

*EPA Now Enforcing Consent Decrees*

## Do Your Valves & Packing Technology Meet Compliance Requirements?



**With tighter EPA Fugitive Emission restrictions limiting valve leakage rates to less than 100 ppm and requiring a manufacturer-backed guarantee for a period of five years, valve condition and packing technology is critical.**

The **US Environmental Protection Agency (EPA)** is enforcing Consent Decrees for fugitive emissions in both the HPI and CPI industries. Now is the time to partner with a company that has a comprehensive valve service package: proven valve sealing experience and cutting edge packing technology needed to meet the demands of “Low E” compliance.

### **Why risk costly fines?**

Choose a trusted partner with the experience and proven results. One source has over 45 years of valve sealing know-how and industrial expertise: **Midwest Valve Services**. Simply put, they

have learned what it takes to make valve applications work properly. Valve and packing integrity is critical to safety, equipment longevity, leakage control and overall valve function.



Most valve rebuild shops do an adequate job in making a valve function in the short run, but are less concerned about the key details that contribute to long packing life and leak-free service. However, the best do, and that's why **MVS** has backed up their packing products and services with a five-year leak-free guarantee and have done so for over 30 years. This reputation has made them an industry leader in providing innovative leakage control systems— and in using several packing systems with a track record of success, ranging from fugitive emissions to high-pressure steam service.

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Interior view of the Mobile Valve Shop with valve technician at work in the fully equipped, self-sufficient, 53-foot trailer that visits customer sites for testing and repair.



Above: cross section diagram shows location of packing in valve mechanical design.  
Below: Chesterton packing materials including 1622 low emissions graphite tape are specified for highest reliability.



Midwest Valve Services provides  
**A Comprehensive Solutions Approach**

**Pre-Turnaround Planning includes:**

- In-Plant Valve Surveys
- Pre-Turnaround (TAR) Planning Support & Walk-Downs
- Valve Service Project Management
- Staged Packing Inventory

**Turnaround Services & Onsite Repair:**

- Extraction & Repack
- Live Load & Gland Torque Calculations
  - Android and Apple phone app to calculate torque is available.
- Valve Repair– Specialized in stem & stuffing box repair per American Petroleum Institute (API) Requirements.



Tablet input retains data for verification and history; bar code labels track each asset.

**Documentation & Post-Turnaround Support:**

- Valve ID Tracking
- Valve Packing Population Management

**Style 1622 Packing Features:**

- The only **Certified Low E Packing** manufactured in the USA.
- Highest carbon content, lowest PTFE content, and lowest volatiles in its class.
- Passive corrosion inhibitor
- No hot re-torque required
- Single-spool solution
- API 622 & API 624 compliant
- API 607 Fire-Safe
- Independently tested to provide an average 12 ppm leakage.



**Valve Packing Emission Warranty- Static (Block or On/Off Valves):**

Chesterton warrants valve packing style 1622, installed in accordance to the "Conditions of Warranty", will not leak in greater than 100 PPM above background, as detected pursuant by EPA Method 21, for a period of five (5) years from date of installation (Required for API 622).

- Midwest Valve Services is an authorized and qualified installer; trained on Chesterton 1622.

**Block Valves: Single Spool Low E Solution**

- Effects of galvanic corrosion minimized with passive inhibitor.
- Applicable to both high & low temperature services: Packing is warranted in Service Conditions up to 1500 PSig (100 Barg) and/or 750°F (400°C).
- Simplified inventory & installation with only one packing style.



*Chesterton valve cartridge with live-loading feature to improve packing reliability.*



*Technician extracts old packing from valve with special compressed air & liquid jet packing extractor.*



*Another gate valve repair is completed: repainted, skidded, and ready to ship.*

## ■ Motor-Operated Valves: Live Loading

- Pre-engineered gland load for emissions sealing.
- Cartridge-style live loading provides: visual gland torque verification & stored elastic energy; with minimal stem friction.

## ■ Your Leak Detection & Repair (LDAR) program partner:

When you select a partner like MVS, you benefit from our expertise in providing a complete valve sealing package. Surface finish, dimensional clearance, the overall condition of gland fasteners, packing gland, stuffing box bore, and stem all play a vital role in valve packing seal reliability. MVS will help you achieve successful fugitive emissions control and enhance your LDAR program.

## ■ Valve Packing Extraction & Repack Services

- Extract and repack at rate of 10:1 over conventional methods.
- Remove all packing rings without damaging critical internal surface finishes (approximately 20,000 psi of air and water used to clean stuffing box internals).
- Eliminate need for packing pullers and screw extractors that can score stems & box bores thus creating potential leak paths.
- Use multiple machines for larger jobs: mass extraction allows valves to be set up on scheduled maintenance priority.
- Provide proper inspection of stuffing box internals to identify pitting or corrosion; valves in poor condition are scheduled for repair.

## ■ Documented Component Repair

We save our customers time and money by repairing critical valve components. Stem and box bore repair procedures are in accordance with API requirements. By using industry standard procedures, our repairs ensure consistent quality and reliability.



*We use an X-ray fluorescence (XRF) analyzer for spot screening of metals (shown at left), and a precision industry standard profilometer is used to measure and verify surface finish.*



Precision arc welding is used to make repairs to valve parts and components as needed. Precision stem repair (at far right) shows entire part after welding; stem repair detail shows welded sections before and after grinding and finishing.

**Stem Repair**

Stems are machined to remove damaged areas, receive a weld overlay with suitable material, and are re-machined back to OEM specifications. Stem repairs can be done on-site and within a narrow window during short turnarounds. Repairs allow capability to perform PMI and heat treating.

**Stuffing Box Bore Repair**

Our repairs feature rotary bore-welding and remachining of stuffing boxes to proper packing tolerances and surface finish as required by OEM standards and API specifications. Various materials can be utilized in the repair, based on the conditions of service or OEM specifications.

Contact us today to discuss your upcoming turnaround, valve sealing and repair projects at: [www.mwvalve.com](http://www.mwvalve.com)

*Precision stuffing box repair, features rotary bore-welding and re-machining of stuffing boxes to proper packing tolerances and surface finish as required by OEM standards and API specifications.*

Midwest Valve Services is a Novaspect Company



**Precision Valve Stem Repairs:**

Initial Condition



Undercut Per API 621 Recommended Practice



Rotary Welded to API 621 Recommended Practice



Machined Finish to API 621 Recommended Practice



Threaded Shaft per Original Specs



**MIDWEST VALVE SERVICES**

