

PACKING AND GASKETS

PRODUCT CATALOG



**Packing for Pumps,
Agitators, and Mixers**



Packing for Valves



**Gaskets for Flanges
and Heat Exchangers**

Increase Safety and Uptime While Reducing Costs

Equipment Solutions

At Chesterton® we strive to be more than suppliers; we pride ourselves on becoming partners with our customers to provide sealing solutions to improve reliability, safety, and compliance. With a combination of best-in-class sealing products and our deep product and industry knowledge, Chesterton has all the tools needed to select and install the right product for your needs. Our global presence with local service means that our expertise will always be available and responsive to your needs. Our wide and deep range of products ensures that we'll have a solution—whether you're sealing water, heavy hydrocarbons, or aggressive acids and bases.

Advantages

- Engineered valve packing solutions for maximum reliability
- Achieve valve fugitive emissions sealing compliance
- World-class testing to verify performance
- Engineered solutions for critical flanges
- Vast, in-field experience with live loading valves and flanges
- Diverse product portfolio to provide total stationary equipment solutions

Packing

Our advanced packing uses the latest in fiber, lubricant, and braiding technology to deliver superior leakage control. Our fibers are individually coated with lubricant before braiding, thus eliminating wicking and providing superior blocking for longer, leak-free performance and lower life-cycle costs for your valves and pumps.

With a state-of-the-art valve testing facility Chesterton conducts both API and ISO test protocols, and provides a wide range of services to many valve manufacturers. With the ability to simulate many critical applications, we can help you choose the right valve and packing for your needs.

Gaskets

Many factors must be considered when choosing the proper gasket for an application including safety, temperature, pressure, the media to be sealed, equipment conditions, versatility of the product, and cost. Chesterton's wide range of gasket products means that we can address flange sealing needs from water to critical high-temperature, high-pressure process conditions.

Live Loading

Chesterton's Live Loading technology is an engineered solution to your specific equipment and process conditions for valve packing, pump packing, and bolted gasketed joints that are subject to mechanical shock, pressure surges, and/or thermal expansion and contraction. Chesterton was the first company to successfully apply Live Loading technology, and we have a vast amount of in-field experience providing solutions to keep valves and flanges leak-free despite harsh or variable process conditions.

When dealing with critical equipment, whether due to safety, process-critical equipment, or regulatory compliance, having a team of experts with the right tools is vital.



TABLE OF CONTENTS

PUMP PACKING

Solutions for Rotating Equipment	4-5
DualPac® 2211	6
DualPac® 2212	7
329	8
370	9
412-W	10
425	11
477-1T	12
1725A	13
1727	14
1730	15
1730SC	16
1740	17
1760	18
1765	19
1830	20
1830-SSP	21
CMS 2000	22
SuperSet™	23-25

VALVE PACKING

Solutions for Stationary Equipment	26-27
477-1*	28
1400R™ *	29
1600	30
1601	31
1622	32
1724™	33
1724 Low E	34-35
1726	36
GraphMax™ *	37
3000	38
5800	38
5800E	39
5800T	40
5900	41
Valve Live Loading	
Valve Sealing System	42
5300	43
5150	43
5100	43
5800E Kit.....	44-45
5800T Kit.....	46
5700/5700B	47

GASKETS

Flange Sealing Solutions	48-49
Rubber Sheet Gaskets	
100	50
119	50
122NN	51
124	52
359	52
PTFE Gaskets	
ECS-B	53
ECS-T	53
ECS-W	53
184	54
185	55
Graphite Sheet Gaskets	
459	56
199	57
Semi Metal Gaskets	
Steel Trap™	58
Camprofile	58
Spiral Wound	58
Compressed Non-Asbestos Gaskets	
450.....	59
195	60
455.....	61
457.....	62
Flange Springs	
5500	62
5505H	62
Manway Sealing	63

TOOLS

174 Packing Knife.....	64
176 Tamping Tools	64
178 Ring Packing Cutter	64
179 Gasket Cutter and Accessories.....	64
242 Stiff Packing Extractors	65
253 Flexible Packing Extractors	65
Sure-Cut Packing Cutter	65
Water Jet Packing Extractor	65

PRODUCTS BY INDUSTRY

Products by Industry	66-70
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* Packing can be used for rotating and stationary equipment.

Chesterton® Solutions for Rotating Equipment

Whether advanced shaft sealing, gearbox protection, or protective coatings, Chesterton provides the total solution for improved pump reliability.



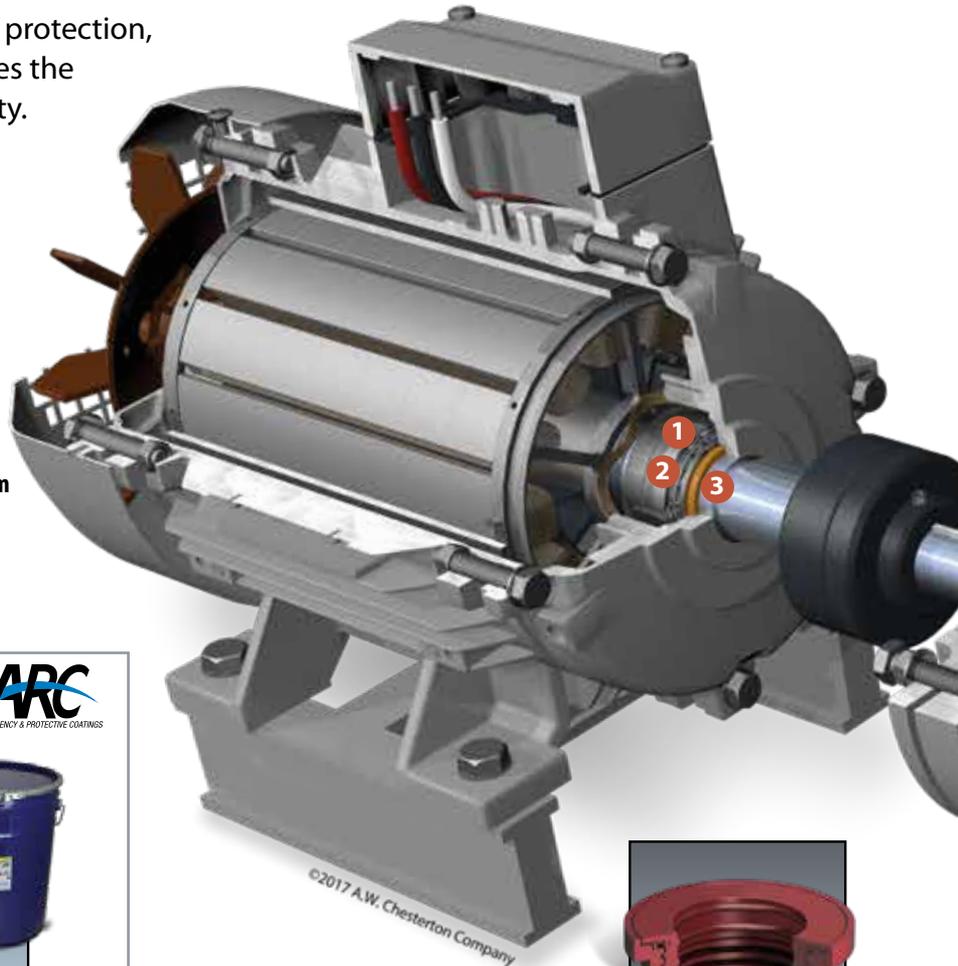
1 Advance Lubrication Technology

Chesterton's QBT technology. Extends bearing life. Resists wear, load and corrosion.



2 Automatic Microprocessor Controlled Dispensing System

Delivers precise volumes of lubricant. Simple to use and install.



3 Polymer Labyrinth Seal

Labyrinth seal for pumps, motors, and gearboxes

Other ARC Efficiency and Protective Coatings Products



Machinable Composite

Rebuild and protect worn shafts



Protective Coating

for Concrete & Metals
Protect pump base plate, frame and pump base

Other Maintenance and Repair Products



Cold Galvanizing Compound

Micronized particles of pure zinc protects against Galvanic Corrosion. Use on bolting, weld seams and supports.



Anti-seize

Protect against rust and seizure bolts as well as prevent fretting and corrosion while securing bearings



Thread Sealing

High performance PTFE tapes and paste



Gasketing

Make any size gasket with Moldable Polymer Gasketing

4 Bearing Protection
Protect the bearing housing with high performance bearing seal



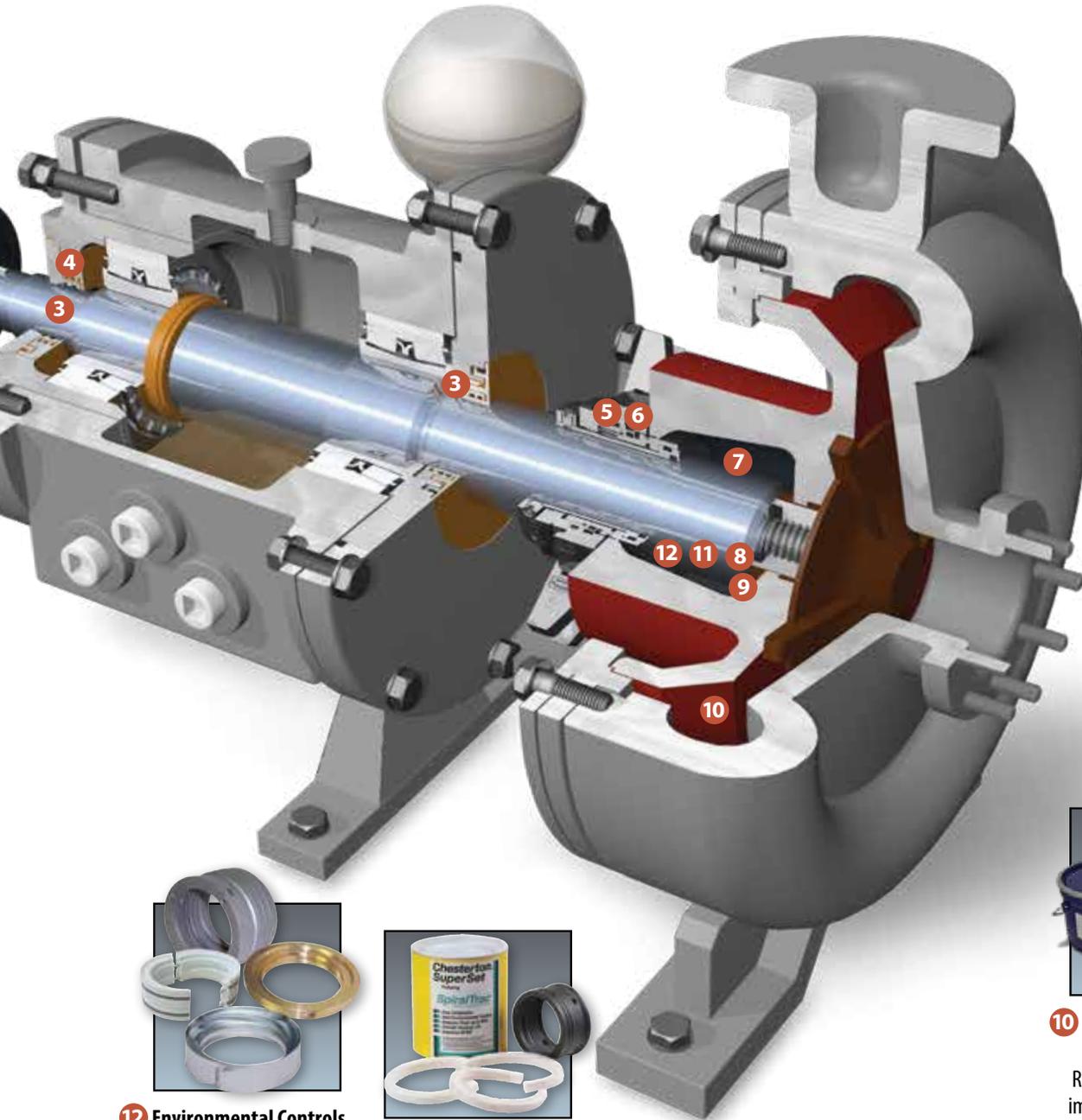
5 Split Seals
Superior performance with easy installation



