Sealing Systems

EasyPack™

Proven performance, reliability

Superior emissions control

Exceptional leakage control

Maximum extrusion resistance

Fast, easy installation with pre-measured, pre-cut sets for the majority of valves in the industry today

Chesterton EasyPack™ offers end-users the proven performance and reliability of Chesterton valve packings in a conveniently packaged set for fast and easy installation.

EasyPack combines Chesterton's die-formed graphite rings and 1600 end rings for a new five ring set that provides optimum valve sealing capabilites. Chesterton's self-lubricated, low friction, high purity, precompressed, square, die-formed graphite rings are manufactured without any fillers, binders or resins. Each ring is engineered to a specific density of 1.4 g/cc for low initial and in-service consolidation, low compressibility, and low permeability, all of which are necessary to provide optimum valve sealing performance. 1600 is a proven sealing ring, as well as, the most effective anti-extrusion ring in the industry. 15 to 20% compression should be applied to the packing set for reliable sealing.

TECHNICAL DATA

Temperature Limit:
1200°F (650°C)
in steam service
800°F (430°C)
in oxidizing service
Pressure Limit:
5000 psi (345 bar)
Chemical Resistance:
pH 0 – 14
except strong oxidizers
Applications:
All control and block valves.

5800

The patented, high technology solution for modulated, actuated valves

Reduced stem friction lower actuation force needed

Meets API 589 Fire Test

Certifiable for Nuclear Service

Chesterton 5800 wedge packing sets are manufactured from high purity graphite. The die-formed rings are non-absorbent and non-wicking. A corrosion inhibitor is incorporated into the rings to help prevent electrolytic pitting. At elevated system pressures, 5800 gives the added benefit of reduced stem friction while sealing effectively, thus critical control valves with limited torque capabilities can respond more rapidly and precisely throughout the pressure range, up to peak system pressure. 5800 wedge packing sets offer low friction with high performance to eliminate the costly job of changing out the actuator when switching from low friction synthetic packings. 5800 wedge packing with 477-1 inhibited graphite end rings is shown to be a superior emissions control set, able to exceed proposed stringent limits for VOC emission levels. Five-year emissions guarantee available when used with 5150 Live Loading assemblies.

TECHNICAL DATA

Temperature Limit:
5000°F (2760°C)
Pressure Limit:
For steam services between 3000 psi (210 bar) and 4500 psi (310 bar), use 477-1 or 1600 end rings
Chemical Resistance:
pH 0 – 14
Applications:
For nuclear and process industry services to seal MOV's, AOV's and VOC's.

Valve Sealing Program

The Chesterton Valve Sealing Program offers a solution to valve leakage problems associated with conventionally packed valves

Zero leakage rates are obtainable, providing dramatic reductions in maintenance costs.

Live Loading eliminates the need for excessive gland force, continually compensating for in-service packing consolidtion

Valve sealing satisfaction is assured with a Five-Year warranty

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5150 Live-Loading Assemblies
Stacked arrangements of uniquely designed disc springs automatically adjust the gland to maintain constant, optimal sealing pressure on the packing set. Prevents leakage due to aging, consolidation or thermal cycling. Eliminates the need for frequent manual adjustments thereby decreasing costly maintenance time and exposure/contamination levels. Correctly designed and applied live-load assembly is capable of storing many times the elastic energy of standard gland bolts. Maintains optimal leakage control with minimal force, making live-loading especially valuable for motor operated or inaccessible valves. Also aids in valve signature analysis by reducing high frictional loads.

One-Cl
Braided Graphite Rings
Chesterton One-Cl is a low friction, high density graphite packing manufactured from a pure, high quality yarn without any fillers or binders.
It functions as a combination wiper and anti-extrusion ring. One-Cl disperses heat and withstands temperatures to 5000°F (2760°C) in the absence of an oxidizing agent with no apparent weight loss.

5300 (GTPI) Die-Formed Inhibited Graphite Rings
Chesterton 5300 is a self-lubricating, low friction, high purity, precompressed, die-formed ring manufactured from pure graphite ribbon tape without any fillers, binders or resins. Each ring is engineered to produce an accurate specific density for compression resistance, elasticity and retention of size and shape, all of which are necessary to provide the best possible valve sealing performance.

