

MECHANICAL PACKING AND GASKET CATALOG

ENVIRONMENTALLY FRIENDLY SEALING SOLUTIONS







CHESTERTON®
Global Solutions, Local Service.

Valve Sealing System

A complete approach to valve sealing for nuclear and fossil plants, refineries, and chemical plants

This system 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 one of the industries' largest computerized valve data banks, 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 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, 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.

- **The Chesterton Valve Sealing System 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 consolidation**
- **Valve sealing satisfaction is assured with a Five-Year warranty**



5150 Live Loading Assembly

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, decreasing costly maintenance time and exposure/ contamination levels. The 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.



5150 Cartridge Valve Live Loading

The cartridge is a 5150 assembly outer container engineered for a valves's specific operating parameters. This results in the correct load being applied to the 5150 assembly based on cartridge height. The stainless steel cartridge makes installation and maintenance easier.



One-CI Braided Graphite Rings

Chesterton One-CI 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-CI disperses heat and withstands temperatures to 2760°C (5000°F) in the absence of an oxidizing agent with no apparent weight loss.



5300 (GTPI) Die-Formed Inhibited Graphite Rings

3x 100.00x125.40x12.70

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.

5300 can withstand temperatures to 2760°C (5000°F) in a non-oxidizing atmosphere. Both One-CI 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 that 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 system 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.

1x 100.00x125.40x101.60 SOLID



1600

2x 100.00x125.40x12.70 SKIVE

Reinforced Graphite Tape

Chesterton 1600 features advanced construction for superior leakage control and high integrity. Layers of graphite tape are plied into compact strands. Each strand is reinforced with an Inconel® wire mesh covering. Strands are square plait braided to form a dense but pliable packing. It is further enhanced with blocking agents. The packing's exterior is then densely impregnated with lubricating agents to reduce stem friction and a corrosion inhibitor to prevent pitting.

Product Reorder

Size		Packaged ± 10%		Reorder Number
mm	Inch	kg	lbs	
3,0	1/8	0,908	2	035002
4,0	–	0,908	2	035004
5,0	3/16	0,908	2	035006
6,0	–	0,908	2	035008
6,5	1/4	0,908	2	035010
		2,270	5	035011
8,0	5/16	0,908	2	035013
		2,270	5	035014
9,5	3/8	0,908	2	035016
		2,270	5	035017
		4,540	10	035018
10,0	–	0,908	2	035020
		2,270	5	035021
11,0	7/16	0,908	2	035023
		2,270	5	035024
12,0	–	2,270	5	035026
12,5	1/2	0,908	2	035028
		2,270	5	035029
		4,540	10	035030
14,0	9/16	2,270	5	035032
		4,540	10	035033
16,0	5/8	4,540	10	035035
17,5	11/16	4,540	10	035037
19,0	3/4	4,540	10	035039
22,0	7/8	4,540	10	035041
25,5	1	4,540	10	034943



- **Superior emissions control over thousands of cycles**
- **Fire safe: passes API 589 standards at API 607 temperatures and pressures as tested by an independent laboratory**
- **Easy installation and extrusion resistance in a single-spool packing**
- **Proven in high pressure, high temperature steam service**

Technical Data

Temperature Limit:
650°C (1200°F) steam
455°C (850°F) oxidizing environment

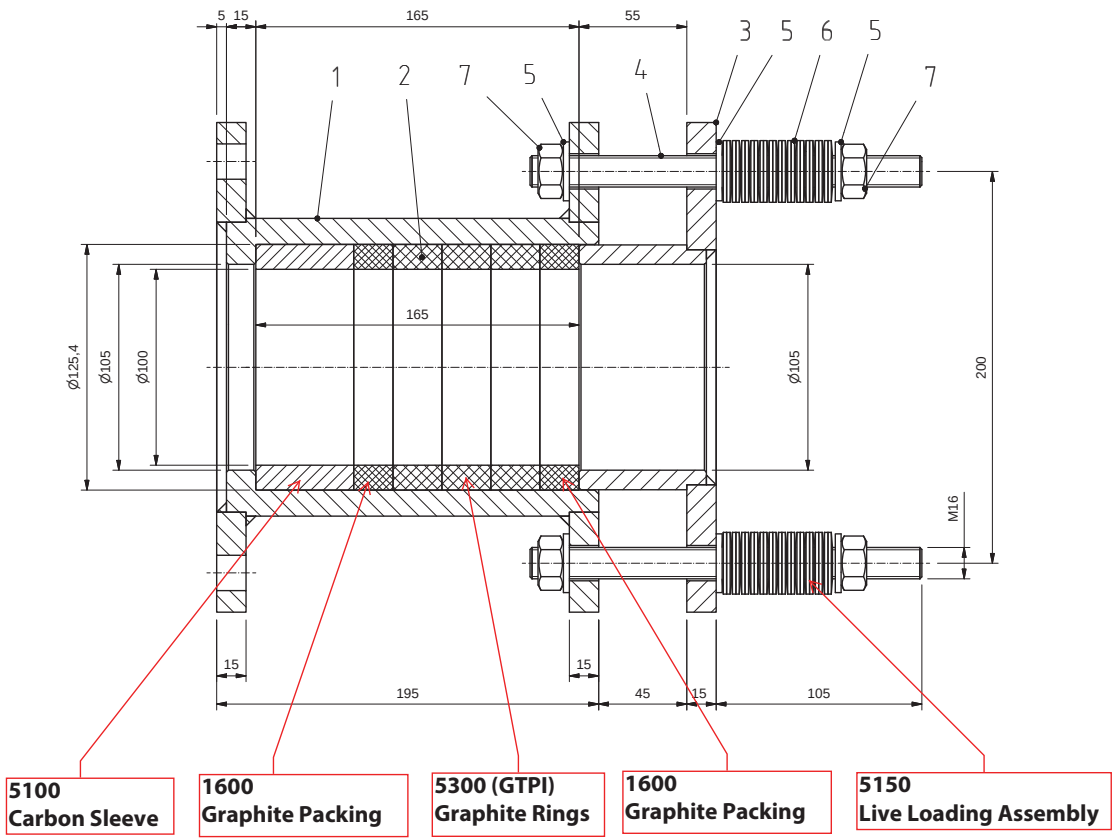
Pressure Limit:
580 bar g (8400 psig)

Chemical Resistance:
pH 0 to 14 except in strong oxidizers

Applications:
All control and block valves

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A-A (1 : 2)


5
15
165
55
1
2
7
5
4
3
5
6
5
7
165
Ø125.4
Ø105
Ø100
Ø105
200
M16
15
15
195
45
15
105
5100
Carbon Sleeve
1600
Graphite Packing
5300 (GTPI)
Graphite Rings
1600
Graphite Packing
5150
Live Loading Assembly

GLOBAL SOLUTIONS, LOCAL SERVICE

Since its founding in 1884, the A.W. Chesterton Company has successfully met the critical needs of its diverse customer base. Today, as always, customers count on Chesterton solutions to increase equipment reliability, optimize energy consumption, and provide local technical support and service wherever they are in the world.

Chesterton's global capabilities include:

- Servicing plants in over 100 countries
- Global manufacturing operations
- More than 500 Service Centers and Sales Offices worldwide
- Over 1200 trained local Service Specialists and Technicians

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KEEPING THE PLANET CLEAN
CHESTERTON

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DISTRIBUTED BY:

860 Salem Street
Groveland, MA 01834 USA
Telephone: 781-438-7000
Fax: 978-469-6528
www.chesterton.com

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