6 Cartridge Seals
Upgrade seal performance with Single Cassette Seals or S20 Dual



7 Pump Packing
Reduce maintenance costs and sleeve wear



8 Restriction Bushings
Protect the stuffing box and reduce the flush rate



9 Stuffing Box Sealing
High reliability stuffing box sealing solutions for high viscosity fluids and powders



10 Protective Coatings for Metals
Rebuild, restore and coat impeller vanes and volute



12 Environmental Controls
Reduce abrasive particles in the stuffing box and extend seal and packing life



11 SuperSet™
Upgrade to the enhanced packing system to extend equipment life

DualPac® 2211

Severe Slurry Packing

By inventing a new braiding process, Chesterton has successfully combined ePTFE and aramid fibers in a unique configuration, thus allowing low-friction fibers to seal the shaft and resilient fibers to provide strength and anti-extrusion benefits. Combined in this way, DualPac 2211 provides all of the performance advantages of ePTFE and aramid without the compromises of traditional mixed fibers packing.



Technical Data

Material	ePTFE and aramid
Applications	For use in ore slurries, mineral handling, dewatering tailing pumps, and other slurry processing applications.
Pressure Limit	20 bar g (300 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 3 – 11

DualPac® 2211 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
9.5	3/8	0.908	2	382074
		2.270	5	382075
		4.540	10	382076
10.0	–	0.908	2	382077
		2.270	5	382078
11.1	7/16	0.908	2	382079
		2.270	5	382080
12.0	–	0.908	2	382081
		2.270	5	382082
12.7	1/2	0.908	2	382083
		2.270	5	382084
		4.540	10	382085
14.3	9/16	2.270	5	382086
		4.540	10	382087
15.9	5/8	4.540	10	382088
17.5	11/16	4.540	10	382089
19.1	3/4	4.540	10	382090
20.0	–	4.540	10	382091
20.6	13/16	4.540	10	382073
14.0	–	4.540	10	382092
22.2	7/8	4.540	10	382093
23.8	15/16	4.540	10	382094
25.4	1	4.540	10	382095

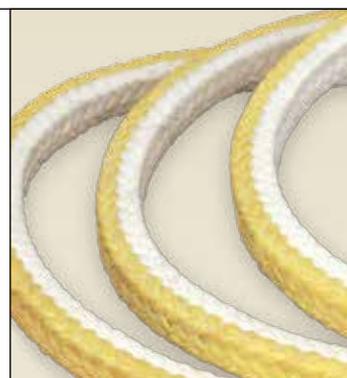


- Significantly longer packing life achieved using patented DualPac® braiding technology
- Multiple configurations to eliminate the need for end rings
- Exclusive design using DualPac Technology

DualPac® 2212

High Performance Multi-Purpose Packing

Chesterton® DualPac 2212 is built with our patented DualPac technology that combines a burn-resistant material on the packing's shaft side with a highly resilient outer fiber. This formulation creates a unique, long-lasting packing that expands easily under gland load which keeps the packing internally loaded against the rotating member while, at the same time, resisting burning and shaft scoring. DualPac 2212 gives users peace of mind in the toughest sealing applications.



Technical Data

Material	Synthetic fibers with lubricants and blocking agents
Applications	Demanding rotating equipment such as agitators, mixers, stock pumps, sludge pumps, slurry pumps, and process pumps.
Pressure Limit	35 bar g (500 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 3–11

DualPac® 2212 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
9.5	3/8	0.908	2	395279
		2.270	5	395280
		4.540	10	395281
10.0	–	0.908	2	395282
		2.270	5	395283
11.1	7/16	0.908	2	395284
		2.270	5	395285
12.0	–	0.908	2	395286
		2.270	5	395287
12.7	1/2	0.908	2	395288
		2.270	5	395289
		4.540	10	395290
14.0	–	4.540	10	395291
14.3	9/16	2.270	5	395292
		4.540	10	395293
15.9	5/8	4.540	10	395295
17.5	11/16	4.540	10	395296
19.1	3/4	4.540	10	395297
20.0	–	4.540	10	395298
20.6	13/16	4.540	10	395299
22.2	7/8	4.540	10	395300
23.8	15/16	4.540	10	395301
25.4	1	4.540	10	395303



Increase your pump packing performance with DualPac 2212

- Heat-resistant fibers will not burn up at higher shaft speeds
- High-pressure capabilities
- Non-staining
- Superior sealing and extrusion resistance in one packing
- Lower power consumption than traditional packing
- User-friendly: easy to cut, install, and maintain

DualPac Technology Advantages

- Significantly fewer gland adjustments than traditional packing
- Simplifies your inventory: you can use the same packing for end rings and sealing rings
- Better utilization of gland load in sealing configuration
- Minimizes shaft scoring
- Requires less overall maintenance

329

Stern-Lon™ Flax Packing

Chesterton 329 is square-plait braided to provide an unusually flexible, formable packing. The base fiber in Stern-Lon is a long-fibered, roved flax of the highest quality. The packing is graphite-free to avoid galvanic corrosion on shafts. 329 is first impregnated with concentrated PTFE dispersion to promote non-flowing lubricity and to retard degradation.



Technical Data

Applications	Marine: Stern tubes, rudder posts, shaft bulkhead glands, and cold water Pulp and Paper: Jordans, claffins, hydro-finers
Pressure Limit	20 bar g (300 psig)
Shaft Speed	5 m/s (1000 fpm)
Temperature Limit	135°C (275°F)
Chemical Resistance	pH 6 – 8

329 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
6.5	1/4	2.270	5	032973
8.0	5/16	2.270	5	032974
9.5	3/8	2.270	5	032975
		4.540	10	032981
11.0	7/16	2.270	5	032977
12.5	1/2	2.270	5	032979
		4.540	10	032983
14.0	9/16	2.270	5	032980
		4.540	10	032984
16.0	5/8	4.540	10	032985
17.5	11/16	4.540	10	032986
19.0	3/4	4.540	10	032987
20.5	13/16	4.540	10	032988
22.0	7/8	4.540	10	032989
24.0	15/16	4.540	10	032993
25.5	1	4.540	10	032994

- Suitable for stern tube and paper mill packing
- Graphite-free packing
- Square braid construction

370

Heat-Dissipating High Grade Carbon Yarn Packing

A premium carbon yarn heat-dissipating pump packing for maximum plant-wide reliability.

Technical Data	
Material	High quality carbon yarn incorporated with particles of pure graphite, high-temperature tolerant oils, and molybdenum disulfide
Applications	Pulpers, stock pumps, agitators, fan pumps, vacuum pumps, condensate pumps, screw feeders, and refiners
Pressure Limit	35 bar g (500 psig)
Shaft Speed	18 m/s (3600 fpm)
Temperature Limit	315°C (600°F) steam
Chemical Resistance	pH 0 – 14 except oleum, fuming nitric acid, aqua regia and fluorine

Note: Can be certified to less than 200 ppm leachable chloride. Consult factory for specific chemical assay.



- For high-temperature seal conditions
- Fast break-in
- Controls leakage with minimal friction
- Reduced leakage and flushing
- PTFE-free

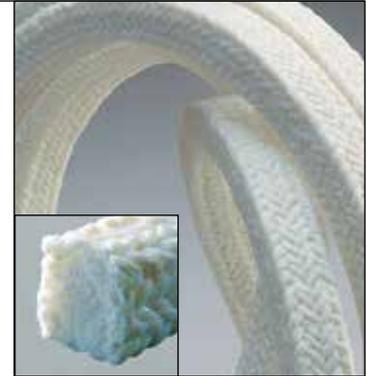
370 Ordering Information				
Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	037060
5.0	3/16	0.908	2	037062
6.0	–	0.908	2	037063
6.5	1/4	0.908	2	037064
		2.270	5	037073
8.0	5/16	0.908	2	037065
		2.270	5	037074
9.5	3/8	0.908	2	037066
		2.270	5	037075
		4.540	10	037081
10.0	–	0.908	2	037067
		2.270	5	037076
11.0	7/16	0.908	2	037068
		2.270	5	037077
12.0	–	2.270	5	037078
12.5	1/2	0.908	2	037070
		2.270	5	037079
		4.540	10	037083
14.0	9/16	2.270	5	037080
16.0	5/8	4.540	10	037085
17.5	11/16	4.540	10	037086
19.0	3/4	4.540	10	037087
22.0	7/8	4.540	10	037089
25.5	1	4.540	10	037094
38.0	1-1/2	4.540	10	037022

ARG™ is a trademark of American Refining Group, Inc.

412-W

Multi-Service Packing

Chesterton 412-W combines a newly developed synthetic composite yarn with a specially formulated break-in lubricant. Continuous filament center provides ten times the tensile strength of typical packing fibers. Fibrous covering enables 412-W to absorb twice the PTFE blocking agents of conventional packings. Chesterton interbraid construction helps prevent migration of blocking agents so that 412-W maintains density to inhibit wicking throughout its service life. 412-W also incorporates a purified colloidal lubricant to prevent failure at start-up and maintain continuous lubrication throughout the break-in process.



Technical Data

Applications	Mild acid and alkali services, knife gate valves due to superior conformability, Paper mills: Stock pumps, Wastewater and sewage plants, Municipal water plants Mining: Slurry applications, Oil field services: Drilling mud pumps
Pressure Limit	17 bar g (250 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	240°C (450°F)
Chemical Resistance	pH 4 – 10

412-W Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	004127
5.0	3/16	0.908	2	004129
6.0	–	0.908	2	004131
6.5	1/4	0.908	2	004101
		2.270	5	004102
8.0	5/16	0.908	2	004105
		2.270	5	004106
9.5	3/8	2.270	5	004108
		4.540	10	004109
10.0	–	0.908	2	004133
		2.270	5	004134
11.0	7/16	2.270	5	004112
12.0	–	0.908	2	004136
		2.270	5	004137
12.5	1/2	2.270	5	004114
		4.540	10	004115
14.0	9/16	2.270	5	004139
		4.540	10	004140
16.0	5/8	4.540	10	004117
17.5	11/16	4.540	10	004142
19.0	3/4	4.540	10	004119
20.5	13/16	4.540	10	004144
22.0	7/8	4.540	10	004121
24.0	15/16	4.540	10	004146
25.5	1	4.540	10	004123

- Pure white packing constructed of exclusive ARG™
- Unique inorganic blocking agent stops gas/liquid penetration into the synthetic yarn
- Superior tensile strength for durability and extrusion resistance
- Unique fibrous structure holds twice the PTFE blocking agent of traditional fibers

425

Economical Food Processing Packing

Manufactured using a virgin PTFE filament and a white oil lubricant. Complies with the USDA and FDA requirements for minimal food contact carbon resins.

