

Challenge

Background

A large chemical industry customer needed a control-valve packing capable of sealing to the latest allowable emissions limits. A recent consent decree issued by the EPA required they use “Low E” packing technology.

The company was under time constraints imposed by the EPA to develop a plan and document compliance to avoid fines.



Chesterton helps chemical plants around the world meet new stringent emissions standards.

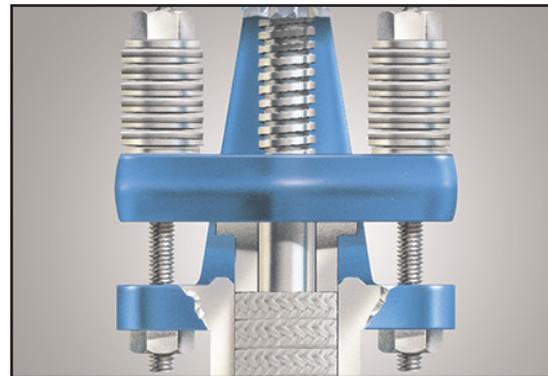
Solution

Product

Chesterton 1724 PTFE Valve Packing with live loading was selected to meet the new emissions limits for Low E valves.

The Chesterton team developed a custom test methodology based on API and ISO protocols adapted for PTFE material temperature limit.

The test involved 25,000 mechanical cycles and 2 thermal cycles using methane and a maximum temperature of 400° F (200° C).

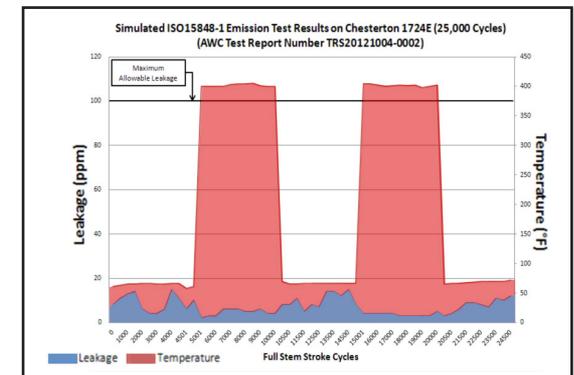


Chesterton 1724 Low E with Live Load Assemblies.

Results

Packing Performance

- All leakage measurements were well below the allowable requirement of 100 ppm
- Average leakage during the ambient temperature static condition: 9 ppm with a maximum leakage reading of 15 ppm
- Average leakage during the static condition was 4 ppm with a maximum leakage reading of 6 ppm
- No retorques were required



Customer was able to develop a plan and documentation to satisfy EPA requirements.