



Engineered Solutions for Unique Sealing Applications



Engineered Fluid Sealing Products

Fluid Sealing Management Programs

Engineering Support Services

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

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Kingsport, TN | Houston, TX | Parkersburg, WV | Lake Charles, LA | Baton Rouge, LA | Minneapolis, MN

Innovative & Patented Technology

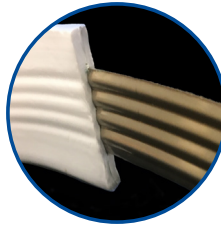
VSP Technologies' Engineers & Specialists currently have 14 patents for fluid-sealing products with more pending.



OPRA™

U.S. Patent #6,682,081

One Piece Reduced Area gaskets design from any sheet material on lightly loaded flanges. Allows for 20-50% lower torque than conventional full-face gaskets—designs for B16.5 or nonstandard flanges.



CycleTight®

U.S. Patent #6,824,140

Specifically for general-purpose railcar manways that require chemical compatibility and sealing against uneven surfaces. CycleTight compensates for railcar vibration by encapsulating a 316SS insert in highly compressible ePTFE.



CargoTight™

U.S. Patent #9,944,459

Gasket relaxation challenges tank trailers and containers. CargoTight gaskets use non-contaminating virgin PTFE and V-Notch™ to center the manway nozzle and a SS spring core to minimize the effects. Complies with FDA 21 CFR 177.1550.



NonVelope™

U.S. Patent #11,268,616

Constructed using an engineered corrugated SS insert fully encapsulated within microcellular PTFE fillers and bonded to a PTFE envelope for the best available chemical resistance, compressibility, ease of installation, and performance.



AB-326™

U.S. Patent #5,964,468

The dual-purpose AB-326 anti-buckling spiral wound gasket seats at 5,000 psi vs. conventional standard or inner ring spiral wound gaskets. The anti-buckling design prevents radial buckling without problematic or costly inner rings.



LoadLock™

Combines the strength and blow-out resistance of metallic gaskets with the compressibility and tightness of expanded PTFE gaskets without the use of adhesives.



Checkmate™

Checkmate gasket superior jointing design achieves the tightest possible seal of any segmented gasket; providing the same leak-free application as solid gaskets.



Torq-Kit™

Gaskets, studs, nuts, and washers in exact conformance to your plant specifications. Assembly instruction, torque guidance, lubrication, and flange ID tags ensure required performance/reliability is achieved.



ENCASE™

All the ingenuity and high performance of GORE® Universal Pipe Gasket in a wide array of custom designs. For the first time, GORE® Universal Pipe Gasket technology is available to an expanded market with nonstandard applications in a large array of customized dimensions.

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PITA®

U.S. Patents #7,455,301 & 8,066,843

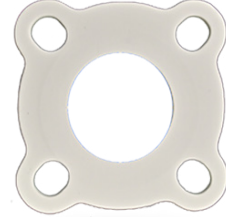
Expanded PTFE encapsulated corrugated 316SS metal insert uses no glue, offers complete chemical inertness with low minimum stress to seat, and low torque loss.



FR-PITA®

U.S. Patents #7,455,301 & 8,066,843

Combines the PITA® and OPRA™ designs to provide broad chemical resistance and high-tightness sealing for various applications. Long-term reliability translates into significant cost savings for our customers.



PITA® DNA™

U.S. Patents #7,455,301, 8,066,843 & 6,682,081

Combines VSP's patented PITA® gasket and OPRA™ design technologies in a gasket that can be used in both ASME Class 150 and DIN PN 10 flanges in chemical service allowing for reduced customer inventory.

Product Lines Represented

As one of the largest, most diversified fluid-sealing distributors in the country, VSP maintains one of the most comprehensive inventories available anywhere.

Gasketing Products

- ▶ DuPont™
- ▶ Garlock®
- ▶ Gore®
- ▶ Graftech
- ▶ Inertex®
- ▶ Klinger
- ▶ SGL Polycarbon
- ▶ Teadit®
- ▶ Thermodyn Corp.
- ▶ Thermoseal
- ▶ Flexitallic®

Hose Assemblies

- ▶ Hosemaster
- ▶ Precision
- ▶ Resistoflex
- ▶ Texcel
- ▶ Kuriyama
- ▶ United Flexible
- ▶ Wilcox

Expansion Joints

- ▶ Garlock®
- ▶ Hosemaster
- ▶ Unaflex

Specialty Fasteners

- ▶ VSP Torq-Kits™

Hydraulic Seals

- ▶ Garlock®

Rotating Equipment Reliability Components

- ▶ Trico
- ▶ Des-Case

Mechanical Seals

- ▶ AESSeal®
- ▶ Sepco®
- ▶ U.S. Seal MFG

Compression Packing

- ▶ American Braiding
- ▶ EGC Enterprises
- ▶ Garlock®
- ▶ Gore-GFO®
- ▶ Sepco®
- ▶ Teadit®