Valve Sealing Program

5300 can withstand temperatures to 5000°F (2760°C) in a non-oxidizing atmosphere. Both One-Cl and 5300 incorporate an inorganic passive inhibitor that reduces the corrosive properties of graphite by producing a protective barrier between the packing and the stem which will not degrade at high temperatures.

5100 Split Carbon Sleeves
Independent testing confirmed by Chesterton Engineering clearly indicates that a five-ring packing set produces optimum valve sealing. To effectively reduce the number of rings in a stuffing box, the Chesterton Program uses a precision machined split carbon sleeve as a spacer in the bottom of the stuffing box. 5100 is manufactured from 99% pure graphite material which has a high compressive strength and a low coefficient of expansion. Four inch lengths are available to fit most stuffing boxes.

772 Premium Nickel Anti-Seize
- On pitted valve stems – its fine dispersion of lubricating solids will lubricate and fill any valve stem roughness to 125 micro inches.
- On spring assemblies – it reduces frictional drag, allowing for even, constant travel from disc springs.
- On bolts – it decreases torque required and allows for easier disassembly of metal components.

Valve Sealing Program for Nuclear and Fossil Plants, Refineries, and Chemical Plants
This program has been proven by years of service in the industry. A Chesterton-trained technical specialist surveys all applicable valves. Information is then cross-checked against the industries largest computerized valve data bank and a specific packing arrangement is engineered for each valve application. A torque value for each valve is computed. Valve sealing materials can be certified to suit the unique requirements of individual nuclear plants. A Chesterton trained specialist is available on-site prior to and during outages.

The Chesterton Live Loading program provides automatic gland adjustments to keep packing sets under constant pressure, thereby reducing the chance of valve packing blowouts due to line pressure surges. It seals against vacuum, thus eliminating air ingestion problems.

A five-ring packing set decreases installation time, thus eliminating costs of unnecessary packing materials, reduces labor required to unpack deep stuffing boxes, minimizes hysteresses of motor operated and air operated control valves. Low levels of contaminants in Chesterton packing materials reduce the likelihood of stress corrosion cracking. The packing material contains a passive corrosion inhibitor, virtually eliminating valve stem pitting.

In-plant training seminars are conducted by Chesterton trained technical sealing device specialists.