Technical Data	
Material	PTFE filament with white oil lubricant
Applications	All types of equipment in the food processing and handling industry such as: valves, cookers, blenders, agitators, pumps, and mixers
Pressure Limit	14 bar g (200 psig)
Shaft Speed	6 m/s (1200 fpm)
Temperature Limit	230°C (450°F)
Chemical Resistance	pH 0 – 14



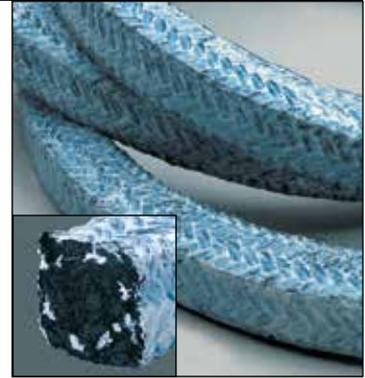
425 Ordering Information				
Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
5.0	3/16	0.908	2	042514
6.5	1/4	0.908	2	042515
		2.270	5	042516
8.0	5/16	0.908	2	042517
		2.270	5	042518
9.5	3/8	0.908	2	042519
		2.270	5	042520
10.0	-	0.908	2	042550
		2.270	5	042551
11.0	7/16	2.270	5	042552
12.0	-	These sizes are available upon request.		
12.5	1/2	0.908	2	042553
		2.270	5	042554
		4.540	10	042555
14.0	9/16	2.270	5	042556
16.0	5/8	4.540	10	042557
19.0	3/4	4.540	10	042558
22.0	7/8	4.540	10	042559
25.5	1	These sizes are available upon request.		

- Meets USDA requirements
- Meets FDA requirements 21 CFR 178.3620(a) and 21 CFR 177.1550
- For use in valves, pumps, and other rotating equipment

477-1T

Chemically-Resistant Carbon Yarn Packing

Chesterton 477-1T is a tough, yet pliable, continuous filament carbon yarn packing impregnated throughout with PTFE to provide a non-contaminating, non-staining carbon yarn packing. Developed for tough applications in the pulp and paper industry. The 477-1T is specially designed to be used in both stationary and rotary applications including high-pressure feeders, pre-steaming vessels, and applications that are moving abrasive slurries. This packing's combined force of carbon yarn and PTFE dispersions increases its chemical resistance against strong caustic and acid mediums.



Technical Data

Applications	For use in pulp and paper, pre-steaming vessels, high and low pressure feeders, grinding stone, hydropulpers, agitators, and mixers
Pressure Limit	14 bar g (200 psig)
Shaft Speed	10 m/s (2000 fpm); 15 m/s (3000 fpm) When used as a bottom anti-extrusion ring with 1400R
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14 except strong oxidizers

- Non-contaminating, non-staining carbon yarn packing
- Unique inorganic blocking agent stops gas/liquid penetration
- Molybdenum-based corrosion inhibitor resists stem pitting

477-1T Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	004346
5.0	3/16	0.908	2	004348
6.0	–	0.908	2	004349
6.5	1/4	0.908	2	004350
		2.270	5	004351
8.0	5/16	0.908	2	004352
		2.270	5	004353
9.5	3/8	0.908	2	004354
		2.270	5	004355
		4.540	10	004356
10.0	–	0.908	2	004357
		2.270	5	004358
11.0	7/16	0.908	2	004359
		2.270	5	004392
12.0	–	0.908	2	004395
		2.270	5	004396
		4.540	10	004413
12.5	1/2	0.908	2	004397
		2.270	5	004399
14.0	9/16	2.270	5	004415
		4.540	10	004417
16.0	5/8	4.540	10	004418
17.5	11/16	4.540	10	004446
19.0	3/4	4.540	10	004447
20.5	13/16	4.540	10	004448
22.0	7/8	4.540	10	004449
24.0	15/16	4.540	10	004450
25.5	1	4.540	10	004451

1725A

Food Process Packing

A premium, expanded PTFE yarn with a specially designed lubricant to provide superior sealing capability in rotating equipment. Meets FDA, USDA, and NSF requirements for packing.



Technical Data	
Material	Expanded PTFE yarn
Applications	Chemical- and food-grade rotating equipment except for strong oxidizers and molten alkali metals
Pressure Limit	22 bar g (325 psig)
Shaft Speed	9 m/s (1800 fpm)
Temperature Limit	-29°C – 232°C (-20°F – 450°F)
Chemical Resistance	pH 0 – 14

1725A Ordering Information				
Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
6.5	1/4	0.908	2	041020
		2.270	5	041027
8.0	5/16	0.908	2	041029
		2.270	5	041030
9.5	3/8	0.908	2	041031
		2.270	5	041033
10.0	-	0.908	2	041038
		2.270	5	041044
11.0	7/16	2.270	5	041046
12.0	-	2.270	5	041048
12.5	1/2	0.908	2	041049
		2.270	5	041050
		4.540	10	041051
14.0	9/16	2.270	5	041052
16.0	5/8	4.540	10	041053
19.0	3/4	4.540	10	041074
20.5	13/16	4.540	10	041075
22.0	7/8	4.540	10	041076
25.5	1	4.540	10	041078

- Meets USDA requirements for minimal food contact
- Meets FDA requirements 21 CFR 178.3297, 21 CFR 177.2800, 21 CFR 177.1550
- Approved by NSF/ANSI and ACS standards for use in drinking water systems
- Completely inert to most materials
- Handles high shaft speeds

1727

Multi-Lon™ Pump Packing

Chesterton's 1727 Multi-Lon is a synthetic packing for general service pump applications. Multi-Lon consists of interbraided, continuous, synthetic thermoset fibers immunized with PTFE lubricant and a special silicone-free, break-in, sacrificial lubricant. Unlike many synthetic yarns, it does not cause severe scoring. 1727 does not cause electrolytic pitting like carbon or graphite yarns. It also does not have the shaft speed limitations or the elongation/extrusion problems often associated with PTFE fiber yarns.



Technical Data

Applications	Water, steam, and chemical pump applications in pulp, paper, and chemical plants
Pressure Limit	15 bar g (200 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	255°C (488°F) non-oxidizing
Chemical Resistance	pH 1 – 13 unaffected by non-oxidizing acids, dilute bases, organic solvents. Should not be used in concentrated or hot sulfuric (> 60%), or nitric acids (>10%), or strong bases.

1727 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	009260
4.0	–	0.908	2	009261
5.0	3/16	0.908	2	009262
6.0	–	0.908	2	009263
6.5	1/4	0.908	2	009264
		2.270	5	009273
8.0	5/16	0.908	2	009265
		2.270	5	009274
9.5	3/8	2.270	5	009275
		4.540	10	009281
10.0	–	0.908	2	009267
		2.270	5	009276
11.0	7/16	2.270	5	009277
12.0	–	0.908	2	009269
		2.270	5	009278
12.5	1/2	2.270	5	009279
		4.540	10	009283
14.0	9/16	4.540	5	009280
		4.540	10	009284
16.0	5/8	4.540	10	009285
17.5	11/16	4.540	10	009286
19.0	3/4	4.540	10	009287
20.5	13/16	4.540	10	009288
22.0	7/8	4.540	10	009289
24.0	15/16	4.540	10	009293
25.5	1	4.540	10	009294

- High chemical resistance
- Long-wearing for fewer repacks
- Non-staining; protects product quality
- Non-hardening for fewer adjustments
- Non-abrasive; less sleeve wear
- Non-pitting; saves shafts

1730

Glaze-Resistant General Service Packing

A superior, user-friendly, pump packing that drastically reduces the chance of glazing the packing and damaging the shafts.

Technical Data

Material	Heat-resistant fibers with lubricants and blocking agents
Applications	Black liquor pumps, chemical pumps, agitators
Pressure Limit	28 bar g (400 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	290°C (550°F)
Chemical Resistance	pH 1 – 13

1730 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
6.0	–	0.908	2	000637
6.5	1/4	0.908	2	000638
		2.270	5	000691
8.0	5/16	0.908	2	000692
		2.270	5	000693
9.5	3/8	2.270	5	000694
		4.540	10	000695
10.0	–	0.908	2	000696
		2.270	5	000697
11.0	7/16	2.270	5	000698
12.0	–	0.908	2	000702
		2.270	5	000703
12.5	1/2	2.270	5	000704
		4.540	10	000705
14.0	9/16	2.270	5	000706
		4.540	10	000932
16.0	5/8	4.540	10	000933
17.5	11/16	4.540	10	000934
19.0	3/4	4.540	10	000935
20.5	13/16	4.540	10	001182
22.0	7/8	4.540	10	001183
25.5	1	4.540	10	001184



- Easy and fast break-in
- Abrasion-resistant, while non-scoring
- Good chemical resistance
- Glaze-resistant
- User-friendly

1730SC

Silicone Core Packing

Chesterton 1730SC packing combines a resilient, silicone rubber core with the heat-resistant fiber of Chesterton's 1730.

Technical Data

Material	Thermoset fibers with lubricants and blocking agents
Applications	Agitators, mixers, blenders, washers, and pulpers
Pressure Limit	28 bar g (400 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	230°C (450°F)
Chemical Resistance	pH 2 – 12

1730SC Ordering Information

Size		Packaged ± 5%		Item Number
mm	Inch	kg	lbs	
9.5	3/8	2.270	5	003437
		4.540	10	003576
10.0	-	0.908	2	003577
		2.270	5	003601
11.0	7/16	2.270	5	003659
12.0	-	0.908	2	003660
		2.270	5	003661
12.5	1/2	2.270	5	003897
		4.540	10	003983
14.0	9/16	2.270	5	003984
		4.540	10	003985
16.0	5/8	4.540	10	003986
17.5	11/16	4.540	10	004059
19.0	3/4	4.540	10	004255
20.5	13/16	4.540	10	004256
22.0	7/8	4.540	10	004272
25.5	1	4.540	10	004276



- Rugged, easy-to-use, general service packing
- Withstands radial shaft motion and vibration
- Handles shaft/bore eccentricity

DuPont™ Kevlar® are trademarks/registered trademarks of E.I. du Pont de Nemours and Company.

1740

Interbraid, Anti-Extrusion Packing for Slurry Applications

Chesterton 1740 is an interbraided packing using DuPont™ Kevlar® yarn with PTFE and other lubricants. Each strand of yarn has been individually coated in order to dissipate heat. 1740 can be installed as full sets to offer combined resistance to pressure, temperature, chemicals, and wear. 1740 braided packing is also used as back-up rings for added extrusion resistance in abrasive applications.



