

# FLUID SEALING NEWS

Prince George, VA | Kingsport, TN | Houston, TX | Parkersburg, WV



## Did You Know?

### VSP Opens Support Facility in Ohio Valley

VSP Technologies opened our newest facility in Parkersburg, WV to extend our unmatched service and support to the Ohio Valley. Current customers and existing business opportunities made it a logical choice for our newest VSP location.

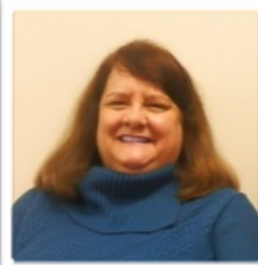
The facility has been fully operational since early April. VSP's Ohio Valley staff is focused on replicating the high level of bolted connection expertise and engineered solutions we are known for in the US and Internationally. Our goal is to provide existing customers with even greater support, while introducing our unique products, programs and support service to industries in the Ohio Valley.

VSP's new facility utilizes the same state-of-the-art gasket design and fabrication equipment used in our other three manufacturing locations.

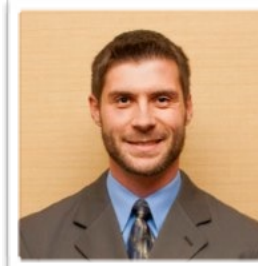
## VSP Deploys

### 18 Fluid Sealing Engineers

Under the direction of Jerry Waterland, VP Sales & Engineering, VSP employs 18 Engineers; three of which are Registered Professional Engineers. Over the next several issues we will highlight these individuals.



**Anita Bausman P.E.** VSP's Senior Applications Engineer graduated from Georgia Tech and is registered in four states. She worked for Eastman Chemical Co. for twenty-three years holding various engineering support positions within the plant including gasket & piping subject matter expert. A 5-year employee with VSP, she now works out of our Kingsport, TN regional office providing engineering & technical support to all of our customers. Notably Anita serves on the ASTM F3 (Gaskets/Gasketed Joints) and frequently contributes to the ASME Pressure Vessel & Piping Division.



**Joel Keneipp P.E.** VSP's newest P.E. Joel graduated in 2008 from Virginia Military Institute with a BS in Mechanical Engineering. Joel is a Registered Professional Engineer in Virginia. He began his career with Dominion Power at the North Anna Nuclear Power Station as a Component Engineer and Systems

Continued p. 2 VSP Deploys





**VSP Solves Chronic Leaks/Reliability Issues for Power Station**

A large Mid-Atlantic power station was experiencing chronic leaks on high pressure turbine control valves. The leaks occurred in a recessed face flange connection that operates at significant pressures and temperatures. Outage crews routinely re-machined the flange sealing surfaces in an attempt to resolve the issue. This resulted in additional manpower, equipment and lost time while still not completely preventing leakage.

Chris Malgee, VSP's Power Generation Business Director, worked with VSP Engineers and station personnel to determine the true root cause of the failure and determined that the current spiral wound gasket was not designed, constructed or specified properly. VSP identified the best solution including new gasket design with specific installation procedures. Since the re-designed gasket was manufactured and put into service, the valve operates with no reported leaks. Four gaskets installed for \$76 have saved the station \$200,000 in identified cost avoidance.

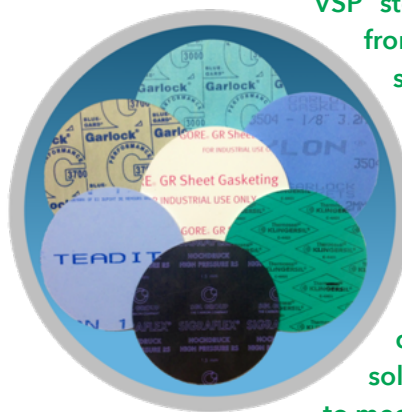
**Continued VSP Deploys**

Engineer joining VSP in 2012. Joel is a Product & Applications Engineer supporting our customers in the western part of Virginia along with nuclear and fossil power generating sites in New England. He works from his home office in Chatham, VA. Joel has authored numerous failure analysis reports, preventative maintenance strategies, and technical dispositions of operating equipment under less than ideal conditions. Building upon his interest in flange design, Joel is an active member of the ASME Section VIII, Special Working Group on Bolted Joint Design which is supporting the development of new Tightness-Based flange designs rules.



