

Underbolted flanges challenge the sealing industry with less-than-ideal sealing situations, i.e., aggressive chemicals and dramatic thermal and high-pressure system cycling.

The PITA® gasket provides broad chemical resistance and high-tightness sealing to meet the challenging requirements of users. Long-term reliability that is realized from utilizing this innovative technology results in significant cost savings for our customers.

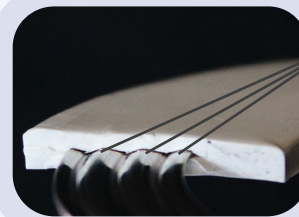


Corrugated 316
Stainless Steel Core

ePTFE Outer Facings

The ultimate gasket for high-tightness sealing at low loads

- ▶ Live-loaded spring insert delivers high gasket recovery, unmatched thermal cycling performance and exceptional operational tightness
- ▶ The superior chemical inertness of the ePTFE allows for standardization in a wide array of chemical processes and services
- ▶ Unitized construction eliminates the need for bonding agents resulting in zero process contamination and >2x blowout resistance over other corrugated insert gaskets
- ▶ Unique semi-metallic construction provides increased mechanical integrity
- ▶ 100% ePTFE seals against rough or damaged flanges
- ▶ The reduced area, encapsulated insert-spring technology develops high compressive stress resulting in unmatched sealing performance



Point Contact Loading

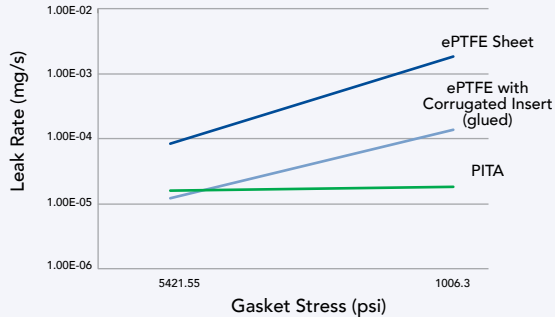
VSP Technologies deploys a team of Engineers and Fluid Sealing Specialists who provide engineered solutions for your unique sealing requirements.

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SPRING ENERGIZED CONSTRUCTION

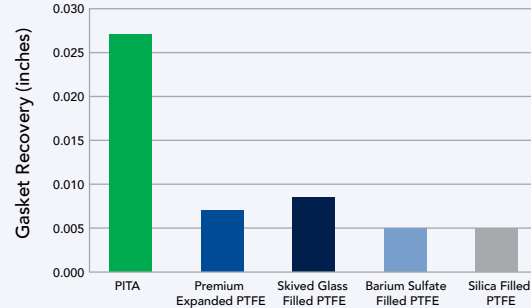
PITA Maintains Low Leakage During Thermal/Stress Cycling

PVRC ROTT Testing: Leak Rate Increase
Stress Cycling 5,000 psi to 1,000 psi

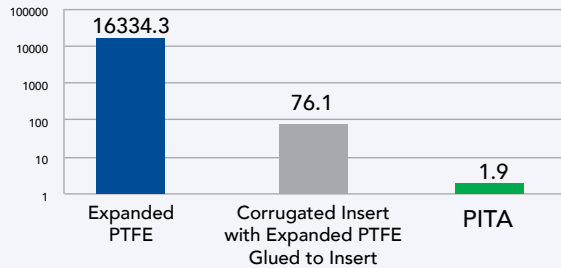


PITA Exhibits Significant Gasket Recovery (5X Other PTFE Constructions)

Comparison of Gasket Recovery
Gasket recovery (springback) after compression at 5,000 psi



PVRC ROTT Testing: Fugitive Emissions (lbs./year)



Comparative Annual Fugitive Emissions (300 ea. NPS 12 Class 150 LJ Flanges @150 psi)

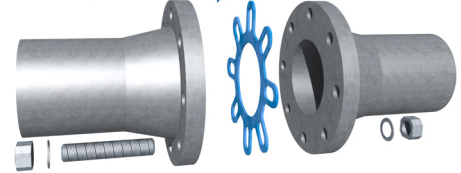
Target Applications

- ▶ Cryogenic service
- ▶ Class 150 flanges
- ▶ Stainless steel bolting
- ▶ Exotic metallurgy flanges
- ▶ Thermocycling applications
- ▶ Low stress/torque applications or equipment
- ▶ Chemical service
- ▶ Plant standardization
- ▶ Low E (Emissions) services

Product Specifications

Temperature Range	Max= 450°F Min= -330°F
Pressure Resistance	Full vacuum to maximum flange rating
Chemical Resistance	All chemical services (pH 0-14) except molten alkali metals, elemental fluorine and aggressive tri-fluoride compounds
ASME Gasket Factors	m=2.5 y=1,200 psi
PVRC Gasket Factors (PVRC ROTT)	$G_B=263$ psi $a=0.299$ $G_S=2.93E-10$ psi
Tightness & Sealability (PVRC ROTT)	$T_{p(max)}=33,749$ $T_{p(min)}=13,454$
Stress Required to Achieve Helium Leak Rate of 1.02E-04 (mg/sec) @ 150 psig (NPS 4x150 Ring Gasket)	2,078 psi
Safe Reserve Operating Temperature (HOBT2 with Cycles)	500°F ASME Class 150 Service 450°F ASME Class 300 Service
Standard Thickness	1/8" nominal, 1/4" per request

TORQ-KIT™



Ensure complete mechanical and specification compliance with VSP's OPRA Torq-Kit™

All Flange rework components in one box with assembly instructions to ensure reliable performance