VSP technologies

SiteTight™

Engineered Fluid Sealing Solutions for Industrial Process Facilities

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SiteTight™

Engineered Fluid Sealing Solutions for Industrial Process Facilities

SiteTight is a Six-Sigma approach to Fluid Sealing Management that enhances the safety and reliability of fluid sealing applications by identifying and analyzing all critical steps of the fluid sealing process. This Total Cost of Ownership (TCO) solution is designed exclusively for industrial process facilities.

Clients work with VSP Sealing Specialists, Field Support Specialists, and Engineers to achieve the lowest TCO for all their fluid sealing needs, including: Gaskets, Fasteners, O-Rings, Expansion Joints, Hose & Couplings, Packing, Hydraulic Seals, Bearing Isolators, and Mechanical Seals.

The Fluid Sealing Process

Joining the SiteTight Program allows VSP to provide value added services that increase reliability at no additional cost

SiteTight streamlines the fluid sealing process and ensures clients receive:

- Highest performance sealing products
- Detailed standard purchasing descriptions
- Accurate assembly and installation instructions
- Guidance to achieve the lowest TCO

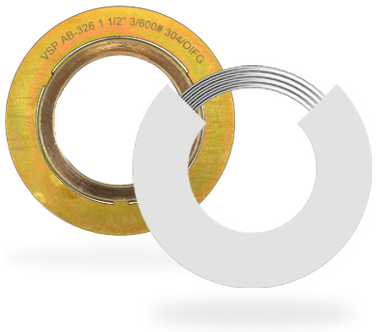
Environmental, Social, and Governance (ESG)

VSP Technologies' ESG program – Delivering Value Responsibly (DVR) – is our business and strategy. DVR is built around five focus areas: colleague engagement, health & safety, diversity, equity & inclusion, supply chain, and the environment.

Specification
Chemical & Mechanical Compatibility Analysis

Understanding chemical, thermal, and mechanical compatibility is critical when choosing the appropriate material for any application. Incorrect specifications can result in premature failure, equipment damage, production delays, shorter product life, and possible injury.

VSP works with the site engineering team to review current pipe code standards to develop the appropriate specifications based on all variables of the sealing applications.



Not all applications are suitable for an off-the-shelf solution. VSP recognizes this and has developed innovative solutions that address challenging fluid sealing needs

Understanding the variables associated with bolted flange connection is critical for determining optimal specifications

Achieve optimal sealing performance through:

- Safety Data Sheets (SDS) review for chemical compatibility
- Temperature and pressure for mechanical compatibility
- Pipe code and process/equipment diagram review
- Tightness/emissions analysis in the specification process
    - *See page 8 for additional information*

Purchasing

Accurate Item Descriptions

An effective purchasing strategy ensures the maintenance team has parts on hand when needed.

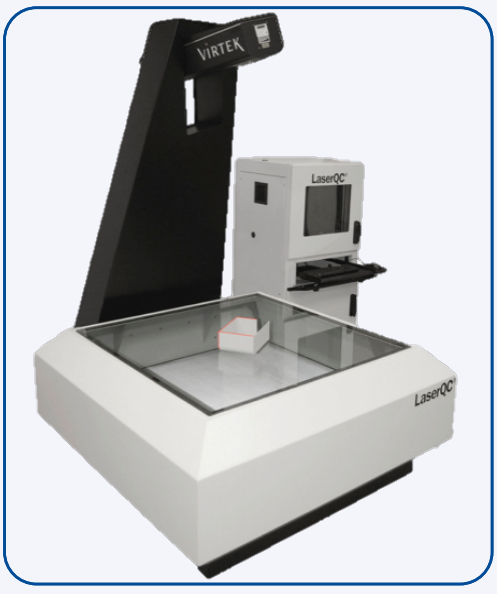
VSP conducts storeroom surveys to inspect and catalog current stock materials and identify old, obsolete, and excessive inventory. Our specialists work with your purchasing and storeroom teams to consolidate, standardize, and verify the accuracy of all part descriptions.

Accurate and complete descriptions give plant personnel the confidence of knowing the correct fluid sealing parts are onhand.

Material standardization reduces inventory costs and streamlines maintenance practices

VSP's storeroom survey process:

- Outline expectations and deliverables
- Request inventory report of parts being surveyed
- Onsite databasing of part details (brand, style and dimensions)
- Identify excess, obsolete, and past-shelf-life inventory
- Review with purchasing and engineering to finalize description template
- Update descriptions in ERP system

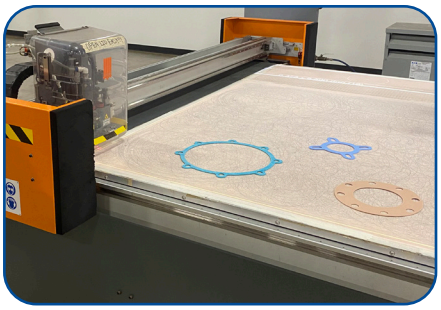


Virtek laser scanner used to verify product dimensions

Optimal tool for storeroom surveys

Fabrication & Supply

Standard and Custom Gaskets & Hose Assemblies



Successful fabrication requires complete and accurate specifications, descriptions, proper material sourcing, manufacturing expertise, and quality control measures.

VSP's fabrication combines high-quality materials, and innovative technologies and manufacturing to ensure the accuracy of each part and order.

Post-production inspection ensures parts produced meet all customer requirements. ISO 9001:2015.

