

# Low Emissions Valve Packing

Chesterton Stationary Equipment Sealing Solutions

### 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.

## 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  $400^{\circ}$  F ( $200^{\circ}$  C).

### **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



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



Chesterton 1724 Low E with Live Load Assemblies.



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

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