**Dale Rice P.E.** comes to VSP with a Bachelor's Degree in Chemistry from Hope College and Master's Degree in Environmental Engineering from Syracuse University. Dale is licensed in three states and works as an environmental consultant, providing solutions and technical support to our customers. He has joined VSP to

aid our customers in achieving environmental sustainability goals through the identification of low fugitive emission seal opportunities. Dale is applying the VSP-developed fugitive emissions calculator as a tool for helping companies to achieve BACT (best available control technology) and compliance with environmental requirements. Dale and his wife, Susan, reside in Wilmington, North Carolina.



VSP stocks and fabricates products from more than 20 premium fluid sealing manufacturers, along with our own patented engineered products. When application and performance needs cannot be met with current technology, VSP's engineers and specialists develop unique problem-solving products & technologies to meet these needs.

VSP Technologies deploys an expert team of Engineers and Fluid Sealing Specialists who provide engineered solutions to achieve your sealing requirements.



## LOAD-LOCK™

**Is it a high pressure metal gasket or a conformable, low stress to seal sheet gasket? How about both!**

VSP LOAD-LOCK™ gasket technology combines the strength and blow out resistance of metallic gaskets, with the compressibility and tightness of expanded PTFE gaskets.

VSP's proprietary, patent pending design incorporates an engineered perforated 316 stainless steel insert

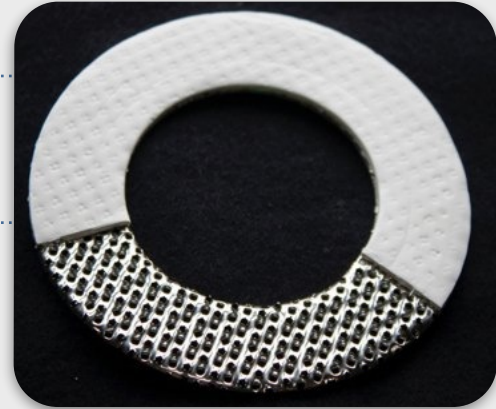


embedded within the expanded PTFE sheet that dramatically enhances stability, increases blow-

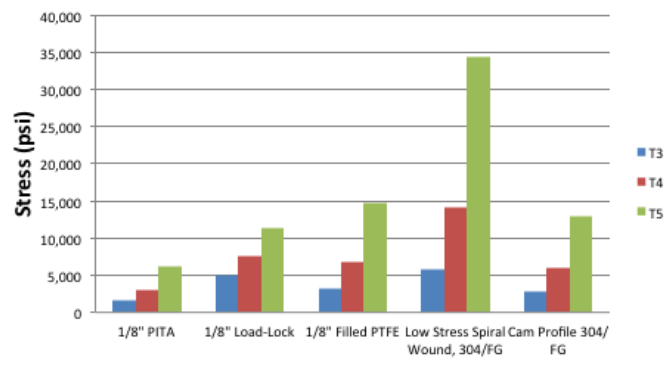
out resistance, and reduces gasket creep more than conventional ePTFE by itself. The embedded perforated metal core grips the ePTFE thereby reducing cold flow while preventing over-compression and blow-out. Produced without adhesive, there is no threat of thermal degradation or process contamination.

The soft, deformable ePTFE gasket surface adapts to flange imperfections to form a tight seal with near metal to metal contact with the tang insert. This is ideal for weaker flanges and conditions with low bolt loads & moderate to high internal pressures. The gasket excels at withstanding pressure and temperature fluctuations.

HOBT2 testing confirms the 550° F Max Temperature in heavy cycling ASME class 150 flanges, nearly **2X the Max Temperature of other PTFE materials** in the same qualification test.



