



Engineering Services and Capabilities



Engineered Fluid Sealing Solutions Products, Systems, and Support

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



VSP Technologies is a sealing products manufacturer, fabricator, supplier, and technical resource.

Engineers incorporate fluid sealing expertise and industry process knowledge to develop problem-solving products that address application and performance challenges.

To achieve effective, reliable sealing, we use VSP-developed analysis tools to ensure the best products are selected for your application

Material & Design Recommendations

VSP selects from a wide array of fluid sealing products and styles from leading manufacturers to meet all application, process, equipment, and performance challenges.

Our refined bolted flange connection expertise helps streamline maintenance activities and mitigates startup leaks.

Bolt Torque Calculator (BTC)

VSP uses the BTC to determine the recommended bolt torque for the mechanic to assemble the connection.

Optimized Flange Connection (OFC)

Using OFC tables, VSP provides recommended torque values for a range of gasket materials on standard ASME B16.5 flanges.

Fugitive Emissions Calculator (FEC™)

Chemical compatibility, temperature, and pressure have traditionally determined the specification of gasket materials without regard to the gasket's initial and long-term tightness (fugitive emissions).

VSP's FEC tool enhances a company's LDAR (finding leaks) program by

- ▶ Comparing the fugitive emissions performance of different gasket materials.
- ▶ Allowing a new element (tightness/emissions) in the gasket specification process.
- ▶ Identifying lowest emission gaskets. Providing an accurate alternative to published emission factors

With proactive use of this tool, a plant's environmental focus changes from finding leaks to preventing them.

VSP engineers perform extensive analysis to ensure trouble-free, reliable sealing performance

Overall performance analysis

- ▶ Chemical compatibility
- ▶ Mechanical stability
- ▶ Thermal tolerance
- ▶ Gasket seating stress envelope
- ▶ Flange and fastener limitations
- ▶ Complete lifecycle analysis

Pipe specification analysis

Root cause failure analysis and corrective action recommendations

- ▶ Execute root cause failure analysis
- ▶ Identify non-conforming applications
- ▶ Respond to emerging issues

VSP's Support Services is a versatile resource providing technical and purchasing support to our customers.

- ▶ Emergency callouts (24/7)
- ▶ Troubleshooting
- ▶ Storeroom surveys
- ▶ Management of VMI gasket boards
- ▶ Onsite verification of application data



VSP's engineering team optimizes safety and performance by developing sealing solutions with best-in-class materials and proven processes.

We advocate for improved reliability and lower cost of ownership to benefit our customers.

VSP improves reliability, updates standards, and develops new products using in-depth troubleshooting and root cause failure analysis.

Lab testing equipment is used for

- ▶ Optimal technology identification for specific applications.
- ▶ Verification and validation of materials.



Our state-of-the-art testing lab allows engineers to understand the performance and limitation of products and technologies

TEMES Multifunctional Test Rig

The worldwide industry-standard gasket testing module.

- ▶ VSP is the only gasket distributor in the US to house this advanced technology.
- ▶ This fixture evaluates materials to domestic and international gasket test standards.
- ▶ Tests simulate customer specific operating conditions.

Agilent Cary 630 FTIR Spectrometer

- ▶ Diamond and Germanium ATR for material identification.
- ▶ Material verification/validation of elastomer compounds.

Keyence IM-7030T

Image dimension measurement system.

- ▶ Parts are cataloged, including tolerances for rapid evaluation.

Shore Rex Durometer DD-5 Shore

- ▶ Automatic digital durometer gauge.



VSP Engineering

Industry-Recognized Professionals

VSP's industry-recognized BFC engineers and professionals are dedicated to improving overall operational efficiencies. Team members are involved in various industry standards and technical committees that actively drive BFC improvements. Involvement in these committees ensures engineers are up to date on codes, standards, and requirements.



VSP's ongoing involvement in industry-recognized technical committees helps enhance training to reflect current

Member/Former Chair	ASME B16 Committee G (Gaskets)
Member/Chair	Sealing Association; Gaskets Division
Member	Association of American Railroads Manway Cover Business Leader Task Group
Member	Association of American Railroads NAR Task Group
Member	Association of American Railroads Root Cause Analysis Task Group
Member/Chair	ASTM Committee F3 (Gaskets), Participating
Member	ASME NPPS NM-2 Task Group on Lap Joint Flange Design (Non-metallic pressure piping)
Member	ASME RTP-1 (Reinforced Thermo Plastic Lower Pressure Vessel Design) Committee
Member	ASME PCC-1
Member/Chair	ASME PVP Computer Technology & Bolted Joints Technical Committee
Member	ASME Section XII - Transportation Equipment
Co-Chairman	ITCA (Intermodal Tank Container Association)
Member	ITCO (International Tank Container Organization) – Manufacturing & Design Group