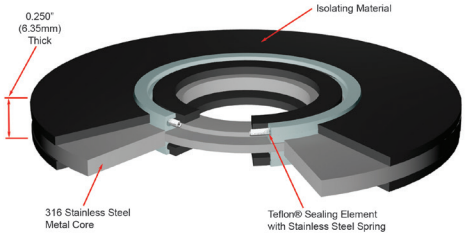
LAMONS DEFENDER™

Sealing/Isolating Gaskets and Flange Isolation Kits



The DEFENDER™ sealing/isolating gasket system is designed for critical/extreme applications. Manufactured with a 316 stainless steel core retainer and laminated on both sides with high strength laminates, the DEFENDER™ gasket is resistant to deforming under load and is used when electrical isolation and corrosion control are required on pipes containing gas, natural gas, oil, and other hydrocarbon-based medias up to 392°F (200°C).

Available for flat face, raised face, and ring type joint flanges from 1/2" to 48" (including corresponding API and DN diameters), ANSI 150-2500lbs., API 2-15K, and PN20-PN420, the DEFENDER™ gasket is an engineered solution for trouble-free operation that eliminates costly leaks and provides a solution for fugitive emissions. Manufactured with an innovative industry-first Press-n-Lock™ "Glue-Less Seal & Groove Technology" that combines a press-in, pressure-activated, and spring-energized seal with a unique groove that retains the seal element without the use of glue on key contact surfaces! The Press-n-Lock™ feature provides a higher confidence in sealing.

APPLICATIONS

- DEFENDER™ gaskets were engineered for extreme, high reliability sealing and electrical isolation critical service applications
- High pressure flanges: Up to 2500lbs., API 15K, or PN420
- Critical/extreme service
- High pH service
- H2S/CO2 service
- Locations where end users prefer an integral seal element

GENERAL FEATURES

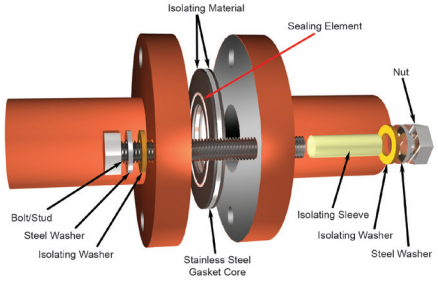
- Seals/isolates pressure ratings through ANSI 2500lbs., API 15K, and PN420 service
- Spring-energized seal element
- Press-n-Lock™ "Glue-Less Seal Groove Technology"
- Inconel and Super Duplex steel cores available upon request

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.

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.



DF RETAINER MATERIAL (G10S, G11S)

- 1/4" (.250") total thickness
- Metal Core .120" thick - 316SS
- Laminate .065" per side

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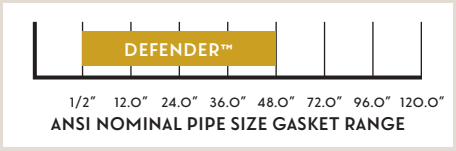
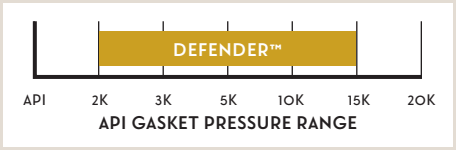
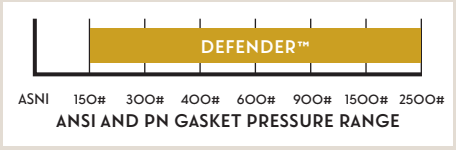
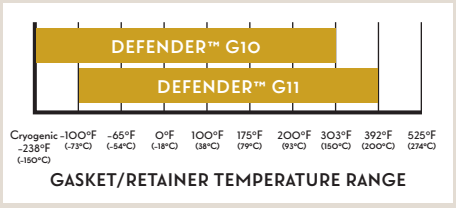
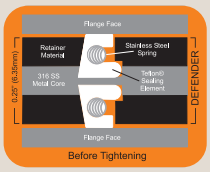