Technical Data	
Applications	Shafts, rods, valves, expansion joints against water, steam, Solvents, mild acids, Alkalies, and oils
Pressure Limit	20 bar g (300 psig)
Shaft Speed	10 m/s (2000 fpm; 6000 psig)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 3 –11

1740 Ordering Information				
Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	004360
4.0	–	0.908	2	004361
5.0	3/16	0.908	2	004362
6.0	–	0.908	2	004363
6.5	1/4	0.908	2	004364
		2.270	5	004373
8.0	5/16	0.908	2	004365
		2.270	5	004374
9.5	3/8	0.908	2	004366
		2.270	5	004375
		4.540	10	004381
10.0	–	0.908	2	004367
		2.270	5	004376
11.0	7/16	2.270	5	004377
12.0	–	0.908	2	004369
		2.270	5	004378
12.5	1/2	0.908	2	004370
		2.270	5	004379
		4.540	10	004383
14.0	9/16	2.270	5	004380
16.0	5/8	4.540	10	004385
17.5	11/16	4.540	10	004386
19.0	3/4	4.540	10	004387
20.5	13/16	4.540	10	004388
22.0	7/8	4.540	10	004389
24.0	15/16	4.540	10	004393
25.5	1	4.540	10	004394

- Excellent extrusion resistance in abrasive applications
- Non-staining, non-contaminating
- Non-asbestos, multi-service packing

1760

Chemical Packing

Strong and dense PTFE fiber packing for chemical applications with the heat-dissipating properties of graphite.

Technical Data

Material	Graphite coated PTFE yarn with engineered break-in lubricants
Applications	High shaft speed and low friction applications
Pressure Limit	17 bar g (250 psig)
Shaft Speed	18 m/s (3600 fpm)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14



- Dense braid ensures excellent leakage control and prevents solid embedment
- Excellent chemical resistance
- High shaft speed

1760 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	008360
5.0	3/16	0.908	2	008362
6.0	–	0.908	2	008363
6.5	1/4	0.908	2	008364
		2.270	5	008373
8.0	5/16	0.908	2	008365
		2.270	5	008374
9.5	3/8	0.908	2	008366
		2.270	5	008375
		4.540	10	008381
10.0	–	0.908	2	008367
		2.270	5	008376
11.0	7/16	0.908	2	008368
		2.270	5	008377
12.0	–	0.908	2	008369
		2.270	5	008378
12.5	1/2	0.908	2	008370
		2.270	5	008379
		4.540	10	008383
14.0	9/16	2.270	5	008380
16.0	5/8	4.540	10	008385
17.5	11/16	4.540	10	008386
19.0	3/4	4.540	10	008387
20.5	13/16	4.540	10	008388
22.0	7/8	4.540	10	008389
25.5	1	4.540	10	008394

1765

Chemical Pump Packing

Chesterton 1765 is ideally suited for bleach pumps and other rotary applications requiring a white, non-staining packing. Constructed from chemically resistant, expanded PTFE material, this packing demonstrates higher speed performance capabilities than traditional PTFE materials for improved performance in a wide range of applications.

Technical Data

Material	White expanded PTFE yarn with a special filler
Applications	Centrifugal pumps, inline mixers, reciprocating rods and agitators, and suitable for brightening and bleaching process applications—including pumps, inline mixers, and tower agitators
Pressure Limit	20 bar g (300 psig)
Shaft Speed	10 m/s (2000 fpm)
Temperature Limit	-40°C – 260°C (-40°F – 500°F)
Chemical Resistance	pH 0 – 14 except for fluorine (F ₂), ClF ₃ and related compounds, and molten alkali metals

1765 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
6.5	1/4	0.908	2	051172
		2.270	5	051173
8.0	5/16	0.908	2	051174
		2.270	5	051175
9.5	3/8	0.908	2	051176
		2.270	5	051177
10.0	–	0.908	2	051178
		2.270	5	051179
11.0	7/16	2.270	5	051180
12.0		2.270	5	051181
12.5	1/2	0.908	2	051182
		2.270	5	051183
		4.540	10	051184
14.0	9/16	2.270	5	051185
16.0	5/8	4.540	10	051186
19.0	3/4	4.540	10	051187
20.5	13/16	4.540	10	051188
22.0	7/8	4.540	10	051189
25.5	1	4.540	10	051190



- Non-staining
- Superior chemical resistance
- Low friction for improved speed capability
- Longer packing life

1830

Graphite PTFE Packing

Chesterton 1830 is an advanced, expanded, graphite PTFE packing made up of filaments for rigid specifications. It is well-suited for use in pumps, valves, agitators, mixers, and other rotating equipment. The PTFE resin is combined with graphite and expanded by using the latest technologies, resulting in a high quality filament.



Technical Data

Material	Expanded graphite PTFE filaments
Applications	A wide range of applications
Pressure Limit	22 bar g (320 psig)
Shaft Speed	18 m/s (3600 fpm)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14 with exception of strong oxidizers in the 0 – 2 pH range

1830 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
5.0	3/16	0.908	2	175910
6.5	1/4	0.908	2	175911
		2.270	5	175912
8.0	5/16	0.908	2	175913
		2.270	5	175914
9.5	3/8	0.908	2	175915
		2.270	5	175916
		4.540	10	175917
10.0	–	0.908	2	175918
		2.270	5	175919
11.0	7/16	0.908	2	175920
		2.270	5	175921
12.0	–	0.908	2	175922
		2.270	5	175923
12.5	1/2	0.908	2	175924
		2.270	5	175925
		4.540	10	175926
14.0	9/16	2.270	5	175927
		4.540	10	175928
16.0	5/8	4.540	10	175929
17.5	11/16	4.540	10	175930
19.0	3/4	4.540	10	175931
20.0	–	4.540	10	175932
20.5	13/16	These sizes are available upon request.		
22.0	7/8	4.540	10	175933
24.0	15/16	4.540	10	175934
25.5	1	4.540	10	175935

- Excellent chemical resistance
- Low friction, less heat generation, and non-abrasiveness saves shafts and shaft sleeves
- Easy installation and removal
- Low leakage and long life

1830-SSP

Slurry Packing

Designed with a hybrid yarn and combining advanced, expanded, graphite PTFE yarn with carbon yarn reinforcement.



Technical Data

Material	Carbon-reinforced, expanded, graphite PTFE
Applications	Bauxite slurries, bottom ash slurry pumps, mineral handling slurries, tailings pumps, and other slurry processing applications
Pressure Limit	28 bar g (400 psig)
Shaft Speed	18 m/s (3600 fpm)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14 with exception of strong oxidizers in the 0 – 2 pH range

1830-SSP Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
9.5	3/8	0.908	2	052605
		2.270	5	052606
		4.540	10	052607
10.0	–	0.908	2	052608
		2.270	5	052609
11.0	7/16	0.908	2	052610
		2.270	5	052611
12.0	–	0.908	2	052612
		2.270	5	052613
12.5	1/2	0.908	2	052614
		2.270	5	052615
		4.540	10	052616
14.0	9/16	2.270	5	052617
		4.540	10	052618
16.0	5/8	4.540	10	052619
17.5	11/16	4.540	10	052620
19.0	3/4	4.540	10	052621
20.0	–	4.540	10	052622
20.5	13/16	These sizes are available upon request.		
22.0	7/8	4.540	10	052624
24.0	15/16	4.540	10	052625
25.5	1	4.540	10	052626

- Developed to meet rigid demands of slurry sealing applications
- Excellent chemical resistance
- Low friction, less heat generation, non-abrasive, saves shafts and shaft sleeves

CMS 2000

Injectable Packing System

Chesterton CMS 2000 Injectable Packing System is an advanced, flushless, stuffing box leakage control sealant made of high-purity, reinforced fiber.

CMS 2000-FP is a specific version for food grade applications.

Technical Data

Applications	Stock pumps, white water pumps, river water pumps, condensate pumps, water treatment pumps, and also rotating equipment applications in the food processing and handling industry
Pressure Limit	14 bar g (200 psig) White 7 bar g (100 psig) FP
Shaft Speed	10 m/s (2000 fpm) White 6 m/s (1200 fpm) FP
Temperature Limit	205°C (400°F)
Chemical Resistance	pH 1 – 13 White not recommended for oxidizers, fluorine, chlorine trifluoride and related compounds, and molten alkali metals pH 0 – 14 FP

CMS 2000 Ordering Information

Description	Item Number
White CMS 2000 Cartridge	001048
White CMS 2000 Injectable 13.2 liter	001047
White CMS 2000 Injectable 3.8 liter	001046
CMS 2000-FP, 1 gallon pail	127533
CMS 2000-FP, 1 quart pail	127532

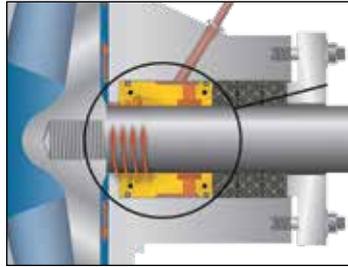


- Eliminates flush and reduces leakage to insignificant levels
- Will not score shaft sleeves
- Effective with worn, fretted sleeves
- Never disassemble to repack again

SuperSet™

Enhanced Packing Sets

Chesterton performance packing sets, in combination with the patented SpiralTrac™ version "P" Environmental Controller, can reduce flush water consumption with the addition of a restriction device while drastically increasing equipment service life. Sets can be made with the SpiralTrac "FIRST" version that can drastically lower flush water without the need of flow restriction.



Versions Available	Applications
1730 SuperSet	General service in slurries and clean fluids
1400R™ SuperSet	Worn equipment, high-speed and high temperature applications
1760 SuperSet	Highly aggressive chemical environments oxidizers in the 0 – 2 pH range
370 SuperSet	High performance, high-temperature applications
GraphMax SuperSet	High-temperature and applications needing extrusion resistance
DualPac® 2211 SuperSet	Highly aggressive slurry processing applications

- Can reduce flush water consumption with addition of flow restriction
- Increases equipment Mean Time Between Repair (MTBR)
- Can be made with the SpiralTrac™ "FIRST" version that can drastically lower flush water without the need of flow restriction

Sealing Solution	Features	Applications
370 SuperSet	High Strength, high purity carbon fiber with multi-stage lube system. Excellent leakage control, capable of near zero to zero leakage. High-speed capability.	Virtually any application. Particularly suited for high speed, high temperature applications.
412-W SuperSet	White, synthetic yarn with high tensile strength and extrusion resistance.	Good for a wide variety of applications, in both clean products and slurries.
477-1T SuperSet	PTFE coated carbon fiber. Excellent extrusion resistance, good leakage control, minimal consolidation and gland adjustments required, excellent chemical resistance.	Slow speed equipment. Originally designed for chemical digestion processes in the Pulp and Paper Industry.
1400R SuperSet	Pure graphite with carbon reinforcement, excellent leakage control, capable of near zero to zero leakage, unaffected by frictional heat. Very conformable.	Virtually any application. Also suitable for use on sleeves with some wear. Good option for large, higher speed equipment.
1730 SuperSet	White synthetic fiber, non-staining, good leakage control with minimal gland adjustments, excellent resistance to heat.	General service in slurries and clean fluids.
1760 SuperSet	PTFE/graphite fiber. Excellent chemical resistance, good leakage control.	General service and highly aggressive chemical environments. Widely used in many industries.
1830SSP SuperSet	Expanded graphite PTFE yarn with low leakage capabilities.	For use in bauxite slurries, bottom ash pumps, minerals handling pumps, tailings, and other slurry processes.
GraphMax™ SuperSet	Pure graphite with carbon reinforced corners for extrusion and abrasion resistance.	Good for both clean liquids and slurries in a wide variety of industries.
DualPac® 2211	A unique braiding technology that takes advantage of the sealability of expanded graphite PTFE and the resilience of the aramid fibers.	for use in ore slurries, mineral handling, dewatering tailing pumps, and other slurries processing applications.
DualPac® 2212	A multi-purpose packing combining aramid fibers to create a high-pressure, burn-resistant, non-staining packing that resist extrusion and requires minimal gland adjustments.	Demanding rotating equipment such as high-pressure tailings pumps, agitators, mixers, stock pumps, sludge pumps, slurry pumps, and process pumps.

