Case Study: Reliable Sealing for Large-Diameter Water Lines with MULTI-SWELL® 3760

INDUSTRY

Water Infrastructure – Municipal Potable Water

BACKGROUND

An engineering firm designing a large potable water infrastructure project in the Pacific Northwest needed gasketing that could meet NSF 61 certification, seal under low assembly stress, and be fabricated in large, one-piece formats for up to 84" flanges. Ensuring a reliable seal was critical to the timely commissioning of the municipal water system and compliance with public health regulations.

CHALLENGES FACED

The gaskets would face hydrostatic unloading exceeding 415,000 lbs in the largest flanges and had to seal reliably at reduced bolt loads. Butterfly valves in the system presented additional limitations due to low available torque. A previous attempt with alternative materials raised concerns over long-term sealing reliability under these conditions, risking project delays and potential rework.

OPERATING CONDITIONS

Size: Up to 84" AWWA C207 Pipe Flanges

Temperature: Ambient

Media: Tap water

Pressure: 75 PSI

Application: Pipe flanges and butterfly valves in potable water distribution

SOLUTION AND BENEFITS

Garlock recommended MULTI-SWELL® Style 3760 Compressed Fiber Pipe Flange Gaskets, which are NSF 61–certified and available in 120-inch by 120-inch sheets. This sizing allows for one-piece construction even for 84-inch flanges. The gasket's controlled swell and high compressibility enabled a reliable seal under low stress while maintaining long-term performance under full system pressure.

The customer ultimately selected MULTI-SWELL® for its technical advantages and proven performance in water applications. To address butterfly valve assemblies with limited torque, Garlock also supplied NSF-61 certified Style 98206 EPDM gaskets, optimized for flexibility and performance. The project was completed on schedule with no gasket-related delays, ensuring system integrity and a successful system start-up.

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

GARLOCK
an Enpro Company

Tel: 1-877-GARLOCK / 315.597.4811
www.garlock.com

05.2025