CAD gasket design technology creates complete and accurate drawings to the customers' exact specifications

CAD-controlled machines ensure:

- Drawings meet gasket design requirements
- Documented revisions for compliance
- Tightest tolerances are met

VSP's engineered products achieve high fluid sealing tightness and robust torque retention to address challenges associated with the dynamic environments in industrial applications

Inventory Management

Documented Cost Savings

Effective inventory management is critical to avoid stockouts.

Delayed product availability results in increased downtime, lost production, and unnecessary operating costs.

VSP improves operating efficiency through innovative inventory consolidation solutions that reduce TCO.

Over $ 7 million in inventory ensures VSP can quickly respond to customer needs

Inventory management options:

- Onsite vendor managed inventory or consignment
- Labeling managed inventory with specific customer and VSP part numbers
- VSP warehouses customer specific product providing just in time availability

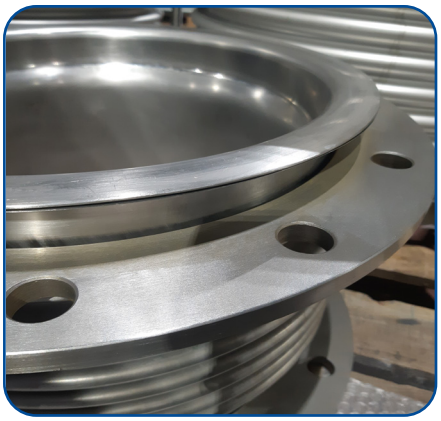
An effective inventory system provides visibility of all items, simplifying processes through start to finish automation

VSP Headquarters' Warehouse

Selection

Selection Tools/Visual Aids

Proper product selection prior to installation is critical to maintaining reliability in any sealing application. VSP ensures customers have the tools necessary to select the right product for the application.



Selection tools assist in choosing the right product for each application

- Visual aid guides include:
  - Gasket Board
  - Selection charts
  - Custom labels
- Onsite function-specific training is tailored for maintenance personnel to ensure a clear understanding of the products/materials specified
- Site-specific visual aids available

VSP Customer Gasket Board

Your Company Logo Here

Gasket Materials and Applications Guide

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Code	Gasket Material	Sample	General Service Guidelines	Material Construction & Max Temperature
7.1	**Red Rubber** 75 Durometer, Shore A		Water, Stock, Vacuum Plastic or Flat-Face Flanges Only	SBR Elastomer 175°F Max
7.2	**INERTEX® SQ-S**		Chemical Storage Tanks, Manways (API-650 Flanges, etc.)	Expanded PTFE, OPRA™ Design 350°F Max
7.3	**Viton™ A** 75 Durometer, Shore A		Methanol Plastic or Flat-Face Flanges Only	Fluoroelastomer 350°F Max
7.4, 7.10	**Garlock BLUE-GARD® 3200 SEPCO 300**		Water, Additives, Starch, Air, Alum. Amines, Ammonium Hydroxide	Aramid Fibers with SBR Binder 250°F Max
7.5	**Peroxide-Cured EPDM** 60 Durometer, Shore A		Brine Plastic or Flat-Face Flanges Only	EPDM Elastomer 250°F Max
7.6	**Garlock Gylon® 3510** EPIX™ and Standard		Acid, Strong Caustics/Liquor, Chlorine, Bleach, Ammonia, Gases, Water, Steam, Hydrocarbons, Tall Oil, Turpentine	Restructured PTFE with Barium Sulfate Filler 350°F Max

SAE J429-Grade 5

Material	Zinc-Coated Carbon Steel
Yield Strength	92,000 psi (up to 1") 81,000 psi (1.125" - 1.5")
Use With	J995 Nuts

ASTM A193-B7

Material	Carbon Steel
Yield Strength	105,000 psi (up to 2.5") 95,000 psi (2.625" - 4")
Use With	A194 Grade 2H Nuts F436 Washers

Star Pattern Tightening
3 or more passes at increasing bolt load levels

Installation

Best Practices
Bolted Flange Assembly Training

Improper installation is the leading cause of failure in the fluid sealing process. These failures result in unscheduled downtime, revenue loss, and safety concerns. Training focuses on best practices including consistent and repeatable means of installation.

VSP custom training sessions use demonstrations and practical examples for site maintenance and engineering teams. This includes a comprehensive understanding of all installation types, the importance of fastener grades and lubrication, torque guidance, and overall flange assembly guidelines.

Through demonstrations and practical examples, VSP teaches essential concepts of fasteners, torque, and flange assembly

- Conduct flange assembly training following ASME PCC-1, Appendix A guidelines
- Optimal torque assembly recommendations
- Hands-on installation demos

Fugitive emissions are a driver in the overall environmental impact of a company's operations and influence ESG/Sustainability reporting.

All gaskets have some level of leakage/emissions, but this varies significantly depending on the type of gasket material specified. The specification of gasket materials for bolted flanged connections has traditionally been determined by chemical compatibility and then temperature/pressure without regard to the gasket's initial and long-term tightness (fugitive emissions).

To enhance a company's LDAR program, a software tool is available to compare fugitive emissions performance of different types/styles/brands of gasket materials, allowing a third element (Tightness/Emissions) in the gasket specification process. Proactive use of this tool in the initial gasket specification process effectively changes a plant's environmental focus from finding leaks (LDAR) to the mindset of preventing leaks and in-process repairs.