SpiralTrac™ is a trademark of EnviroSeal Engineering Products Ltd.

SuperSet™ Product Item to Fit Ahlstrom® APP Pumps				
Bearing Unit	ID x OD x Cross Section mm	Number of Rings	Packing Type	Item Number
1	40 x 60 x 10.0	2	1400R™	210204
			1730	210201
			1760	210202
			370	210203
			477-1T	210205
			DualPac® 2211	389783
			DualPac® 2212	396940
2	50 x 70 x 10.0	2	1400R	210210
			1730	210206
			1760	210207
			370	210209
			477-1T	210211
			DualPac 2211	389784
			DualPac 2212	396941
3	60 x 85 x 12.5	2	1400R	210215
			1730	210212
			1760	210213
			370	210214
			477-1T	210216
			DualPac 2211	389785
			DualPac 2212	396942
4	70 x 95 x 12.5	2	1400R	210221
			1730	210217
			1760	210218
			370	210219
			477-1T	210222
			DualPac 2211	389786
			DualPac 2212	396943
5	90 x 122 x 16.0	2	1400R	210227
			1730	210223
			1760	210225
			370	210226
			477-1T	210228
			DualPac 2211	389787
			DualPac 2212	396944
6	100 x 132 x 16.0	2	1400R	210233
			1730	210229
			1760	210231
			370	210232
			477-1T	210234
			DualPac 2211	389788
			DualPac 2212	396945

SuperSet Product Item to Fit Ahlstrom APT Pumps				
Bearing Unit	ID x OD x Cross Section Inch	Number of Rings	Packing Type	Item Number
1	1.625 x 2.375 x 0.375	2	1400R	210239
			1730	210236
			1760	210237
			370	210238
			477-1T	210241
			DualPac 2211	389777
			DualPac 2212	396655
2	2.000 x 2.750 x 0.375	2	1400R	210245
			1730	210242
			1760	210243
			370	210244
			477-1T	210246
			DualPac 2211	389778
			DualPac 2212	396656
3	2.375 x 3.375 x 0.500	2	1400R	210250
			1730	210247
			1760	210248
			370	210249
			477-1T	210251
			DualPac 2211	389779
			DualPac 2212	396657
4	2.750 x 3.750 x 0.500	2	1400R	210255
			1730	210252
			1760	210253
			370	210254
			477-1T	210257
			DualPac 2211	389780
			DualPac 2212	396658
5	3.500 x 4.750 x 0.625	2	1400R	210262
			1730	210258
			1760	210259
			370	210261
			477-1T	210263
			DualPac 2211	389781
			DualPac 2212	396659
6	3.937 x 5.197 x 0.625	2	1400R	210267
			1730	210264
			1760	210265
			370	210266
			477-1T	210268
			DualPac 2211	389782
			DualPac 2212	396660

Ahlstrom® is a registered trademark of Ahlstrom Corporation.

SuperSet™ Product Item to Fit Warman®				
Pump Model	ID x OD x Cross Section Inch	Number of Rings	Packing Type	Item Number
B Frame	1.785 x 2.435 x 0.3125	3	1730	210738
			1830-SSP	212036
			412-W	212055
			InnerLube™	212037
			DualPac® 2211	396959
			DualPac® 2212	396953
C Frame	2.312 x 3.064 x 0.375	3	1730	210739
			1830-SSP	212040
			412-W	212038
			GraphMax™	212039
			InnerLube	212041
			DualPac 2211	389797
D Frame	3.250 x 4.250 x 0.500	3	1730	210741
			1830-SSP	212044
			412-W	212042
			GraphMax	212043
			InnerLube	212045
			DualPac 2211	389798
E Frame	4.000 x 5.250 x 0.625	3	1730	210742
			1830-SSP	212048
			412-W	212046
			GraphMax	212047
			InnerLube	212049
			DualPac 2211	389799
F Frame	5.125 x 6.625 x 0.750	3	1730	210744
			1830-SSP	212052
			412-W	212050
			GraphMax	212051
			InnerLube	212053
			DualPac 2211	389800
			DualPac 2212	396597

SuperSet Product Item to Fit Goulds®				
Pump Model	ID x OD x Cross Section Inch	Number of Rings	Packing Type	Item Number
3175 L	4.750 x 5.750 x 0.500	3	1400R	210033
			1730	210030
			1760	210031
			370	210032
			477-1T	210034
			DualPac 2211	389789
3175 M	3.750 x 4.750 x 0.500	3	DualPac 2212	396946
			1400R	210028
			1730	210025
			1760	210026
			370	210027
			477-1T	210029
3175 S	3.000 x 4.000 x 0.500	3	DualPac 2211	389790
			DualPac 2212	396947
			1400R	210023
			1730	210020
			1760	210021
			370	210022
3196 LT	2.125 x 2.875 x 0.375	3	477-1T	210024
			DualPac 2211	389791
			DualPac 2212	396948
			1400R	210013
			1730	210010
			1760	210011
3196 MT	1.750 x 2.50 x 0.375	3	370	210012
			477-1T	210014
			DualPac 2211	389792
			DualPac 2212	396949
			1400R	210008
			1730	210005
3196 ST	1.375 x 2.00 x 0.3125	3	1760	210006
			370	210007
			477-1T	210009
			DualPac 2211	389793
			DualPac 2212	396950
			1400R	210003
3196 XLT	2.500 x 3.375 x 0.4375	3	1730	210000
			1760	210001
			370	210002
			477-1T	210004
			DualPac 2211	396958
			DualPac 2212	396951
3196 XLT	2.500 x 3.375 x 0.4375	3	1400R	210018
			1730	210015
			1760	210016
			370	210017
			477-1T	210019
			DualPac 2211	389795
			DualPac 2212	396952

Chesterton® Solutions for Stationary Equipment



1 Tools

For proper installation and removal of stem packing use **tamping tools, packing cutters, and packing extractors** to minimize errors and equipment damage during valve repacks.



2 Gasketing

Chesterton offers a variety of **joint sealing solutions** where we apply the Best Available Technology to your critical flanged joints, to give you recommendations for your specific applications. **Form-in-place, compression, and semi-metallic gaskets** address most process flanges.



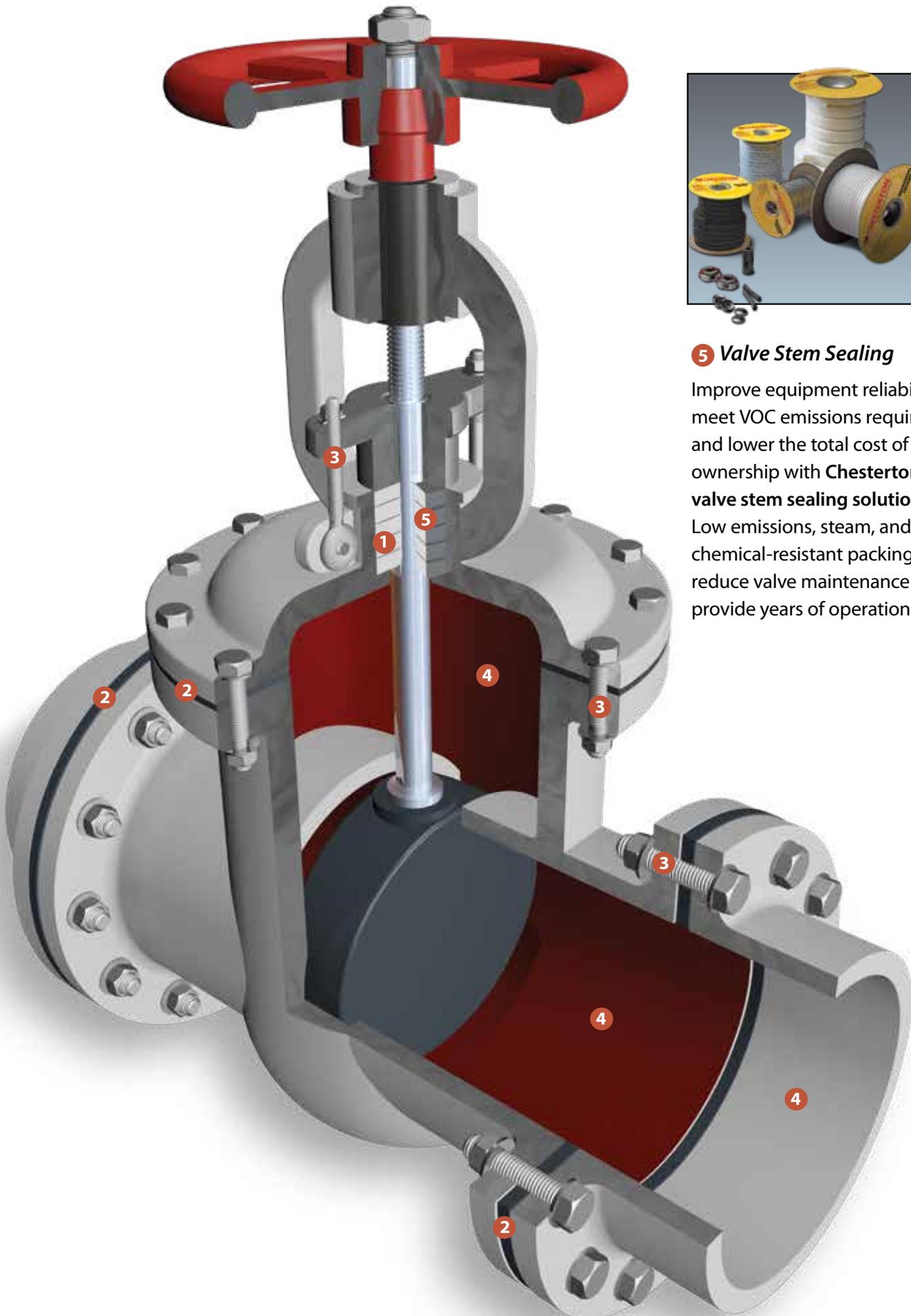
3 Thread Lubrication

Chesterton anti-seize assists in accurate bolt load and resists bolt/nut seizing for easy adjustment and disassembly on flanges, bonnets, and packing followers. These products achieve consistent and correct bolt tensioning.



4 ARC Protective Coatings

Rebuild, restore, and coat pipe linings, flanges, valve bodies, and discs with **ARC Efficiency and Protective Coatings** to resist corrosion and/or abrasion from process media and from the effects of cavitation on valve internals.



