

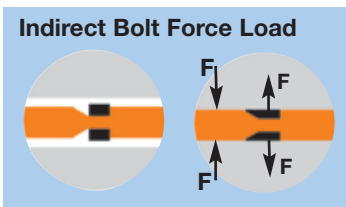
PSI Sealing Gaskets – LineSeal®

General Information



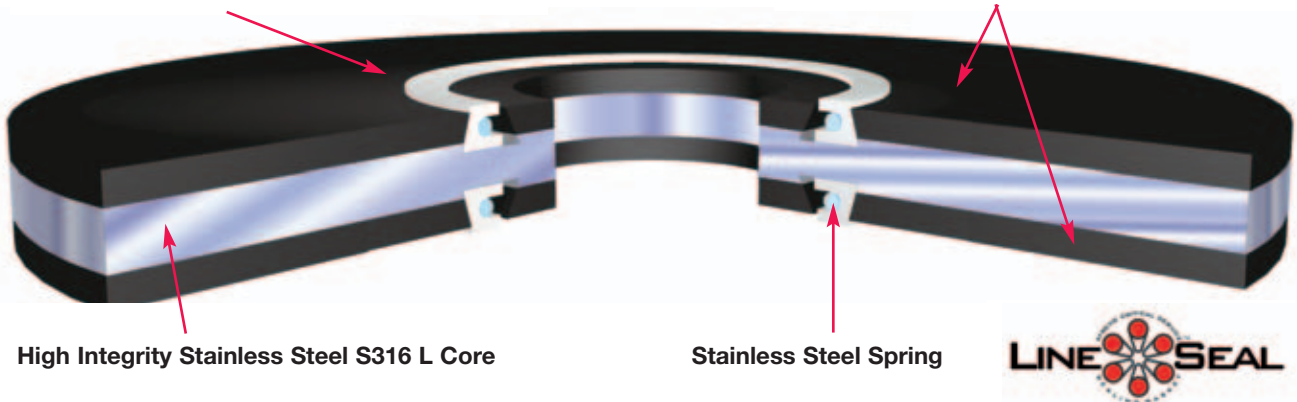
LineSeal™ Features

- Extreme high-reliability sealing and electrical isolation solution for all critical services.
- Seals and insulates all pressure ratings through ANSI 2500 class and API 15,000 psi service.
- Withstands severe service conditions including vibration, temperature and pressure fluctuations.
- Designed to withstand corrosive environments, including high concentrations of CO₂, H₂S and aggressive inhibitors.
- Outstanding electrical isolation properties for cathodic protection.
- Pressure-activated seals provide high confidence sealing, eliminates costly leaks and provides a solution for fugitive emissions.
- Gasket is sized to the bore to protect flange faces from media-induced corrosion and flow-induced erosion.
- Available to match any flange specification (ANSI, ASME, API, MSS, BS, DIN, AS, others).
- Can mate mismatched RTJ with raised-face flanges.
- Easy installation, make up and removal



Spring Energised Teflon Seal
(Rubber available: Viton, Nitrile, Kalrez, Aflas)

Fibre Glass Reinforced Laminate (G10-NEMA LI1)



PSI sealing gaskets far exceed the sealing capabilities of flat gaskets.

Here's why...

PSI sealing gaskets have sealing elements which have an elastic memory which result in near zero "m" and "y" factors making it possible to effect a positive seal without the tremendous bolt loads.

- Y** = Compressive load necessary to effect a seal.
- M** = Extra load (above Y factor) necessary to hold fluid pressure over the operational pressure range of the system.

Lower bolt torques required to make a seal.

- Reduction in installation time
- Eliminates the need for retightening due to cold flow.
- Reduces the need for high tensile strength bolts or studs.
- Assures a positive seal first time.

Pressure energized, controlled confinement of PSI sealing elements.

- Sealing elements maintain contact with mating surfaces even if surfaces are uneven.
- Internal fluid pressure forces the seal elements against the mating surfaces increasing the effectiveness of the seals.

Match gasket materials to service conditions.

