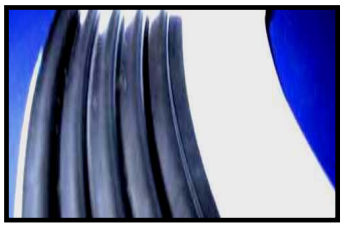
CYCLETIGHT® PITA® Gasket



Enhanced gasket recovery & thermal cycling performance by inserting a spring inside the gasket

Ring & Full Face Gaskets
- ASME B16.20 flanges < NPS 14
- Non-standard flanges, & manways

OPRA® Style
- FRP & plastic, flat face flanges

PITA® FEATURE/BENEFITS:
- Completely encapsulated insert
- Increased gasket resiliency – more than any other PTFE gasket
- Truly universal gasket

Eliminates drawbacks/limitations of conventional PTFE & Expanded PTFE gaskets
- Creep resistance & compressibility - Without being flimsy
- Universal chemical inertness - With high recovery/springback

For additional information or to place an order call;
Phone: (800) 334-6013 or (804) 541-0812
8140 Quality Drive, Prince George, VA 23875
E-Mail: www.vsptechnologies.com
REV: 1-1-09

CYCLETIGHT® PITA® Gasket: **PITA® U. S. Patent # 7,455,301**

The only fully encapsulated corrugated insert ePTFE gasket
- No process contamination
- No adhesive volume/torque loss

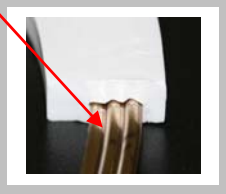
Superior sealing, thermal cycling and pressure resistance
- Low minimum seating stress
- Lowest leak-rate fluctuation during cycling
- High blow-out resistance/reserve temperature

A truly universal gasket technology for Class 150-300 metallic and lined piping systems
- Performance, handle-ability, size/design flexibility
- Site/process gasket standardization
- 100% expanded PTFE skin allows complete chemical inertness

CYCLETIGHT® PITA®, the ID & OD of the corrugated metal insert is encapsulated within an ePTFE gasket, and is completely isolated from the process media and external environment utilizing a proprietary process developed by VSP Technologies.

Unlike other similar designs there is no adhesive layer compressed between the flange raised faces. Bolt load is not affected by adhesive volume loss. **There are no adhesives of any sort used in the manufacturing process.**

Conventional corrugated insert expanded PTFE gaskets
Note: Expanded metal insert @ ID & OD
- Glue layers on both sides of insert



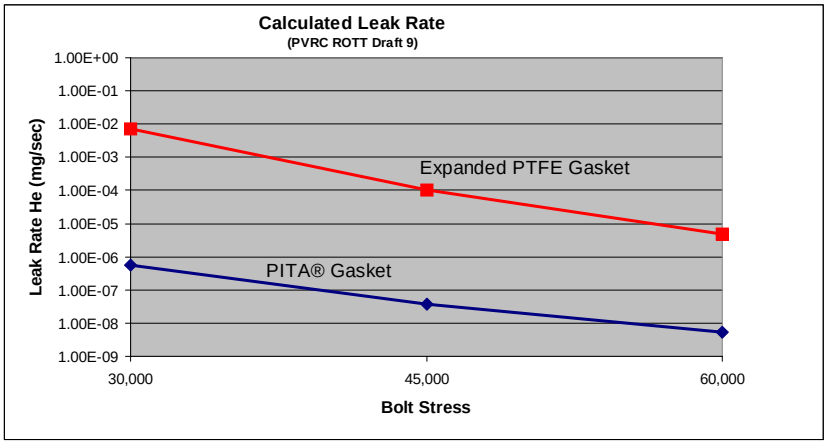
PITA®

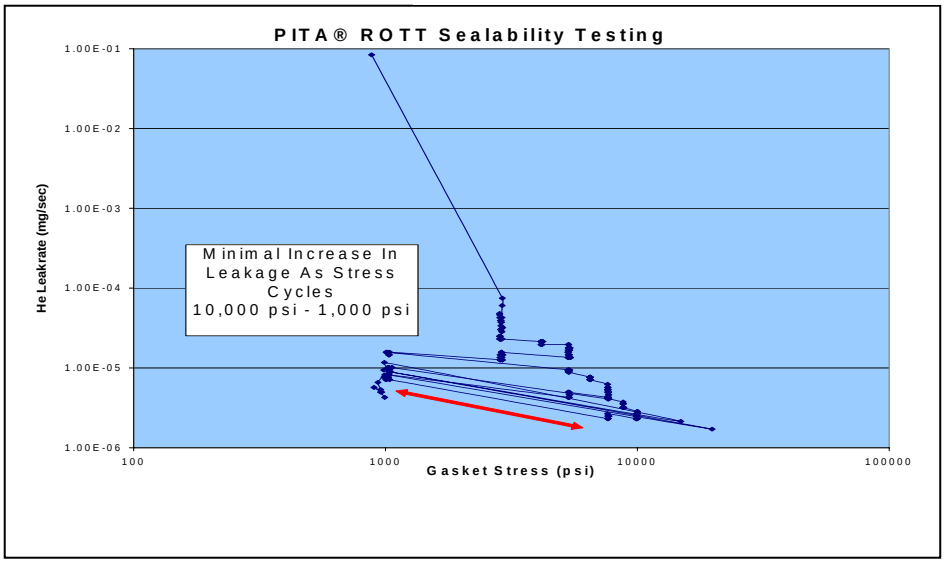
- **316SS corrugated insert**
  Provides dynamic response to compensate for thermal cycling & gasket creep
- **Robust metal reinforced design**
  Increased blowout resistance
- **High compressibility expanded PTFE (TEFLON®)**
  Seals against uneven & rough flanges
- **Lower stress to seal than conventional Virgin or Filled PTFE gaskets**
  Effective sealing at lower bolt loads
- **Available in standard ASME/ANSI B16.21 Class 150 & 300 ring & full face**
- **Non-standard vessel & manway gaskets also available**
- **Proprietary ePTFE facing properties & insert design**
- **Completely unique gasket design & performance**

CYCLETIGHT® PITA® Gasket - Broad, universal chemical services, low bolt loads & extreme thermal/pressure cycling

Increased Blow Out Resistance & Reserve Temperature

Material	Blow-Out Temp (w/Cycles)	Class 300 Safe Reserve Temperature
1/8" ePTFE Sheet	554 °F	312 °F
Conventional Corrugated Insert ePTFE	602 °F	200 °F
PITA® Gasket	**650 °F**	**444 °F**





PITA® Capabilities & Performance Specifications

Maximum Continuous Temperature	600ºF
Pressure Resistance	Full vacuum to maximum flange rating
Chemical Resistance	All chemical services (PH 0-14) except molten alkali metals, element fluorine and aggressive tri-fluoride compounds
ASME Gasket Factors	m=2.5 y=1,200psi
PVRC Gasket Factors (PRVC ROTT)	G_B=263psi a=0.299 G_S=2.93x10^{-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 ($^{mg}/_{sec}$) @150psig (NPS 4x 150 Ring Gasket)	T=2,078psi
Hot blow-out performance HOBT2 W/Cycles Blow-out temp @1,000psig (3 Tests)	No Cycles=682ºF W/Cycling=624ºF, 650ºF
Safe gasket temperature @ Reserve operating point(HOBT2) for 1,010psig, ASME Class 300 service	444ºF