



- » Excellent electrical isolation for cathodic protection systems
- » Mitigates galvanic corrosion in dissimilar metal flanges
- » Choice of spring-energized Teflon or O-ring pressure activated seals
- » Protects against flange face corrosion and flow-induced erosion
- » Available in ring (type F) style or full face (type E) style
- » Provides a tighter seal under low bolt loads
- » Pressure-activated seals provide high confidence sealing
- » High-strength laminate material resists failure due to excess compression
- » Reinforced laminate retainer material isolates cathodic protection systems effectively
- » Gasket is sized to bore, protecting flange faces from corrosion and erosion
- » Spring energized Teflon seal eliminates cold flow and provides radial load
- » Also available with various elastomeric seals
- » Easy installation, make up and removal
- » Results in low required bolt loads, reducing flange and bolt stress.

## PGE™ Flange Isolation Kit

### High-Reliability, low pressure sealing system

The PGE™ is a specialised kit designed for low pressure service isolation, offering electrical flange isolation and general sealing capabilities. It is specifically designed for use in raised-face and flat-face flanges within ANSI class 150 and 300 service (with class 600 available depending on flange style, excluding RTJ flanges).

In addition to its electrical isolation properties, the PGE™ kit is highly effective in isolating flanges made of different metals or in situations where preventing flange face corrosion is desired.

The unique design of the PGE™ system incorporates patented overlapping and offsetting seal grooves. The sealing element can be any elastomeric material as well as more sophisticated Spring-Energized PTFE lip seals.

## Seal Retainer

The PGE™ seal retainer is constructed from NEMA grade G-10 glass-reinforced epoxy (GRE). This material has excellent performance characteristics with very high compressive strength, high flexural strength, high dielectric strength and low fluid absorption. PGE™ seals made from grade G-10 material are rated for service up to 302°F (150°C). For higher temperature service, grade G-11 is an acceptable alternative material, which is rated for 392°F (200°C) continuous service.

Two overlapping and offsetting seal grooves are machined into the high strength retainer in order to break the potential leak/weep path that is inherent in all glass laminate materials.

## Sealing elements

The composite retainer backing material behind the seal remains uncontaminated and thus permanently holds the seal in place in a static, fully-encapsulated manner. GPT offers three standard sealing elements for use with the PGE™. For custom applications, other sealing elements such as Kalrez or EPDM may be specified. The three standard seals are:

### PTFE

Recommended for all environments. Helical wound spring provides radial load. Encapsulation in the seal groove reduces creep or cold flow. This sealing system truly distinguishes GPT systems from all other flange sealing systems.

## Viton (FKM)

General purpose oilfield elastomer. Excellent resistance to aliphatic hydrocarbons and glycols. Good resistance to aromatic hydrocarbons. Not recommended for: Systems with amine inhibitors and in piping systems containing significant partial pressures of H<sub>2</sub>S, polar gases (i.e. CO<sub>2</sub>) or where radical pressure drops commonly occur.

## Nitrile

General purpose elastomer. Excellent for use in water systems or with some aliphatic hydrocarbons, silicone base fluids and glycol based systems. Not recommended for: Systems containing H<sub>2</sub>S, aromatic hydrocarbons, phosphate esters or halogenated hydrocarbons; piping systems subjected to radical pressure drops or piping systems containing significant partial pressures of polar gases (i.e. CO<sub>2</sub>).

Other Elastomers Available ie;

EPDM, Kalrez™ and Silicon

## Isolation kits

In order to electrically isolate the two flange faces, isolating sleeves and washers are required. GRE washers are recommended for use with the PGE™ gasket and have a compressive strength of 66,000 psi. Two metal washers are also provided for each sleeve. GPT offers isolating sleeves made from GRE, Nomex and Mylar. The metal washers are either zinc plated 1050 carbon steel or stainless steel. Other custom materials are available on request.



PGE™ Isolation Kits are manufactured at a GPT facility that has a registered ISO 9001:2008 Quality Management System.

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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