LineSeal™ can be manufactured with a choice of sealing elements in any combination to suit the application.

Sealing elements may be positioned anywhere between the I.D. of the gasket and the I.D. of the bolt circle.

Allows the ability to use PSI sealing gaskets with ring joint, flat face, raised face or any combination of these flange types in a given size and pressure rating.

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Technical Information



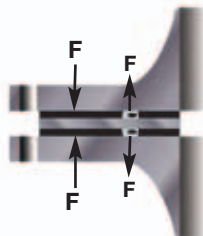
Before Tightening

The flange faces come into contact with the sealing elements, which extend slightly above the surface of the retainer. As the flange is tightened the sealing elements are compressed into the machine groove, developing an initial high unit pressure against the flange faces.



After Tightening

The flange faces come into firm contact with the retainer, thus compacting the sealing elements within grooves. At the same time, the unique LineSeal™ spring energized seal provides elastic resulting in a flat gasket with extremely high loading and self energizing characteristics without adverse cold flow problems.



Flange Insulation

As well as manufacturing the gaskets, we also provide the following isolating components to suit all flange types, pressure ratings and temperatures:-

- Isolating Bolt Sleeves
- Isolating Washers
- Steel Washers

ISO 9001:2000 Quality Assurance

All PSI facilities are ISO 9001:2000 certified with extensive quality control procedures in effect to insure total compliance with product performance and reliability standards.

How To Order

Please provide the following information:

1. Quantity
2. Pipe Size
3. Pressure Rating
4. Gasket Model (LineSeal™)
5. Sealing Element
6. Gasket Type (E or F)
7. Type of Flange (Weld Neck, slip-on, RTJ, etc.)
8. Note all special requirements

Common LineSeal™ Sealing Gasket Physical Properties

ASTM	Test Method	G-10 Epoxy Glass
D149	Dielectric Strength - Volts/Mil (Short Time)	800
D695	Compressive Strength (psi)	65,000
D229	Water Absorption (%)	0.04
D257	Insulation Resistance Meg Ohms	300,000
D790	Flexural Strength (psi)	65,000
D785	Hardness Rockwell "M"	115
D256	IZOD Impact Strength (Ft-Lbs/Inch)	12.0
D638	Tensile Strength (psi)	51,000
D732	Shear Strength (psi)	21,000
-	Temperature Range °F	-65 to +302
-	Temperature Range °C	-54 to +150

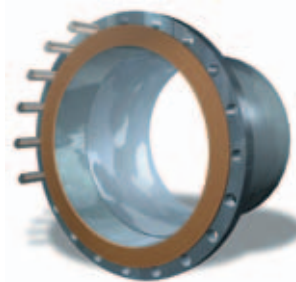
Actual values/figures are exceeded in many cases

Suggested Sealing Gasket Material Compatibility

Medium	Seal	Temp. Range °F	Temp. Range °C
Carbon Dioxide	Nitrile	+32 to +150	0 to +66
Ethanol	Nitrile	+32 to +100	0 to +38
Gas, Natural	Nitrile	-65 to +220	-54 to +104
Gas, Sour	Viton	-20 to +220	-29 to +104
Gas, Sour CO2 Mix	Teflon	-65 to +250	-54 to +121
Nitrogen	Nitrile	-65 to +220	-54 to +104
Oil, Crude	Viton	-20 to +280	-29 to +138
Propane	Nitrile	+32 to +80	0 to +27
Propylene	Viton	+32 to +80	0 to +27
Water (hot)	Viton	-20 to +280	-29 to +138
Water (Sea)	Viton	-20 to +280	-29 to +138

Seal Element Temperature Limitations

Temperature	Nitrile – O ring	Viton – O ring	Teflon – Spring Energised	EPDM – O ring
Deg °F	-20 to +250	+10 to +300	-65 to +400	-65 to +350
Deg °C	-29 to +121	-12 to +148	-54 to +232	-54 to +149



"F" Type Gasket
I.B.C.



"E" Type Gasket
Full Face