



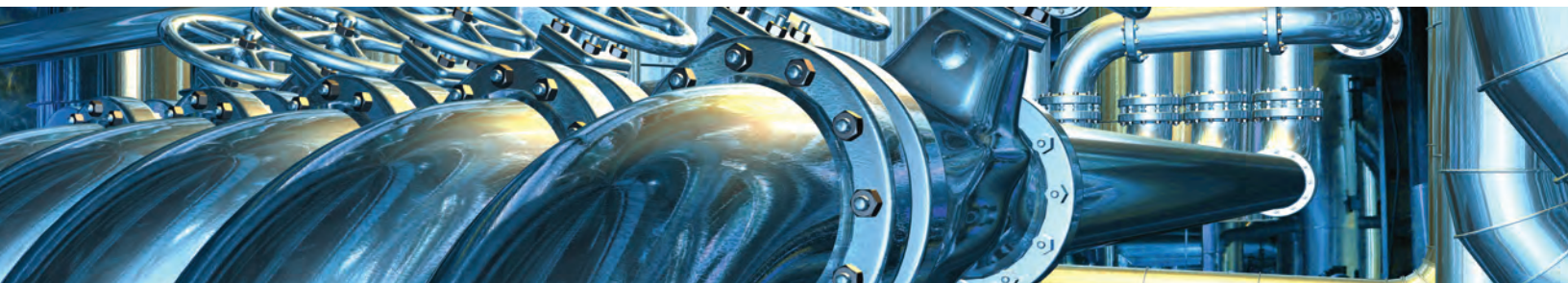
Triangle Fluid Controls Ltd.[®]

Service | Quality | Performance



Case Study. Hydrogen Fluoride-Resistant Gaskets

Tips from Fluid-Sealing Solution Experts



APPLICABLE INDUSTRIES

Chemical Processing

WHY IS SEALING HYDROGEN FLUORIDE A CHALLENGE?

Because of its harsh nature, hydrogen fluoride is a difficult chemical to seal. If leaked, in any volume, manufacturers must immediately alert an emergency response team. Gaskets for hydrogen fluoride systems must be constructed from materials capable of providing a reliable, leak-free seal and withstanding the chemical's highly corrosive nature. The Hydrogen Fluoride Industry Practices Institute (HFIP) offers a Materials of Construction Guideline for both Anhydrous and Aqueous Hydrogen Fluoride, which includes gasket materials.

WHAT MAKES A GASKET HYDROGEN FLUORIDE-RESISTANT?

Due to limited allowable maintenance periods, the flange inner diameter (ID) is subject to corrosion from residual moisture pockets that become trapped during routine cleaning. Use of inadequate materials can also cause flange corrosion.

HFIP's recommended standard lists carbon-filled PTFE as a safe and reliable gasket solution for harsh applications involving Hydrogen Fluoride.

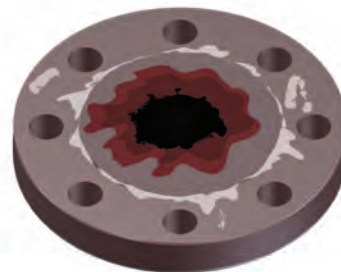
While virgin PTFE is also listed in the HFIP guidelines, its tendency to creep makes it a less effective sealing material.

Although carbon-filled PTFE serves as an efficient sealing material for aggressive chemical processing applications such as hydrogen fluoride, a limited number of manufacturers produce this material — and those who do typically make it very infrequently.

Before



After



TRIANGLE FLUID CONTROLS LTD.



OUR HYDROGEN FLUORIDE-RESISTANT GASKET SOLUTION

Triangle Fluid Controls' Durlon® 9400, a carbon-filled PTFE gasket material, is chemically compatible for service in hydrogen fluoride applications. With proper installation practices, Durlon® 9400 can also serve as a suitable replacement for spiral wound gaskets (SWG).

In chemical environments, where airtight sealability is required, a compressible gasket with good recovery will create a tighter seal. All bolted joints "relax" over time, and some sealing technologies, such as virgin PTFE, are unable to recover their mass once compressed. Durlon® 9400, however, recovers its mass and experiences minimal creep, if installed correctly.



DURLON® 9400 BENEFITS

- **Allowable Material for Hydrofluoric Acid Service**
Carbon-filled PTFE is an accepted material by the HFIPI for use in both Anhydrous and Aqueous Hydrogen Fluoride service. Comparable products, such as those filled with graphite, are not listed as a safe material per the HFIPI.
- **Cost Efficiency**
Working with Durlon® 9400 rather than comparable products can allow for overall cost savings.
- **Skived Manufacturing Process**
 - Products available when clients need them
 - High-purity process; doesn't require use of solvents commonly required in calendared method
 - Fast turnaround times on all orders
 - Less downtime
- **Custom Design Capabilities**
 - Large-dimension welded gaskets
 - Custom shapes
 - Custom sizes and thicknesses
 - Engineering consultation
- **Sheet Length**
 - 60" x 60" with 60" x 120" (flat) sheet sizes available upon request, as well as other custom lengths
 - Better yield, allowing for cost savings
 - Ability to manufacture longer sheets allows for larger gasket yield and overall cost savings

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Working with Triangle Fluid Controls Ltd.

Triangle Fluid Controls (TFC) offers fluid sealing solutions. TFC manufactures custom gaskets for a variety of industries, including chemical processing & refining, pulp & paper, rail tank car, power generation, mining, oil & gas refining, waste & water management, and pharmaceutical. TFC offers high-quality Durlon[®] gasket products, and is known for their hands-on training programs for customers and quality-controlled manufacturing processes.

Contact TFC's gasket experts today to find the right fluid sealing solution for your project.



DISCLAIMER: TFC recognizes that some personal protective equipment (PPE) has been removed from the above image. TFC strongly recommends wearing appropriate PPE for all conditions according to the health and safety policies and practices in place at any given facility.

Contact Us

Literature



Gasket Manual



Product Catalogue



Gasket Application Worksheet

Resource Library

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