



### Product Description

John Crane 5-ring, test proven emission packing sets EPS-1 and EPS-2 combine John Crane G58I and Crane-foil™ packing to provide the best emission compliant packing available. Test results have proven conclusively that these packing sets will contain valve emissions to below 500 ppm.

- Two high density John Crane G58I graphite die-formed rings form the top and bottom sealing rings. A high strength, high temperature wire mesh encapsulates the yarn, providing additional tensile strength and extrusion resistance. These rings ensure compression of the middle sealing rings and will prevent any packing extrusion.
- Three medium density Crane-foil die-formed rings with internal wave form comprise the center sealing rings which are completely contained between the end rings.

### Performance Capabilities

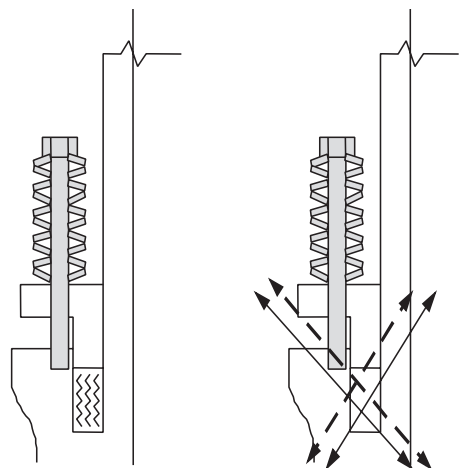
- Temperature: 650°C/1200°F (non-oxidizing atmosphere)  
455°C/850°F (oxidizing atmosphere)
- Pressure: 415 bar g/6000 psig
- pH range: 0-14 (except strong oxidizers)

### Construction/Features

**End Rings** - John Crane's Style G58I rings are manufactured by using a high purity, flexible graphite yarn which is first braided and then die formed into high density end rings. The Crane-foil flexible graphite yarn is reinforced with a high strength, high temperature filament to provide maximum strength for the end ring material. A high temperature wire mesh encapsulates the yarn, providing additional tensile strength and extrusion resistance. The high density rings ensure proper compression of the middle sealing rings while preventing any extrusion of the softer Style 267 sealing rings. G58I makes an excellent end ring and provides even greater performance as a wiper ring in high cycle count services.

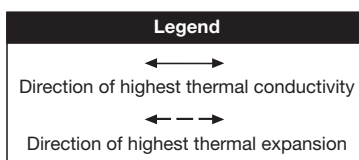
**Middle Rings** - The middle rings are manufactured from John Crane's Style 267 Crane-foil flexible graphite tape which contains a passive inhibitor. The flexible graphite contains no binders and is chemically inert. The rings are die-formed using a unique manufacturing process to ensure that the Crane-foil tape compresses into a wave or W form. The result is a spring like effect, providing increased resiliency. In addition the use of the internal wave form results in sealing rings that expand more equally in all directions, ensuring the maximum possible sealing performance by the elimination of any possible leak paths along the stem or box bore. The multiple fold wave form also ensures there are no internal voids or potential leak paths within or through the ring.

### Construction/Features (continued)



**Continuous W or  
Wave Form**

**Equalized -  
All Directions**



### Applications

John Crane offers a low leakage EPS consisting of a presized set of rings. This set can be either statically loaded or live-loaded. John Crane provides specifications for live-loading that include spring configuration and gland bolt torque requirements calculated for individual valve services.

The packing set comes in two different configurations, EPS-1 and EPS-2.

The EPS-1 packing set consists of five squared rings. This packing set will seal the majority of liquids, light hydro-carbons and gases, encountered in a refinery or petrochemical plant. In addition, EPS-1 is an excellent packing for high temperature, high pressure steam applications.

The EPS-2 packing set is designed with concave/convex middle rings and end rings effectively reducing valve stem torque requirements. This design is recommended for control valves that have a high cycle frequency.

The live-load system provides a constant load on the packing to compensate for thermal expansion or contraction of the valve. In addition, the constant load will compensate for packing wear and consolidation. The end result is the elimination of constant gland adjustment and monthly leak detection and repair programs.

The EPS provides maximum performance whether installed in a new valve or when repacking an installed valve.

Tested to contain valve emissions < 500 ppm

Fire safe - tested per specifications meeting or exceeding API 607 requirements

### Material Specifications

|                       |                                                                               |
|-----------------------|-------------------------------------------------------------------------------|
| Middle Rings (3)      | Style 267 Crane-foil die-formed ring<br>Temperature: 535°C/1000°F<br>pH: 0-14 |
| Braided End Rings (2) | Style G58I (No PTFE)<br>Temperature: 535°C/1000°F<br>pH: 0-14                 |
| Spacer (Bushing)      | Carbon Graphite                                                               |
| Springs (Live-load)   | 17-7 PH Stainless Steel                                                       |