Garlock

Case Study: GYLON® Style 3545 Semiconductor Manufacturing

INDUSTRY

Semiconductor

BACKGROUND

A major semiconductor manufacturer utilized expanded PTFE gaskets for their exhaust tool hookup applications. This application involves a mix of chemicals, byproducts, and exhaust fumes.

The flanges in this application are PTFE-coated stainless steel ducting, carbon steel, stainless steel, FRP, and CPVC. Due to the low-load nature of the majority of these flanges, a soft, compressible gasket is required.

CHALLENGES FACED

Fluid permeating through the body of the ePTFE gaskets was commonplace. Leaks frequently occurred in the manufacturer's low-load flange applications, and a better sealing solution was needed.

OPERATING CONDITIONS

Size: 10" x 6 5/8", 7" x 4", 9" x 6", 11" x 8", and 13" x 10", full face

Temperature: 150°F

Application Details: Flange - Non-metallic. Exhaust Tool Hookup. PTFE line systems, carbon steel, stainless steel, FRP and CPVC piping

Pressure: 15 psi

Media: Hydrochloric Acid and Sulfuric Acid, 10-75%, 500°F and below

SOLUTION AND BENEFITS

The manufacturer replaced the ePTFE gaskets with Garlock GYLON® 3545. Since implementing this solution, the manufacturer has had zero issues with leaks in this application. While GYLON® 3545 is similar in feel and compressibility to ePTFE gaskets, its microcellular construction and rigid PTFE center core prevent permeation through the body of the gasket.

Thanks to GYLON® 3545, the semiconductor manufacturer eliminated leaks, improved safety and reliability, and reduced maintenance costs.

For more information, please visit:
http://www.garlock.com

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