5 Valve Stem Sealing

Improve equipment reliability, meet VOC emissions requirements, and lower the total cost of valve ownership with **Chesterton valve stem sealing solutions**. Low emissions, steam, and chemical-resistant packings reduce valve maintenance and provide years of operation.

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477-1

Carbon Fiber Packing

A carbon yarn formulation combined with superior blocking agents for greater flexibility and sealing.

Technical Data

Material	Low modulus carbon fiber
Applications	Pumps and valves against most solvents, gases, and other liquids
Pressure Limit	250 bar g (3600 psig) valves 14 bar g (200 psig) pumps
Shaft Speed	15 m/s (3000 fpm)
Temperature Limit	565°C (1050°F)
Chemical Resistance	pH 0 – 13 except strong oxidizers

477-1 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	004752
5.0	3/16	0.908	2	004754
6.0	–	0.908	2	004756
6.5	1/4	0.908	2	004730
		2.270	5	004731
8.0	5/16	0.908	2	004733
		2.270	5	004734
9.5	3/8	0.908	2	004722
		2.270	5	004723
		4.540	10	004724
10.0	–	0.908	2	004758
		2.270	5	004759
11.0	7/16	0.908	2	004736
		2.270	5	004737
12.0	–	0.908	2	004782
		2.270	5	004791
12.5	1/2	0.908	2	004726
		2.270	5	004727
		4.540	10	004728
14.0	9/16	2.270	5	004739
		4.540	10	004740
16.0	5/8	4.540	10	004742
17.5	11/16	4.540	10	004744
19.0	3/4	4.540	10	004700
20.5	13/16	4.540	10	004793
22.0	7/8	4.540	10	004746
24.0	15/16	4.540	10	004796
25.5	1	4.540	10	004748



- Strong, yet pliable, continuous filament carbon yarn
- Unique inorganic blocking agent stops gas/liquid penetration
- Molybdenum-based corrosion inhibitor resists stem pitting

1400R™

Carbon-Reinforced Graphite Tape

Chesterton 1400R is a unique, reinforced, braided, graphite tape packing with a corrosion inhibitor. The carbon yarn reinforcement is provided within the graphite tape yarn as well as the braided construction. 1400R forms a homogeneous mass under gland pressure, so that leakage is minimized in the packing set. The all-carbon/graphite set withstands higher shaft speeds while limiting shaft/stem friction. The structural carbon fiber reinforcement drastically lowers extrusion when 1400R sets are installed in valves at higher pressures. In addition to its excellent sealing capabilities in rotating equipment, 1400R is a superior valve sealing material. This dual purpose design makes it a truly universal mechanical packing.



Technical Data

Applications	Agitators, boiler feed pumps, condensate pumps, pulpers, stock pumps, refiners, mixers, also ideal for use in steam valves
Pressure Limit	275 bar g (4000 psig) valves 14 bar g (200 psig) pumps
Shaft Speed	20 m/s (4000 fpm)
Temperature Limit	650°C (1200°F) steam 455°C (850°F) oxidizing atmosphere
Chemical Resistance	pH 0 – 14 except oleum, fuming nitric acid, and aqua regia

- Best choice for high temperature
- Eliminates flush and effectively reduces stuffing box leakage
- Self-lubricating to reduce shaft or stem scoring and extend packing life

1400R Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	000924
5.0	3/16	0.908	2	000926
6.0	–	0.908	2	000927
6.5	1/4	0.908	2	000937
		2.270	5	000941
8.0	5/16	0.908	2	001054
		2.270	5	001055
9.5	3/8	0.908	2	000943
		2.270	5	000944
		3.175	7	000946
10.0	–	0.908	2	000947
		2.270	5	000949
11.0	7/16	0.908	2	000950
		2.270	5	000952
12.0	–	0.908	2	000953
		2.270	5	000955
12.5	1/2	0.908	2	000956
		2.270	5	000958
		3.175	7	000959
14.0	9/16	2.270	5	001056
		3.175	7	001057
16.0	5/8	3.175	7	001058
17.5	11/16	3.175	7	001059
19.0	3/4	3.175	7	001071
20.5	13/16	3.175	7	001092
22.0	7/8	3.175	7	001093
24.0	15/16	3.175	7	001095
25.5	1	3.175	7	001096

1600

Advanced, Reinforced Exfoliated Graphite Packing

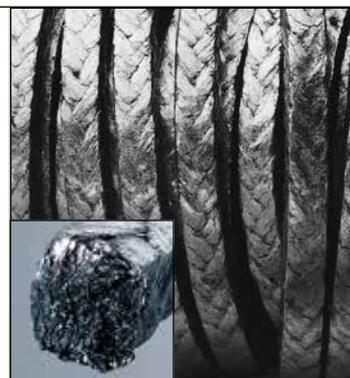
Off-the-spool Inconel® wire mesh graphite packing with blocking agents for multi-service performance.

Technical Data

Material	Inconel wire-reinforced flexible graphite packing
Applications	Block valves, as an end ring on control valves, motor-operated valves, and sootblowers
Pressure Limit	580 bar g (8400 psig)
Temperature Limit	650°C (1200°F) steam, 455°C (850°F) oxidizing environment
Chemical Resistance	pH 0 – 14 except in strong oxidizers

1600 Ordering Information

Size		Packaged ± 10%		Item 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
		0.908	2	035028
		2.270	5	035029
12.5	1/2	4.540	10	035030
		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



- Extreme high-pressure capability
- Remains flexible in service
- Excellent sealing in many services

Inconel® is a registered trademark of American Special Metals Corp.

1601

Reinforced Graphite Steam Service Packing

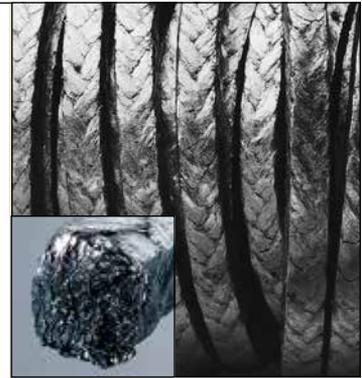
An Inconel® wire mesh graphite packing designed for the power industry for superior leakage control and high performance without PTFE lubrication.

Technical Data

Material	Inconel wire-reinforced, flexible graphite packing
Applications	All isolation and steam valves
Pressure Limit	345 bar g (5000 psig)
Temperature Limit	650°C (1200°F) steam, 455°C (850°F) oxidizing environment
Chemical Resistance	pH 0 – 14 except in strong oxidizers

1601 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	034902
4.0	–	0.908	2	034904
5.0	3/16	0.908	2	034906
6.0	–	0.908	2	034908
6.5	1/4	0.908	2	034910
		2.270	5	034911
8.0	5/16	0.908	2	034913
		2.270	5	034914
9.5	3/8	0.908	2	034916
		2.270	5	034917
		4.540	10	034918
10.0	–	0.908	2	034920
		2.270	5	034921
11.0	7/16	0.908	2	034923
		2.270	5	034924
12.0	–	2.270	5	034926
12.5	1/2	0.908	2	034928
		2.270	5	034929
		4.540	10	034930
14.0	9/16	2.270	5	034932
		4.540	10	034933
16.0	5/8	4.540	10	034935
17.5	11/16	4.540	10	034937
19.0	3/4	4.540	10	034939
22.0	7/8	4.540	10	034941
25.5	1	4.540	10	034943



- Proven in high-pressure, high-temperature steam service
- A corrosion inhibitor is applied to deter stem pitting
- PTFE-free

1622

Low E Control Packing for Block Valves

Chesterton 1622 Low E Packing is designed to minimize valve emissions and it exceeds current emissions requirements for the refinery, petrochemical, and chemical industries. 1622 has received both the National Pollution Prevention Roundtable MVP2 and Vaaler Award for emission and pollution reduction technology.

Guaranteed* to seal less than 100 ppm for 5 years per EPA method 21.



Technical Data

Material	Inconel® wire-reinforced, flexible graphite packing with special blocking agents
Applications	Light and heavy hydrocarbons, VOCs, VHAPs, steam, and most non-oxidizing chemicals
Pressure Limit	345 bar g (5000 psig)
Temperature Limit	Max 650°C (1200°F) steam, 450°C (850°F) oxidizing atmosphere
Chemical Resistance	pH 0 – 14 except in strong oxidizers



1622 Ordering Information

Cross Section Size		Average Stem Diameter		Average No. of Valves (per box)	Item Number
mm	Inch	mm	Inch		
	1/8		0.500	83	054700
	3/16		0.625	59	054701
6.0		25		31	054702
6.5	1/4		0.875	73	054703
8.0	5/16		1.250	39	054705
9.5	3/8		1.625	22	054707
10.0		40		24	054711
11.0	7/16		2.000	14	054713
12.0		70		9	054715
12.5	1/2		2.750	8	054716
14.0	9/16		3.250	6	054719
16.0	5/8		4.000	4	054721
17.5	11/16		5.000	3	054722
19.0	3/4	These sizes are available upon request.			
20.0					
22.0	7/8				
24.5	1				

- Extremely low emissions
- Fire safe to API 607
- Single spool packing
- High-pressure capability
- API 622 2nd edition tested and qualified
- API 624 tested and qualified for numerous valve OEMs
- ChevronTexaco Standard tested and passed
- Valve packing emission warranty*
- ISO 15848-1 passed CO² at 200°C to the tightness class BH
- ISO 15848-1 passed CO² at 400°C to the tightness class BH

*Conditions apply. Contact your sales representative for details.



Advanced Materials and Construction

Chesterton 1600, 1601, and 1622 use advanced materials and construction to achieve excellent sealing performance. Layers of graphite tape are formed into compact strands; each strand is reinforced with an Inconel® wire mesh covering. This combats extrusion without stem damage.

In Chesterton testing, valves packed with this advanced material were cycled 20,000 times leak-free without stem damage. These strands are square braided to form a dense, but pliable, packing and a passive corrosion inhibitor is applied to resist stem pitting. The final result is a packing that is flexible without being prone to extrusion and able to seal reliably in extreme environments.

1724™

High Quality, Interbraided PTFE Valve Packing

Chesterton 1724 is a unique PTFE valve packing material specially treated with protective lubricants that will not harden and deteriorate in a wide range of chemical applications.



Valve Packing

Technical Data

Material	Non-hardening, high-grade PTFE yarn with PTFE coating
Applications	Block valves, motor operated valves, control valves
Pressure Limit	206 bar g (3000 psig)
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14

1724 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
3.0	1/8	0.908	2	003260
4.0	–	0.908	2	003261
5.0	3/16	0.908	2	003262
6.0	–	0.908	2	003263
6.5	1/4	0.908	2	003264
		2.270	5	003273
8.0	5/16	0.908	2	003265
		2.270	5	003274
9.5	3/8	0.908	2	003266
		2.270	5	003275
		4.540	10	003281
10.0	–	0.908	2	003267
		2.270	5	003276
11.0	7/16	0.908	2	003268
		2.270	5	003277
12.0	–	0.908	2	003269
		2.270	5	003278
		4.540	10	003283
12.5	1/2	0.908	2	003270
		2.270	5	003279
		4.540	10	003284
14.0	9/16	2.270	5	003280
		4.540	10	003285
16.0	5/8	4.540	10	003286
17.5	11/16	4.540	10	003287
19.0	3/4	4.540	10	003288
20.5	13/16	4.540	10	003289
22.0	7/8	4.540	10	003293
24.0	15/16	4.540	10	003294
25.5	1	4.540	10	

- Non-hardening
- Treated with protective lubricants
- Extrusion resistant
- Excellent chemical resistance

1724 Low E

Control Valve Kits

Chesterton's 1724 Low E Control Valve Kits are used on pneumatically actuated control valves. 1724 Low E is best suited for services where the operating temperature is a steady state with minimal thermal cycling and in applications where the stem friction from pure graphite packing is too high for the valve's actuator. The kit contains all the parts necessary to repack the valve in the field with Chesterton's Live Loading system.