Bearing Isolators/Radial Seals

- ▶ AESSeal®
- ▶ Garlock®
- ▶ Isomag®

O-Rings

- ▶ Chemours™ - Viton™
- ▶ DuPont™ Kalrez®
- ▶ Freudenberg - Simriz®
- ▶ Green Tweede - Chemraz®

Fluid Sealing Management Programs \$185,000,000+ in Documented Cost Savings

Take control, not risks - VSP value added services reduce total cost of ownership (TCO)

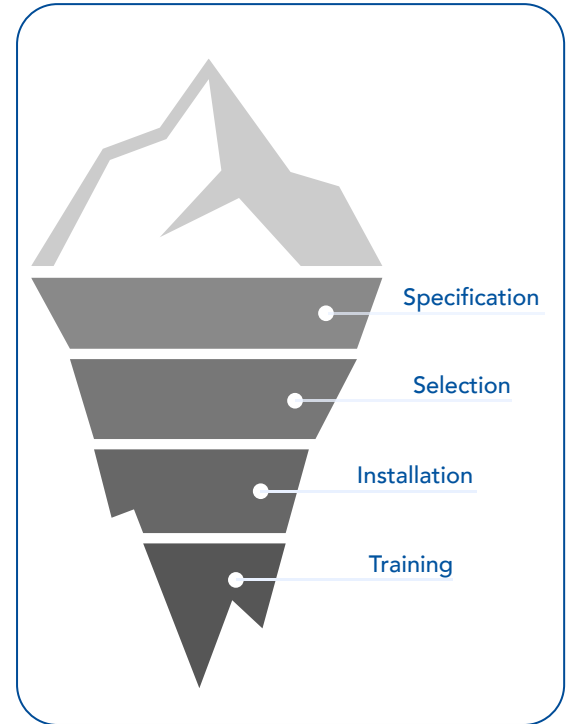
Fluid Sealing Management Programs provide a Six Sigma approach that enhances the safety and reliability of fixed equipment, fluid handling, and transportation assets by identifying and analyzing all critical steps of the fluid sealing process.

These Programs help customers identify limitations within current processes and provide solutions that control improved outcomes.

Specializing in reliability, safety, expert advice, and installation support.

Benefits include:

- ▶ Reduced downtime
- ▶ Process improvements
- ▶ Function-specific training
- ▶ Technically trained support staff



ESG & Sustainability

VSP Technologies is engaged in ESG best practices for environmental sustainability and social and governance factors.

VSP is backed by the strength of a multinational distribution network, providing industrial products and services.

The Fluid Sealing Process



Engineering & Support Services

- 
- ▶ **Connection Analysis | Examining Problematic Applications**
 - Root Cause Failure Analysis & Corrective Action Recommendations
 - Overall Performance Analysis
 - Pipe Specification Analysis
 - ▶ **Application Assistance | Effective, Reliable Sealing Performance**
 - Material & Design Recommendations
 - Torque Recommendations
 - Bolt Torque Calculator (BTC)
 - Fugitive Emissions Calculator (FEC)
 - Optimized Flange Connection (OFC)
 - ▶ **Support Services | Best-in-Class and Always Available**
 - Item Descriptions
 - Electronic/Web-based Purchasing & Invoicing
 - Storeroom Survey
 - ▶ **Focused Training | Custom On-Site Training Courses**
 - Bolted Flanged Connections and Assembly Best Practices
 - Bulk Equipment Manway Securement
 - Qualified Service Provider (QSP)
 - Technical Seminars
 - ▶ **Lab Equipment Testing | Optimal Product Technology Identification**
 - Keyence IM-7030T
 - Agilent Cary 630 FTIR Spectrometer
 - Shore Rex Durometer DD-5 Shore
 - TEMES fl.ai1 Multifunctional Test Rig



VSP Technologies engineers are active members of various technical associations. Engineers currently sit on several ASME committees and chair subcommittees working to improve flange and component reliability. VSP is an active member of the AAR Tank Car subcommittee, making recommendations that have helped reduce the instances of Non-Accidental Releases (NARS).

MANUFACTURING LOCATIONS



ISO 9001:2015 Certified

Over \$7-million fluid sealing product inventory

Manufacturing of gaskets and hoses

CNC controlled Atom flash cutters

Flo waterjet cutter

Zund digital cutter

PTFE fusion bonding

Custom O-ring vulcanizing

Stud fabrication from bar stock



Prince George, VA

Corporate Headquarters | R&D | Technical Services



Houston, TX



Kingsport, TN



Parkersburg, WV



Lake Charles, LA



Baton Rouge, LA



Minneapolis, MN