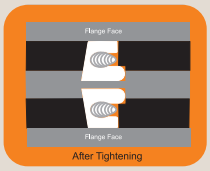


BEFORE TIGHTENING



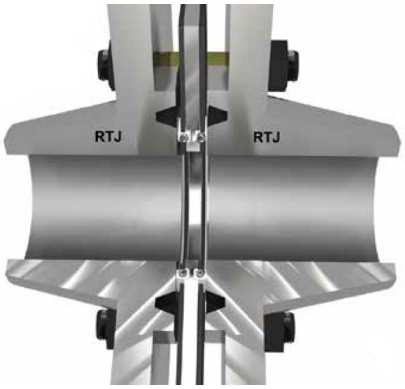
The flange face makes initial contact with the sealing element which protrudes above the gasket retainer surface (isolation material) laminated on both sides of the stainless-steel core.

AFTER TIGHTENING



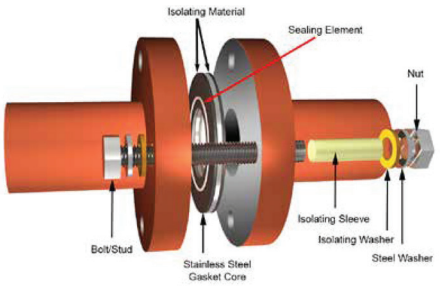
The spring-energized, pressure-activated sealing system is initiated. The base of the Teflon® seal is contained within the stainless-steel core to provide superior sealing strength for critical/extreme sealing applications. The spring prevents over-compression of the Teflon® seal thereby allowing the pressure of the media within the pipe to activate the seal. G10 or G11, laminated on both sides, provides the dielectric strength needed to isolate the flanged application and has the compressive strength to easily withstand high bolt loads.

DEFENDER™ sealing/ isolation gaskets are suggested for RTJ applications versus phenolic ring type gaskets.



DFT RETAINER MATERIAL (G10S, G11S)

- 0.314" total thickness
- Metal Core 0.250" thick – 316SS
- Laminate 0.032" per side



ASTM	TEST METHOD	G10	G11
D149	Dielectric Strength Volts/Mil Short Time	750–800	550
D695	Compressive Strength (psi)	65,000	63,000
D570	Water Absorption (%)	0.05	0.10
D790	Flexural Strength (psi)	65,000	60,000
D256	IZOD Impact Strength (Ft-Lbs/Inch)	14.00	12.00
D638	Tensile Strength (psi)	50,000	42,000
D732	Shear Strength (psi)	21,000	21,000
D952	Bond Strength (lb)	2,600	2,200
	Temperature – Operating	Cryogenic -238°F (-150°C) to +302°F (+150°C)	-100°F (-73°C) to +392°F (+200°C)

Note: Operating temperature for gaskets and flange isolation kits are based off the gasket retainer temperature. Seal element temperature does not dictate the minimum and maximum gasket operating temperature.

SEAL ELEMENT MATERIALS

- PTFE (Teflon®) Spring-Energized Spring is stainless steel
- Nitrile
- Viton®

SEALING ELEMENT MATERIAL SPECIFICATIONS

Sealing Element	Temperature – Operating
Teflon® (PTFE)	Cryogenic to +525°F (+274°C)
Nitrile	-40°F (-40°C) to +250°F (+121°C)
Viton®	-20°F (-29°C) to +392°F to (+200°C)

FACTS

- Proven design based on the industry leader
- Enhanced with innovative engineered features
- Tested to Shell Certification Standards
- Industry First! The Press-n-Lock™, "Glue-Less Seal Groove Technology," an engineered design, has significant sealing advantages versus other brands
- Made in the USA

INDUSTRIES (OIL, GAS)

- Production Fields
- Petroleum Marketing Facilities
- LNG/SNG Systems
- Pipeline and Distribution Piping
- Refineries

DEFENDER™ FLANGE ISOLATION KITS

For a flange isolation kit, sleeves and washers are needed. Generally, 95% of steel core gasket flange isolation kits (DEFENDER™ Kits) are sold with G10 sleeves and G10 double washer sets.

SUGGESTED SLEEVE/WASHER SET

SD = Standard (G10 sleeves, steel ZP washers and G10 washers) – double washer set

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