5700B

Split Bronze Bushing acts as a bearing to maintain lance tube concentricity

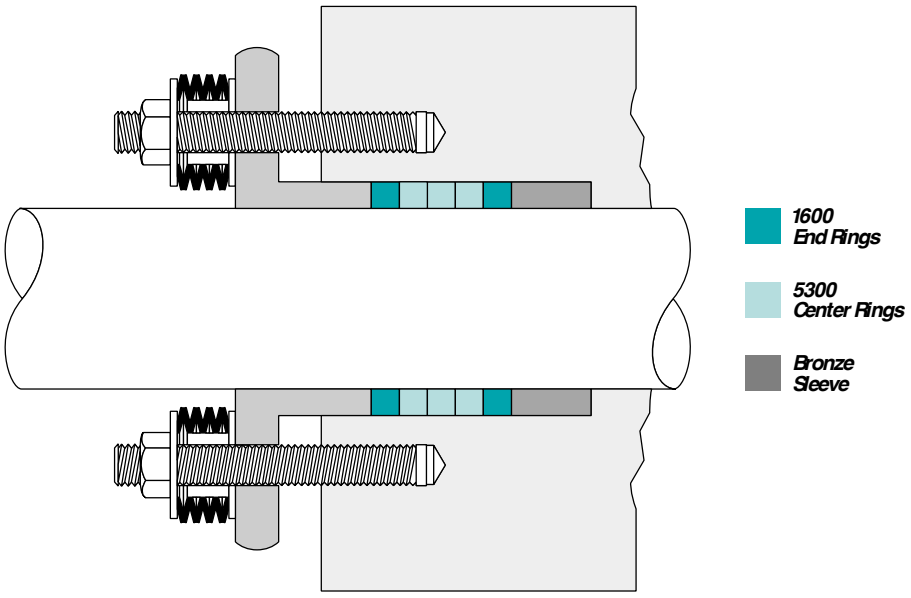
Provides longer service life

The new 5700B sootblower set combines Chesterton exclusive materials to seal the stuffing box. 5700B Sootblower kits include 5300 GTP sealing rings, 1600 end-rings, 5150 Live Loading Assemblies and a new Split Bronze Bushing. The main sealing rings of 5300 GTP Die-Formed, Inhibited Graphite Rings are self-lubricating, low friction high purity. Manufactured from pure graphite ribbon tape without any fillers, binders or resins. Each ring is engineered to an accurate specific density for compression resistance, elasticity, and retention of size and shape, all of which are necessary to provide the best possible sealing performance. The 1600 end rings add both sealing and anti-extrusion properties to the five ring set. The 5150 Live Loading Assemblies are used to maintain constant gland load while compensating for in-service consolidation of the packing. The split bronze bushing is used to reduce stuffing box depth while acting as a bearing to maintain lance tube concentricity to the stuffing box in blowers that require more than a conventional 5-ring set of packing.

TECHNICAL DATA

Chemical Resistance:
Not recommended for use with highly ionized reducing acid, and hydrochloric acids at elevated temperatures.

Applications:
For use in sootblower applications to 400 psi (28 bar).



3000

Exclusive materials provide resilient, self-lubricating, extrusion resistant sets

Resilient tapered lips for positive sealing

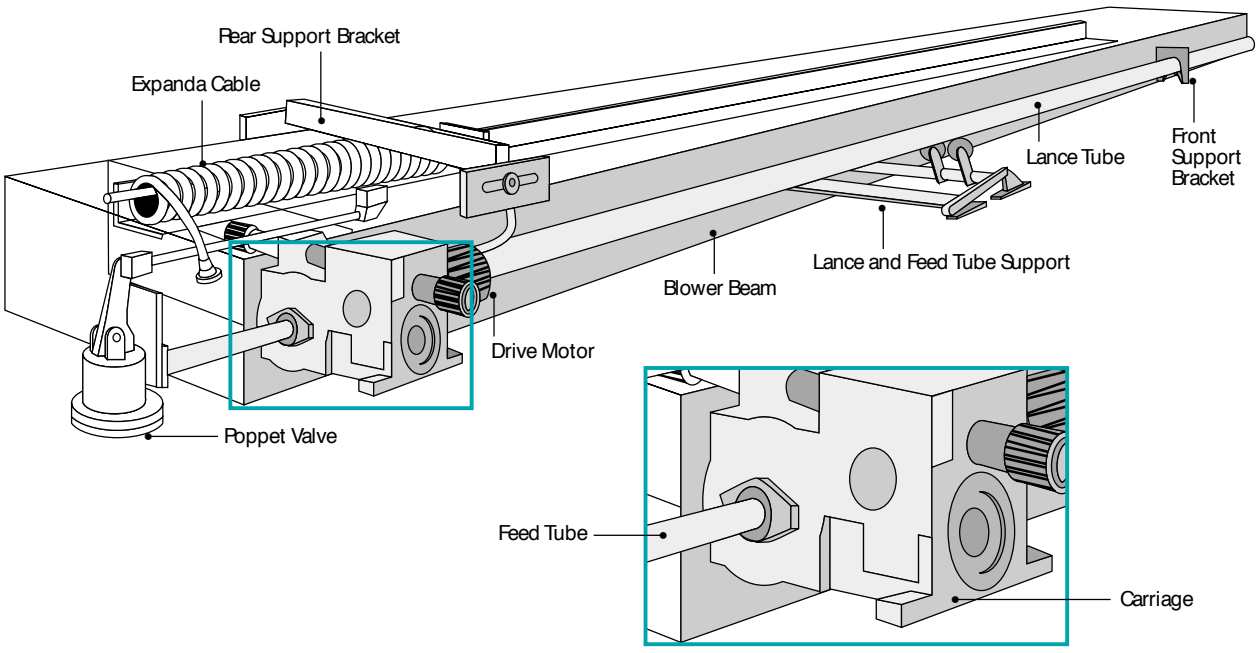
Bendable cut rings for easy installation

