testing without any loss in isolation properties. The gasket coating is a proprietary material that is abrasion and impact resistant, as well as chemically resistant to H₂S, steam, CO, CO₂, and other chemicals commonly found in oil and gas pipelines.

**PIKOTEK® VCS**

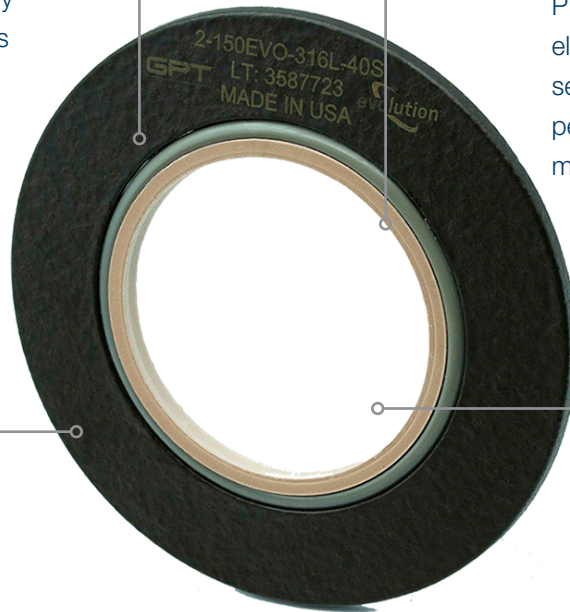
PTFE spring-energized face seal, or an elastomeric O-ring, seated in an insulating laminate and permanently bonded to a high-strength stainless steel core.

**PIKOTEK® VCFS**

PTFE spring-energized primary sealing element and an E-ring secondary seal, seated in an insulating laminate and permanently bonded to a high-strength metal core, creating a firesafe gasket.

**PIKOTEK® PGE™**

Incorporates patented overlapping and offsetting seal grooves. The 1/8" (3mm) design allows for easier installation and removal.

**PIKOTEK® VCS-ID™**

Concave GYLON® Inside Diameter (ID) seal and a PTFE spring-energized face seal, or an elastomeric O-ring, seated in an insulating laminate and permanently bonded to a high-strength core.

Coated C-ring Technology

The high level of recovery for a metallic c-ring is designed to give EVOLUTION® the ability to withstand extreme temperature swings in the flange. C-rings are proven to offer greater sealing capabilities than any other seal offered in an isolation gasket to date.

Proprietary Coating

The proprietary coating has been formulated by GPT specifically for use in tough pipeline installations and is unique to the pipeline industry. Successful abrasion, scratch, and impact testings confirmed that this product can handle the rigors of a typical installation. Chemical exposure testing of the coating in H₂S, steam, and CO₂ prove that this material is a significant technological leap versus traditional GRE type isolation gaskets.

Fire Safety

With the focus on improving and increasing joint integrity the importance of fire safety has become a standard requirement across elements of the oil and gas industry.

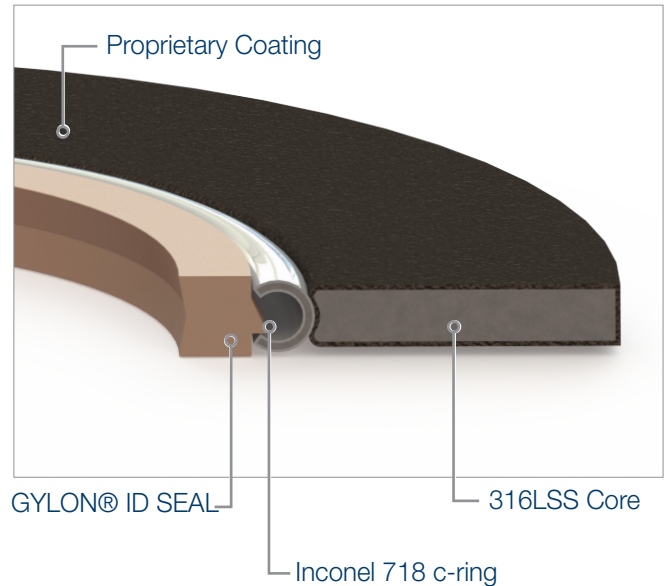
EVOLUTION® will provide a fire safe seal that is tested comprehensively to API6FB as a standard in all our isolation kits.