The kit includes a 1724 five-ring, die-formed PTFE packing set, a pre-cut carbon spacer, pre-engineered Live Load assemblies, and new gland studs and nuts. All packing rings and spacers are cut to allow installation without removal of the valve actuator, simplifying the valve repacking procedure in the field. The Live Load assemblies are easily identifiable by their uniquely shaped outer guide and are simple to install and use.



Technical Data

Applications	Air operated control valves, light and heavy hydrocarbon services
Temperature Limit	204°C (400°F)
Chemical Resistance	pH 0 – 14 Inert to all common chemicals except molten alkali metals, elemental fluorine, and strong oxidizers

1724 Low E Control Valve Kits Designed by Chesterton to Fit Valtek® Valves

Kit Number	Nominal Size	Pressure Class	Item Number
	Inch		
1	0.5 and 1	150# – 600#	336809
2	1.5 and 2	150# – 600#	336810
3	3	150# – 300#	336811
4	4	150# – 300#	336812
5	4	150# – 300#	336813
6	3	600#	336814
7	4	600#	336815
8	4	600#	336816
9	6	150#	336817
10	6	150#	336818
11	6	300#	336819
12	6	300#	336820
13	6	600#	336821
14	6	600#	336822
15	8	150#	336823
16	8	300#	336824
17	8	300#	336825
18	8	600#	336826
19	8	600#	336827

- Complete kit to repack a number of the most popular control valves in industry today VOC emissions services
- Reduced stem friction; lower actuation forces required
- Exceeds EPA VOC emissions requirements (<100 ppm as measured by EPA Method 21)
- Simplified installation—torque wrench not required
- Can be installed in the field without removing the valve actuator

Valtek® is a registered trademark of FlowServe Management Company.

1724 Low E

1724 Low E Control Valve Kits Designed by Chesterton to Fit Masoneilan® Control Valves					
10,000 New Series					
Pressure Class	Pipe Diameter	Stem OD Inch	Box Bore Inch	Cross Section	Item Number
150# – 300#	4	0.500	0.875	0.1875	336711
	6	0.625	1.000	0.1875	336712
	8	0.750	1.250	0.2500	336713
150# – 600#	2, 3, or 4	0.500	0.875	0.1875	336711
600#	6	0.625	1.000	0.1875	336712
	8	0.750	1.250	0.2500	336713
21,000 New Series					
150# – 300#	3 or 4	0.500	0.875	0.1875	336711
	6	0.750	1.250	0.2500	336713
150# – 600#	0.750, 1 or 1.5	0.500	0.875	0.1875	336711
	2, 3 or 4	0.500	0.875	0.1875	336711
600#	6	0.750	1.250	0.2500	336713
41,000 Old Series					
150# – 600#	1.5 or 2	0.500	0.875	0.1875	336714
	3 or 4	0.625	1.000	0.1875	336716
	6	0.750	1.250	0.2500	336719
	8	1.000	1.625	0.3125	336721
900# – 1500#	2	0.500	0.875	0.1875	336715
	3	0.625	1.000	0.1875	336717
	4	0.625	1.000	0.1875	336716
	6	0.750	1.250	0.2500	336719

1724 Low E Control Valve Kits Designed by Chesterton to Fit Fisher® Control Valves			
Kit Number and Packing Size Inch	Nominal Size	Pressure Class	Item Number
	Inch		
1 – 0.375 x 0.875	1 and 1.5	150# – 300#	336688
2 – 0.500 x 1.000	2, 3 and 4	150# – 300#	336689
3 – 0.750 x 1.375	6 and 8	150# – 300#	336690
4 – 0.750 x 1.3751	6 and 8	600#	336690

Masoneilan® is a trademark of General Electric Co.
 Fisher® is a registered trademark of Fisher Controls International

1726

Low E Isolation Valve Packing for Chemical Service

Chesterton 1726 Low E Packing minimizes isolation valve emissions to help companies in the petrochemical, chemical, and oil and gas industries meet—and even exceed—current emissions requirements. It is an innovative PTFE with a carbon core stem packing that can accomplish these sealing levels without the use of costly and time-consuming Live Loading assemblies.

1726 is uniquely constructed with a combination of PTFE surrounding a carbon core in a true double-braided formation. The PTFE jacket provides chemical resistance and lower friction while the specially formulated carbon core provides superior sealing capability in harsh, corrosive environments. The result is a non-hardening, flexible packing that is extremely strong yet extrusion-resistant, resulting in a highly secure and reliable seal for emissions service.



Technical Data

Applications	Valves in petrochemical and chemical processing, light and heavy hydrocarbons, VOCs, VHAPs, and other fugitive emissions
Pressure Limit	207 bar g (3000 psig)
Temperature Limit	260°C (500°F), 204°C (400°F) in emissions service
Chemical Resistance	pH 0 – 14

Meets ISO 15848-1 BH level

Passed API 622* test (without retorques)

- Low E sealing performance without Live Loading
- PTFE-based engineered packing set capable of sealing emissions with a single spool
- Fits a wide range of isolation valve applications thus minimizing inventory
- Simplified installation versus multi-spool packing and Live Loading springs
- Reduces overall compliance costs in petrochemical, chemical, and oil and gas industries

1726 Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
6.4	0.250	2.77	5	390468
8	0.312	2.77	5	390469
9.5	0.375	2.77	5	390470
9.5	0.375	4.54	10	390471
11	0.437	2.77	5	390472
12.7	0.500	2.77	5	390473
12.7	0.500	4.54	10	390474
14.3	0.562	2.77	5	390475
14.3	0.562	4.54	10	390476
10	–	2.77	5	390478
12	–	2.77	5	390479

*API 622 test conducted to max temperature of 204°C (400°F)

GraphMax™

Interbraided Exfoliated Graphite Packing for Pumps and Valves

Structurally reinforced graphite packing for demanding applications to dramatically improve the packing's resistance to extrusion.

Technical Data

Material	Interbraided graphite packing with carbon yarns incorporated into the braided structure in a way that allows for a very tight braid
Applications	Boiler feed, condensate, hot water, heater drains, and other high demanding pump applications. Also can be used on valves in hard to seal service.
Pressure Limit	260 bar g (3800 psig) valves; 28 bar g (400 psig) pumps
Shaft Speed	17 m/s (3400 fpm)
Temperature Limit	-240°C – 650°C (-400°F – 1200°F) steam service
Chemical Resistance	pH 0 – 14 except oleum, fuming nitric acid, and aqua regia



- Exclusive construction for plant-wide use in pumps and valves
- Maintains structural integrity for easy removal
- Carbon fiber-reinforced graphite strands provide maximum extrusion resistance and high-pressure capability

GraphMax Ordering Information

Size		Packaged ± 10%		Item Number
mm	Inch	kg	lbs	
9.5	3/8	0.908	2	150004
		2.270	5	150005
		3.175	7	150006
10.0	-	0.908	2	150007
		2.270	5	150008
11.0	7/16	0.908	2	150009
		2.270	5	150010
12.0	-	0.908	2	150011
		2.270	5	150012
12.5	1/2	0.908	2	150013
		2.270	5	038740
		3.175	7	038741
14.0	9/16	2.270	5	038738
		3.175	7	038744
16.0	5/8	3.175	7	038742
17.5	11/16	3.175	7	150019
19.0	3/4	3.175	7	038743
20.0	-	3.175	7	150021
20.5	13/16	3.175	7	150022
22.2	7/8	3.175	7	150023
24.0	15/16	3.175	7	150024
25.5	1	3.175	7	150025

3000

Sootblower Set

Chesterton 3000 Sootblower 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 allow 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.

Technical Data

Material	PTFE with graphite
Applications	Water, steam, acids and alkalis, solvents, and gases
Temperature Limit	260°C (500°F)
Chemical Resistance	pH 0 – 14



- 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

5800

High Performance, Low Friction, Die-Formed Steam Service Graphite Packing

Chesterton 5800 WedgeSeal™ 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 stem pitting.

At elevated system pressures, Chesterton 5800 reduces stem friction while sealing effectively. It provides critical control valves with limited load capabilities to respond more rapidly and precisely throughout the pressure range.

Five-year guarantee is available when used with Chesterton 5150 Live Loading.*

Technical Data

Material	Die-formed, high-purity graphite
Applications	Nuclear and process industry services to seal MOVs, AOVs, and steam services
Pressure Limit	210 bar g (3000 psig) no end ring, 310 bar g (4500 psig) 1600 end ring
Temperature Limit	2760°C (5000°F) in non-oxidizing atmospheres, 430°C (800°F) in oxidizing atmospheres
Chemical Resistance	pH 0 – 14



- High technology solution for modulated, actuated valves
- Reduced stem friction; lower actuation force needed
- Passes API 589 Fire Test
- Certifiable for nuclear service

*Conditions apply. Contact your sales representative for details.

5800E

High-Temperature, Low Friction Emissions Valve Packing

Chesterton 5800E WedgeSeal™ is used for high-temperature fugitive emissions service in friction-sensitive valves.

Combining Chesterton's 5800 pure die-formed graphite sealing rings with our 477-1 interbraided carbon yarn end rings, Chesterton 5800E seals to extremely low VOC emissions levels (less than 500 ppm), while providing minimal friction against the stem.

- The carbon/graphite base materials in the set are unaffected by high temperatures
- The set passes the API 589 Fire Test thus ensuring maximum safety in hazardous services
- The WedgeSeal set incorporates passive corrosion inhibitors that retard electrolytic pitting
- The unique wedge shape of the sealing rings provides more efficient transfer of gland load to the packing and makes the set more responsive to gland adjustments

The most important feature of this design is to reduce stem friction, which ensures that the valve actuator can respond to system changes more rapidly and precisely.



- Dramatically improves valve stem response
- Low emissions guarantee
- Excellent chemical and temperature resistance

Technical Data

Material	Die-formed, high-purity graphite
Applications	Pneumatically controlled valves in services where fugitive emissions must be minimized
Pressure Limit	250 bar g (3600 psig)
Temperature Limit	2760°C (5000°F) in non-oxidizing atmospheres, 565°C (1050°F) in oxidizing atmospheres
Chemical Resistance	pH 0 – 13

Chesterton WedgeSeal™ Design

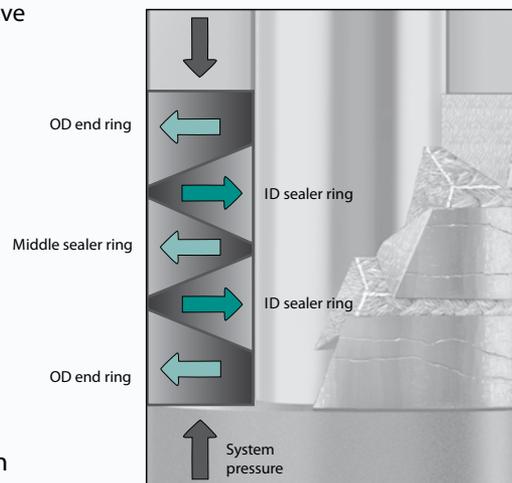
Provides a more efficient gland load transfer to packing set and makes the set more responsive to system requirements.

