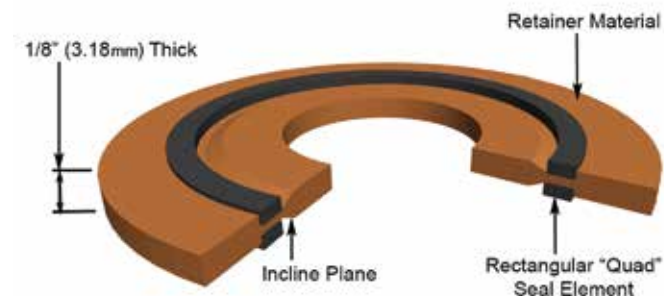


# ISOGUARD™ Sealing/Isolating Gaskets and Flange Isolation Kits



The ISOGUARD™ sealing/isolating gasket system is designed for general applications where electrical flange isolation and corrosion control are required on pipes containing water/waste-water, gas, natural gas, oil and other hydrocarbon based medias up to 302°F(150°C). Available for flat face, raised face and ring type joint flanges from 1/2" to 120" (and corresponding API and DN diameters), ANSI 150-1500#, API 2-5K and PN 20-250, the ISOGUARD™ gasket is an engineered value added solution for trouble free operation. The ISOGUARD™ sealing/isolating gasket system consists of a retainer with an incline-plane seal groove geometry designed to optimize each seal's elastic memory, in conjunction with a proven rectangular sealing element ("Quad" ring). This design guarantees low bolt load requirements and high sealing reliability. ISOGUARD™ systems are available with a variety of retainers and seal elements.

## Applications

- ISOGUARD™ gaskets are engineered to provide high reliability sealing and electrical isolation for a wide variety of applications.
- High Pressure Flanges: Up To 1500#, API 5K and PN 250.
- Applications where end users prefer an integral seal element.
- For ANSI 2500#, API 10K and PN 420 applications, please consult factory.

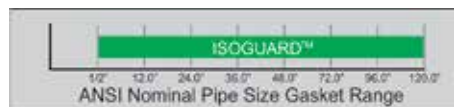
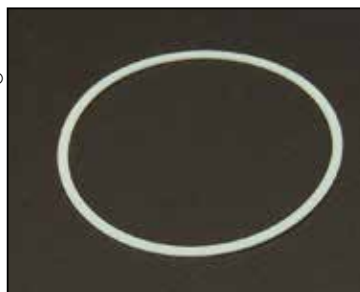
## General Features

- Self Energizing Seal.
- Incline-plane groove geometry.
- Low bolt load required.

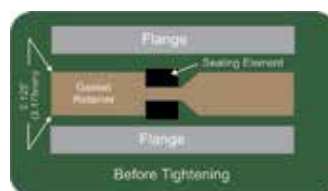


## A Fresh Look at Sealing - Design Features

A Fresh Look at Sealing - Design Feature: A non-spliced (one-piece) Teflon® seal element, available from 1/2" to 24". Combining this seal with the incline-plane groove design is a first for this generation of gasket technology; an excellent choice for engineers and end users wanting increased seal integrity.



For applications outside ranges shown, consult factory.



## Before Tightening

The flange face makes initial/light contact with the gasket retainer surface (isolation material) and the sealing element protrudes just above the gasket retainer surface.



## After Tightening

Rectangular Sealing Element "Quad Seal" in conjunction with the incline plane provides a self-energized seal. The small gap between seal element and retainer illustrates how the incline

plane allows the seal material to move in a direction other than point loading the gasket web (small area of retainer between the two seals). This movement prevents cracking and breaking of the gasket retainer under high loads.

Furthermore, the incline plane groove provides the seal with greater elastic memory, thereby helping maintain an effective seal even when bolt load may relax over a period of time.



## Type "E" Gasket

Fits over the bolt holes and extends to the O.D. of the flange to assist contractors as the bolt holes automatically center the gasket. Provides excellent protection against shorting out of the corrosion mitigation hardware.