Up to 50% longer life than braided sets, no braided material to wear out or fray away

Chesterton 3000 Soot Blower Sets are molded from an exclusive mixture containing graphite and PTFE along with other materials. 3000 sets are designed with a thicker than usual top ring to act as a bearing for the set and to resist extrusion. All rings are split to go over the rod without being deformed. Exclusive Chesterton formulation and processing allows rings to slip over rod and return to their molded contour without cracking. Sealing rings are designed so the top of each ring protects the ring above it. This eliminates the majority of lip damage normally associated with early set failure. Sealing ring lips expand inward and outward as increased gland pressure is applied. The tapered lip design allows the rings to respond readily to steam pressure, assuring increased sealing efficiency and longer life during operation. Individual sealing rings expand under bolt loading to maintain a tight, virtually leak-proof set with up to 50% longer service over braided styles.

TECHNICAL DATA

Temperature Limit:
500°F (260°C)
Chemical Resistance:
pH 0 – 14
Applications:
For use against water, steam, acids and alkalies, solvents and gases.



5500

Automatically maintains uniform clamping force

Compensates for thermal expansion and contraction

Absorbs vibrational shock

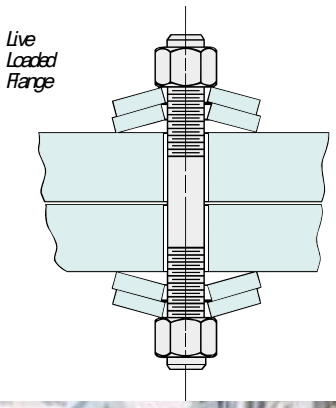
Dampens effects of common pressure surges, preventing gasketing blowouts

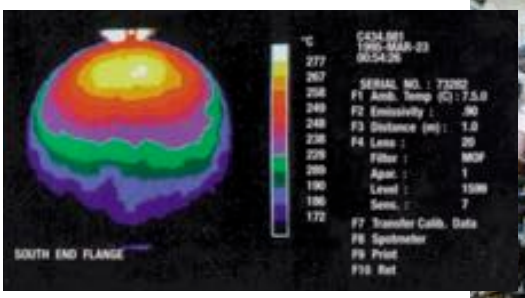
CHESTERTON 5500 Flange Bolt Disc Springs are manufactured from a specialized stainless steel alloy. This material was chosen because it exhibits the best characteristics against stress corrosion cracking. Bolted, gasketed joints that are subjected to mechanical shock, pressure surges or thermal expansion and contraction are prone to leakage. Disc springs, because they are an elastic mechanical element, compensate for these factors by maintaining bolt force under these conditions.

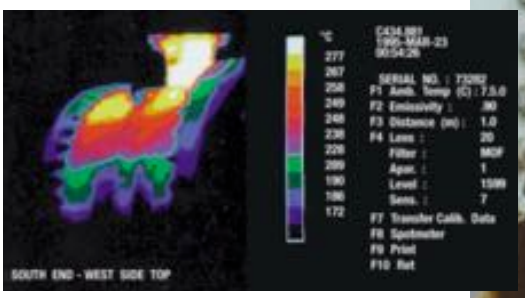
NOTE:
Materials are available for higher temperatures and pressures, as well as severe chemical services.

TECHNICAL DATA

Temperature Limit:
575°F (300°C)
Applications:
Manway and handholes bolted bonnet valves, gage glasses, condensers and other heat exchangers.







5900

Chesterton 5900 Graphite High Pressure Bonnet Seals offer end users in the power industry improved reliability and leak tightness of pressure seal bonnet joints. These new Graphite High Pressure Bonnet Seals are applicable for use on valves with screwed and bolted bonnets in steam and water. 5900 High Pressure Bonnet Seals are also available with metal end caps.

TECHNICAL DATA

Temperature Limit:
1200°F (650°C)
Pressure Limit:
4200 psi (290 bar)

Conform easily to the valve's body and bonnet

Maintain excellent anti-extrusion properties

Require significantly lower pressure to seal

Enable easy removal without damage to the valve body