

Case study: High performance gasket for Monomer line

TOMBO™ No. 9007-ML NAFLON™ ML Gasket



Industry

Chemical

Customer

Polymer manufacturer

Background

The customer was producing rubber and resin polymers. They used styrene and butadiene in their process which are known to penetrate gasketing material or to remain in the inner circumference of the gasketing solution. A problem then occurs when the monomers permeate the gasket and polymerize inside, expanding, splitting, and/or blistering the gasket itself. This damage is known as popcorning. Due to popcorning, the gasket is then broken and cannot be used anymore.

Challenges faced

The customer used PTFE gaskets with filler, and although they were aware that the popcorning phenomenon was occurring every time they changed the gaskets, they had no alternative solution. This resulted in frequent replacements and maintenance. This meant equipment shutdown and increased construction costs. The customer needed a gasket that would suppress the popcorning phenomenon and have a long service life against monomer fluids.

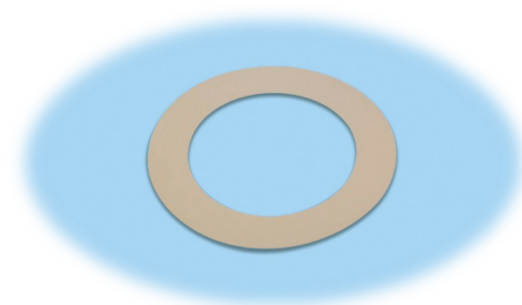
Solution and benefits

To overcome the challenges, NICHIAS selected NAFLON™ ML Gasket. This gasket uses special PTFE as the base material, which is difficult for monomer fluids to penetrate. Furthermore, it contains specific additives that inhibit polymerisation reactions. These are finely dispersed using proprietary mixing technology. The combination is then formed into a sheet from which gaskets of required sizes can be cut.

Although the polymerisation reaction of monomers vary, the NAFLON™ ML Gasket suppresses the popcorning phenomenon in radical polymerisation environments and provides more stable sealing performance over the long term.

In tests conducted on actual equipment at customer site, it was confirmed that the popcorning phenomenon did not occur even after approximately twice the period length of use, thereby extending the service life of the gaskets.

For more information, please visit:
<http://www.nichias.co.jp>



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