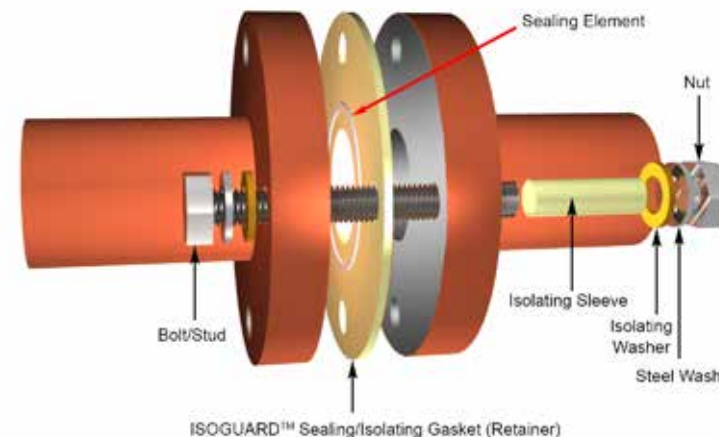
FIK "101" - 50% = Percentage of Type "E" ISOGUARD™ gaskets that are manufactured and specified for use on applications.



## Type "F" Gasket

Fits within the bolt hole circle of the flange and extends to the I.D. of the bolt circle providing good protection against shorting out of the corrosion mitigation hardware.

FIK "101" - 50% = Percentage of Type "F" ISOGUARD™ gaskets that are manufactured and specified for use on applications.



## Retainer Materials

- G10, G11, Phenolic
- Retainer Thickness 1/8" (0.125") (3.18mm)

Note: Consider G10 Material for the following applications. Nominal Pipe Sizes of 12-inch and larger or ANSI pressure class 600# and higher.

## Gasket/Retainer Material Specifications

ASTM	TEST METHOD	G7	G10	G11	Phenolic
D149	Dielectric Strength Volts/Mil Short Time	350-400	750-800	550	500
D695	Compressive Strength (psi)	40,000	65,000	63,000	25,000
D570	Water Absorption (%)	0.07	0.05	0.10	1.60
D790	Flexural Strength (psi)	27,000	65,000	60,000	22,500
D256	IZOD Impact Strength (Ft-Lbs/Inch)	14.00	14.00	12.00	1.20
D638	Tensile Strength (psi)	25,000	50,000	42,000	20,000
D732	Shear Strength (psi)	20,000	21,000	21,000	10,000
D952	Bond Strength (lb)*	600	2,600	2,200	1,500
	Temperature - Operating	Cryogenic to +450°F (+232°C)	Cryogenic -238°F (-150°C) to 302°F (+150°C)	-100°F (-73°C) to 392°F (200°C)	-65°F (-54°C) to +220°F (+104°C)

Note: Operating Temperature for Gaskets and Flange Isolation Kits is based off the Gasket Retainer Temperature. Seal element temperature does not dictate the min. and max. gasket operating temperature.

## Sealing Element Material Specifications

### Seal Element Materials

- Teflon®, Nitrile, Silicone, Viton®, EPDM

Sealing Element	Temperature - Operating
Teflon® (PTFE)	Cryogenic to +525°F (+274°C)
Nitrile	-40°F (-40°C) to +250°F (+121°C)
Silicone	-75°F (-115°C) to +392°F (+200°C)
Viton®	-20°F (-29°C) to +392°F to (+200°C)
EPDM	-65°F (-54°C) to +250°F (+121°C)



## Facts

- Based on an industry proven design.
- Enhanced with innovative engineered features.
- Cycled tested at 10,000psi at ambient temperature
- Made in the U.S.A.
- Tested to Shell Certification Standards.
- WRAS Approved
- DNV-GL Approved

## ISOGUARD™ Flange Isolation Kits

For a flange isolation kit, sleeves and washers are needed. Generally, 95% of ISOGUARD™ gasket flange isolation kits are sold with G10 sleeves and G10 double washer sets, when specified with a G10 retainer gasket.

## Suggested Sleeve/Washer Sets



SD = Standard (G10 Sleeves, Steel ZP Washers and G10 Washers) - Double Washer Set.

NOTE: Use with G10 Gasket Material



ED = Economy (Mylar Sleeves, Steel ZP Washers and Phenolic Washers) - Double Washer Set.

NOTE: Use with Phenolic Gasket Material

ISOGUARD G10 Sealing/Isolation Gaskets are suggested for RTJ Applications vs. Phenolic Ring Type Gaskets.

