CASE STUDY

Chemical Industry

End-User Description
A fertilizer plant, located in Brandon, Manitoba, producing Ammonia, Nitric Acid, Urea-Ammonium Nitrate, Nitrogen, Ammonia Phosphate, Amino Terra Substrate, and Anhydrous Ammonia (source of nitrogen) for the Canadian and US farming industry.

The Challenge
Spiral wound/PTFE filled gaskets were failing in their systems, on a regular basis.

The Solution
Starting in November of 2018, the customer did a trial run on 2 types of gaskets:

Durlon® 9000
Stopped 90% of the flange leaks, and allowed for re-torquing if required, after the process line was up to temperature. The customer found Durlon® 9000 worked really well where temperature was at the upper range as in the ANS (Ammonium Nitrate Solutions) service. 10% did not seal due to the flange irregularities (misalignment and pitting).

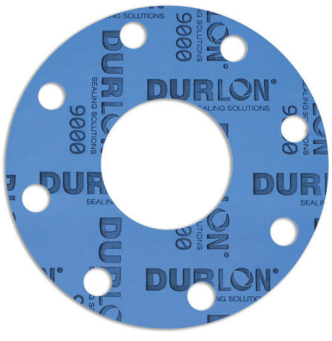
Durlon® Durtec® with 9600 Expanded PTFE Facing and 304SS Core
The customer did a parallel trial in 2 locations of 56-62% Nitric Acid. The Durlon® Durtec® gasket worked even better than Durlon® 9000 and, especially where flange RMS may not have been perfect and/or flange misalignment may have been present.

The Customer's Findings
"The softer gasket facing seems to be the secret. Again, very forgiving when a re-torque or hot-torque is required as the pipelines reached normal operating temperatures."

"After the successful trial, we started stocking and using Durlon® Durtec® with 9600 Expanded PTFE Facing and 304SS Core in January 2020 to line up with our Nitric Acid 304L pipe specification. This is now our "go to" gasket in Nitric Acid service and we are continuing to branch out and see which other services we may test them in."

The Benefits
- Blowout Resistant - Metal core provides excellent resistance to internal pressure spikes
- Reusable - The core may be refaced with new material and reused providing lower cost of ownership
- Superior Core Technology - improved performance and lower life cycle cost
- Easy and safe to handle, easy to install
- Seals tightly with lower bolt loads

Durlon® Durtec® gaskets are made with a specially engineered machined metal core that is bonded on both sides with soft covering layers. The core is produced by proprietary technology that allows the finished gasket to have the best possible mechanical properties that help in maintaining a leak free joint.



Durlon® 9000

Durlon® Product Used
Durlon® 9000
Durlon® Durtec® with 9600 Expanded PTFE Facing and 304SS Core

End-User Industry
Chemical

Media
Nitric Acid, Ammonium Nitrate and Ammonia

Approved Applications:
Nitric Acid 56-62% Concentration
Temperature: Ambient, typical is 70-120ºF
Pressure: <150 psig.
Sizes: 2" to 4", typically Class 150 but approved for sizes 1/2" thru 8" in 150 and 300 Classes

Ammonium Nitrate Solutions up to 88% Concentration
Temperature: up to 350ºF
pH range: 0-8.0

Durlon® Durtec® 9600 with Expanded PTFE Facing and 304SS Core

DURLON® SEALING SOLUTIONS