



ISO 15848-1  
API 622-2nd  
API 624  
TA-Luft VDI 2440



API 607  
API 6FA



Tested & certified



**AUSTRALIAN  
PIPELINE VALVE®**

ADELAIDE • BRISBANE • PERTH

## Enviro-Seal™ M600 Series (M622) Fugitive Emission Valve Stem Packing



- Ideal for Isolation Valves
- Superior emissions control. Tested to API 622-3rd & ISO 15848-1, API 624-2014 and TA-Luft VDI 2440
- Fire safe tested to API 6FA and API 607
- Ideal for Oil & Gas, LNG, petrochemicals, hot water, gas, hot oil, steam, etc.
- Designed to reduce leakage to under 100ppm

### VALVE STEM PACKING FOR EMISSION REDUCTION

The composite combination set provides the advantages of die formed Inconel wire reinforced braided expanded packing at the top & bottom and die formed, expanded graphite sheet internal rings ensuring compression while still maintaining stability and reducing friction for a wide range of pressure, temperature and service applications. The M600 set expands radially when the gland is tightened, creating a positive valve stem OD seal as well as stuffing box ID seal.

### COMPOSITION

The internal integral rings are composed of low-density, low friction die formed, nearly chemically inert expanded graphite offering thermal flexibility and anti-hardening. Pure graphite packing rings are pre-pressed special packings for high stress valve stem sealing. Pure graphite is a binder-free sealing material with exceptional chemical and physical properties. By also using graphite & Inconel wire reinforced top & bottom rings excellent sealing at high & low temperatures and high pressure is ensured.

### SEALING STRUCTURE

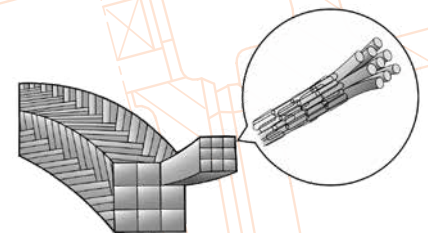
- Expanded pure graphite die formed inner rings provide seal ability in valves as shallow as three-ring cross sections. They are lower friction and unlike woven packing are not prone to tearing or degradation caused by valve stem friction.
- Two die formed graphite scraper and anti-extrusion braided end rings are Inconel reinforced and treated with corrosion inhibitor. They act as wiper rings to restrict graphite particle transfer, prevent extrusion and provide extra resiliency.
- The combined set is designed to ensure low friction & non hardening, low stress relaxation and ensures less movement with temperature variations, lower maintenance and less tightening.
- Improved sealing especially in volatile organic compounds (VOC) and flammable/hazardous gas application.
- Complies with API 622 & API 624 Standards. Tested up to 260°C at 5 thermal cycles (C01).

Enviro-Seal™ M600 series sets are configured to optimise performance in fugitive emission applications. This field proven die formed set design allows a precise fit and easy installation. Less frequent packing tightening ensures maintenance and leakage is reduced.

Enviro-Seal M600 series sets are custom made and die molded to each exact valve packing chamber dimensions, not the 'closest size' cut from a roll.

### END RINGS TOP & BOTTOM

End rings act as wiper rings to restrict graphite particle transfer, prevent extrusion and provide extra resiliency. End rings are made of a high grade flexible braided graphite reinforced with Inconel wire mesh. The packing is highly flexible and has excellent mechanical strength properties. Special impregnation prevents shrinkage and moisture absorption and doesn't generate graphite crumbs, become spongy and internally weaken.



## SPECIFICATIONS

<b>Construction</b>	High purity diamond graphite integral molded middle ring sets; end rings are impregnated with a corrosion inhibitor, made from inconel wire reinforced braided graphite
<b>Temperature</b>	-328°F (-200°C) to 850°F (450°C) (less in oxidising atmosphere) to 1,200°F (660°C) steam (non oxidising)
<b>pH range</b>	0-14 (except strong oxidisers)
<b>Pressure</b>	to 310 Bar (4500 psi)



## RECOMMENDED APPLICATIONS

### Industries

- Chemical industry
- Oil and Gas industry
- Petrochemical industry
- Power plant technology components

Resistant to hot water, super heated steam, flammable & hazardous gases, heat transfer fluid, ammonia solution, oils, low temperature liquid, hydrocarbons, organic solvents, volatile organic compounds, LNG, low temperature fluids, acids and alkalis. Not suitable for use in highly oxidizing acids such as sulfuric and nitric acid in higher concentrations.