Zero Permeation

The standard GRE operates using a leak to seal technology and has provided a high level of isolation and sealing. However, as operators drill deeper and enhanced recovery techniques become the norm, more aggressive medias in pipelines will result in GRE becoming increasingly vulnerable to attack and faster rates of degradation over time. We have encountered examples of attack on joints from higher H₂S and CO₂ applications, which drove the imperative of meeting the needs of the future with EVOLUTION®. This product has been tested exhaustively in sour media tests that have resulted in no permeability and no degradation which will meet the industry needs.

Thinner Seal

To date, most isolation products above Class 600 pressures are a minimum of .250"/6mm thick. This causes issues for installation where pipeline systems are designed for .125"/3mm make up distances or have misaligned flanges with little gap. Regularly, thicker gaskets can be damaged by the gasket being forced into the thinner gap. We designed EVOLUTION® to be a .125"/3mm gasket to meet your requirements and be installed into pipeline systems with greater ease.



No Exotic Metal Core Required

The presence of aggressive media often requires exotic materials of construction for pipelines and associated equipment. EVOLUTION® is fully coated and does not require a costly exotic core because there is no exposed metal; therefore, the media will never come into contact with any metal. This makes EVOLUTION® a lower-cost, fire-safe alternative to exotic cored isolation kits.

Low Emission

The EVOLUTION® gasket has the lowest emission values for any pipeline seal available in the market today. With the demands being placed on the oil and gas industry to improve leakage rates, the increased levels of tightness achieved will exceed those demands and give greater joint integrity.

Due to its extreme tightness, EVOLUTION® is a viable sealing solution for the transportation of GHG's (Methane, Halogens & CO₂) hydrogen, and LNG applications.

ID Seal

- » Chemical resistance - remarkable resistance to typical oil and gas chemicals, in particular H₂S, CO & CO₂
- » Isolates after hydro-testing - eliminates the need to replace the gaskets following hydro-testing, EVOLUTION® will isolate after hydro-testing

Fully Encapsulated

(1/8" (3mm) Retainer)

- » No permeation - the unique design results in no permeation, a problem that plagues conventional glass reinforced epoxy (GRE) isolations gaskets
- » Easy installation - thinner design (1/8" (3mm)), minimizing the difficulties often encountered when attempting to install thicker isolating gaskets

Proprietary Coating

- » High dielectric strength 1,400 volts/mil min
- » Eliminates exotic cores - fully encapsulated coating prevents the need for expensive exotic cores
- » Extreme temperature- rated to Minimum -300°F/-184°C, Maximum 500°F/260°C*

*NOTE: Temperature rating is for gasket only or when used with Mica sleeves/washers.

Inconel C-ring

- » Fire safe - provides the added security of knowing that the gasket has passed the API 6FB, 3rd Edition Fire Test
- » High pressure - highest pressure rating of any isolating gasket
- » Pressure classes available: 150# - 2500# and up to API 15K
- » Size range available: 1/2" NPS to 36" NPS

* Some smaller diameter sizes, EVOLUTION® may be supplied with C-ring only

Made in USA

The EVOLUTION® gasket, sleeves and washers are manufactured and assembled in the USA at the Denver, Colorado plant.



KLINGER Limited is the authorised distributor for Pikotek products. We are able to supply the full range of Pikotek Insulation sets, including the PGE, VCS, VCFS, VCS-ID and Evolution. For further information on these products, please call us today or send us your enquiry.

Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

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