Stress (psi) to achieve T3, T4, T5 Tightness @200 psig



HOBT WITHOUT CYCLES ON VSP LOADLOCK AT 435 PSI

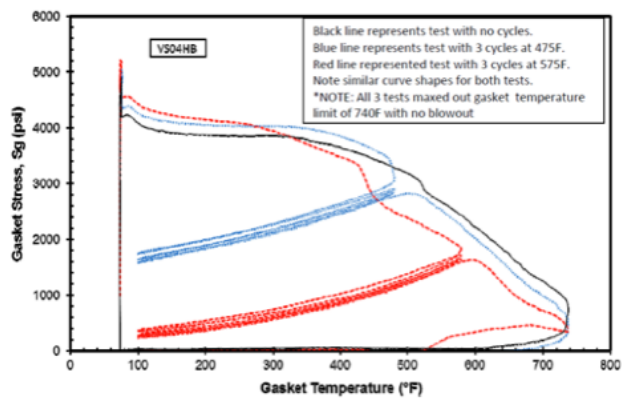
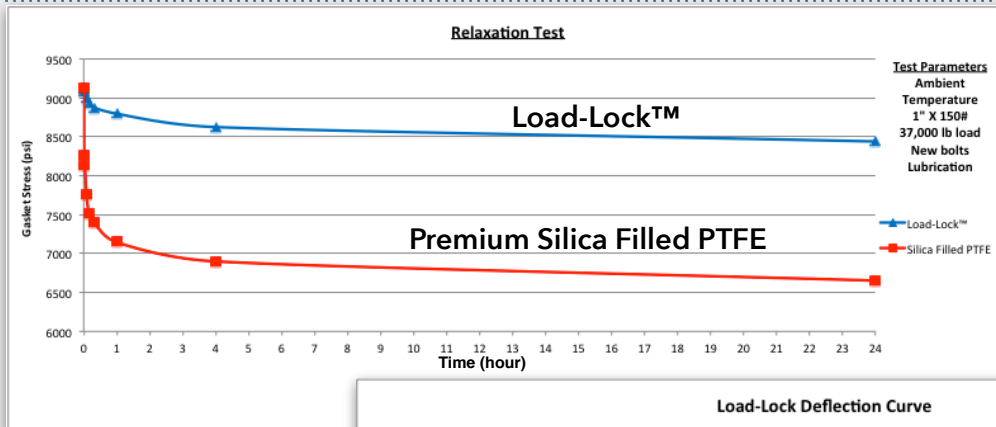


Figure 7 HOBT tests on VSP Loadlock 1/8 in thick for class 150 lb

Continued p. 4 Load-Lock™

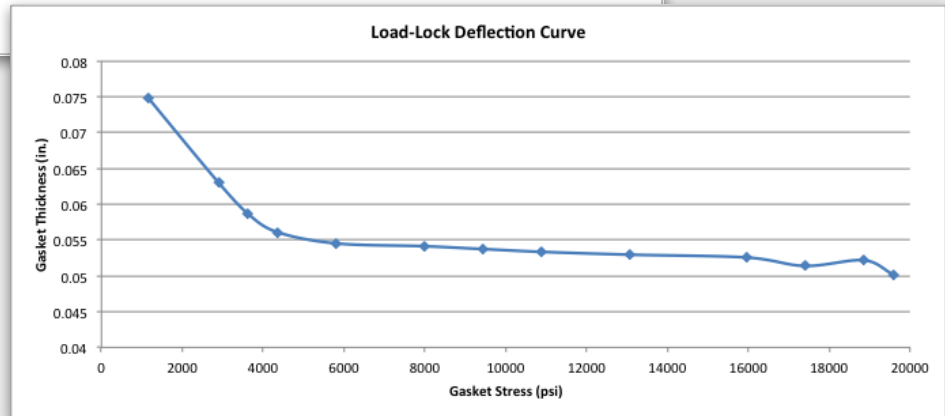
**LOAD-LOCK™** continued

VSP's **LOAD-LOCK™** manufacturing method allows products to be fabricated to any size and geometry.



Minimal stress relaxation

Gasket compression stabilizes at 4,000 psi stress (rigid connection at 4,000 psi assembly stress)



One of the largest chemical companies in the U.S. needed a unique fluid sealing solution, VSP Technologies was there engineering the right product for a leak-free process.

Four Manufacturing Locations

26 Degreed Engineers and Fluid Sealing Specialists Deployed Across the US

Proven Track Record of Innovation & Unmatched Service