Two OD end rings and one middle sealer ring

- Primary static end-cap sealer rings
- Die-formed, high-purity graphite tape
 - Increases thermal stability
 - Decreases porosity and consolidation
 - Non-absorbent, non-wicking
 - Passive corrosion inhibitor

Two ID sealer rings

- Primary dynamic sealing rings
- Die-formed graphite—ideal combination to maximize performance
- Passive corrosion inhibitor



5800T

Low Friction WedgeSeal™

A die-formed graphite wedge packing for lower temperature applications. Chesterton's 5800T compression packing combines the excellent thermal and physical stability of graphite with the low friction properties of PTFE. This packing set incorporates the unique Chesterton WedgeSeal design with an innovative graphite/PTFE hybrid packing material. Unlike PTFE designs, the sealability of 5800T is unaffected by changes in temperature.

Technical Data

Material	Exfoliated graphite with PTFE hybrid yarn
Applications	Hydrocarbon services, low temperature steam services, chronic leakers in fugitive emissions services Live Loading is recommended for most applications
Pressure Limit	172 bar g (2500 psig)
Temperature Limit	260°C (500°F) in VOC service 315°C (600°F) in steam services
Chemical Resistance	pH 0 – 14



- Designed specifically for air operated control valves
- For service temperatures below 230°C (450°F)
- Exceeds U.S. EPA requirements for emissions services (<500 ppm as measured by EPA Method 21)
- Very low friction design promotes most efficient valve operation
- Passes API 589 Fire Test

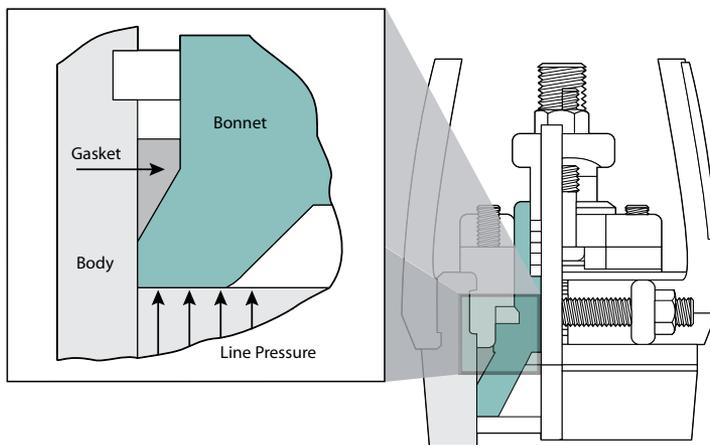
5900

Graphite Bonnet Seals

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

Technical Data

Applications	Valves in high-pressure steam and water
Temperature Limit	650°C (1200°F)
Pressure Limit	290 bar g (4200 psig)
Chemical Resistance	pH 0 – 14



- Conforms easily to the valve's body and bonnet
- Maintains excellent anti-extrusion properties
- Requires significantly lower pressure to seal than traditional metal bonnet seals
- Enables easy removal without damage to the valve body

VALVE LIVE LOADING

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, and minimizes hystereses 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

Valve Management Tool

Chesterton provides a web-based tool kit that incorporates a variety of tools to help you configure Chesterton products quickly, track valve population dimensions and recommendations, and complete complex engineering calculations with ease.

The Sales Tool Kit features

- Chesterton Valve Kit Lookup—an easy way to find pre-designed kits for your valve
- Valve Management—track and maintain valve population dimensions and recommendations
- Online Survey—enter valve details and get a valve sealing recommendation
- Journeyman Worksheet—provides detailed installation drawing including item numbers and quantities from a few basic measurements
- Engineered Valve Solutions—automated engineering calculations for standard and cartridge Live Loading



VALVE LIVE LOADING

Valve Sealing System

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 produced 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 valve sealing performance.

5300 can withstand temperatures to 2760°C (5000°F) in a non-oxidizing atmosphere. 5300 incorporates 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.



5150 Cartridge Valve Live Loading

The cartridge is a 5150 assembly outer container engineered for a valve'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.



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 during 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.



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.



VALVE LIVE LOADING

5800E Kit

WedgeSeal™ Control Valve Kit

Chesterton 5800E WedgeSeal Control Valve Kit is a combination packing set that uses Chesterton's unique wedge-shaped, die-formed sealing set along with our 477-1 braided carbon end rings. This control valve kit has been proven to seal to extremely low VOC emissions levels. Reduced stem friction ensures that the valve will respond to system changes more rapidly and precisely. The 5800E Valve Kit contains all parts necessary to repack the valve in the field with Chesterton's Live Loading system. The set includes:

- Chesterton 5800E packing set
- Pre-cut carbon spacer
- Pre-engineered Live Load assemblies
- New gland studs and nuts

All packing rings and spacers are cut to allow installation without removal of the valve actuator, simplifying the valve repacking procedure in the field. The Live Load assemblies are easily identifiable by their uniquely shaped outer guide, and are simple to install and use. The assembly easily fits over the stud and the gland bolt is tightened until the flat washer is flush with the top of the outer guide. No torque wrench is required!

Technical Data

Applications	Valves in VOC emissions services Kits designed by Chesterton for Fisher e-body, Valtek Mark I, Leslie and Masoneilan valves.
Temperature Limit	565°C (1050°F)

5800E Control Valve Kits Designed by Chesterton to Fit Valtek® Valves

Kit Number	Nominal Size	Pressure Class	Item Number
	Inch		
1	0.5 and 1	150# – 600#	148009
2	1.5 and 2	150# – 600#	148010
3	3	150# – 300#	148011
4	4	150# – 300#	148012
5	4	150# – 300#	148013
6	3	600#	148014
7	4	600#	148015
8	4	600#	148016
9	6	150#	148017
10	6	150#	148018
11	6	300#	148019
12	6	300#	148020
13	6	600#	148021
14	6	600#	148022
15	8	150#	148023
16	8	300#	148024
17	8	300#	148025
18	8	600#	148026
19	8	600#	148027



- The unique wedge shape of the sealing rings provides more efficient transfer of gland load to the packing and makes the set more responsive to gland adjustments
- Passive corrosion inhibitors are impregnated in the packing set to help prevent electrolytic pitting
- Passes the API 589 Fire Test, thus ensuring maximum safety in hazardous services
- For use on pneumatically actuated control valves
- Seals fugitive emissions to less than 500 ppm
- Reduces emissions without valve replacement
- Upgrades existing control valve performance
- Visual torque inspection minimizes "hot" retorques, reducing safety risks
- Easy to install

VALVE LIVE LOADING

5800E Control Valve Kits Designed by Chesterton to Fit Masoneilan® Valves					
10,000 New Series					
Pressure Class	Pipe Diameter	Stem OD Inch	Box Bore Inch	Cross Section	Item Number
150# – 300#	4	0.500	0.875	0.1875	148224
	6	0.625	1.000	0.1875	148225
	8	0.750	1.250	0.2500	148226
150# – 600#	2, 3 or 4	0.500	0.875	0.1875	148224
600#	6	0.625	1.000	0.1875	148225
	8	0.750	1.250	0.2500	148227
21,000 New Series					
150# – 300#	3 or 4	0.500	0.875	0.1875	148224
	6	0.750	1.250	0.2500	148226
150# – 600#	0.750, 1 or 1.5	0.500	0.875	0.1875	148224
	2, 3 or 4	0.500	0.875	0.1875	148224
600#	6	0.750	1.250	0.2500	14227
41,000 Old Series					
150# – 600#	1.5 or 2	0.500	0.875	0.1875	148228
	3	0.625	1.000	0.1875	148230
	4	0.625	1.000	0.1875	148232
	6	0.750	1.250	0.2500	148233
	8	1.000	1.625	0.3125	148235
900# – 1500#	2	0.500	0.875	0.1875	148229
	3 or 4	0.625	1.000	0.1875	148231
	6	0.750	1.250	0.2500	148234

5800E Control Valve Kits Designed by Chesterton to Fit Fisher® Valves			
Kit Number and Packing Size	Nominal Size	Pressure Class	Item Number
	Inch		
1 – 0.375 x 0.875	1 and 1.5	150# – 300#	147995
2 – 0.500 x 1.000	2, 3 and 4	150# – 300#	147996
3 – 0.750 x 1.375	6 and 8	150# – 300#	147997
4 – 0.750 x 1.375	6 and 8	600#	147998

VALVE LIVE LOADING

5800T Kit

Pneumatically Controlled Valve Packing and Kit

This Chesterton WedgeSeal packing is used in lower temperature applications. Our unique PTFE filament web overlaid on graphite yarn results in a thermally stable, low-friction packing.



Technical Data

Applications	Light and heavy hydrocarbon services, low temperature steam services, chronic leakers in fugitive emissions services Live Loading is recommended for most applications
Pressure Limit	172 bar g (2500 psig)
Temperature Limit	-180°C – 230°C (-300°F – 450°F), 315°C (600°F) in steam services
Chemical Resistance	pH 0 – 14

5800T Control Valve Kits Designed by Chesterton to Fit Valtek® Mark One™ Valves

Kit Number	Size Inch	Pressure Rating	Item Number
1	1/2, 1	150# – 600#	148081
2	1 1/2, 2	150# – 600#	148082
3	3	150# – 300#	148083
4	4	150# – 300#	148084
5	4	150# – 300#	148085
6	3	600#	148086
7	4	600#	148087
8	4	600#	148088
9	6	150#	148089
10	6	150#	148090
11	6	300#	148091
12	6	300#	148092
13	6	600#	148093
14	6	600#	148094
15	8	150#	148095
16	8	300#	148096
17	8	300#	148097
18	8	600#	148098
19	8	600#	148099

- For air-operated control valves
- For service temperatures below 230°C (450°F)
- Exceeds U.S. EPA requirements for emissions services (<500 ppm as measured by EPA Method 21)
- Very low friction design ensures most efficient valve operation
- Passes API 589 Fire Test

Valtek® and Mark One™ are registered trademarks of FlowServe Management Company

VALVE LIVE LOADING

5700/5700B**Sootblower Kits**

The Chesterton 5700/5700B Sootblower Kit combines exclusive materials to seal the stuffing box. The main die-formed, inhibited graphite rings are self-lubricating, low friction, and 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 five-ring set of packing

The kit includes:

- Chesterton 5300 GTP sealing rings
- Chesterton 1600 end-rings
- Chesterton 5150 Live Loading assemblies
- A new split bronze bushing

**The kit includes:**

- Chesterton 5300 GTP sealing rings
- Chesterton 1600 end-rings
- Chesterton 5150 Live Loading assemblies
- A new split bronze bushing

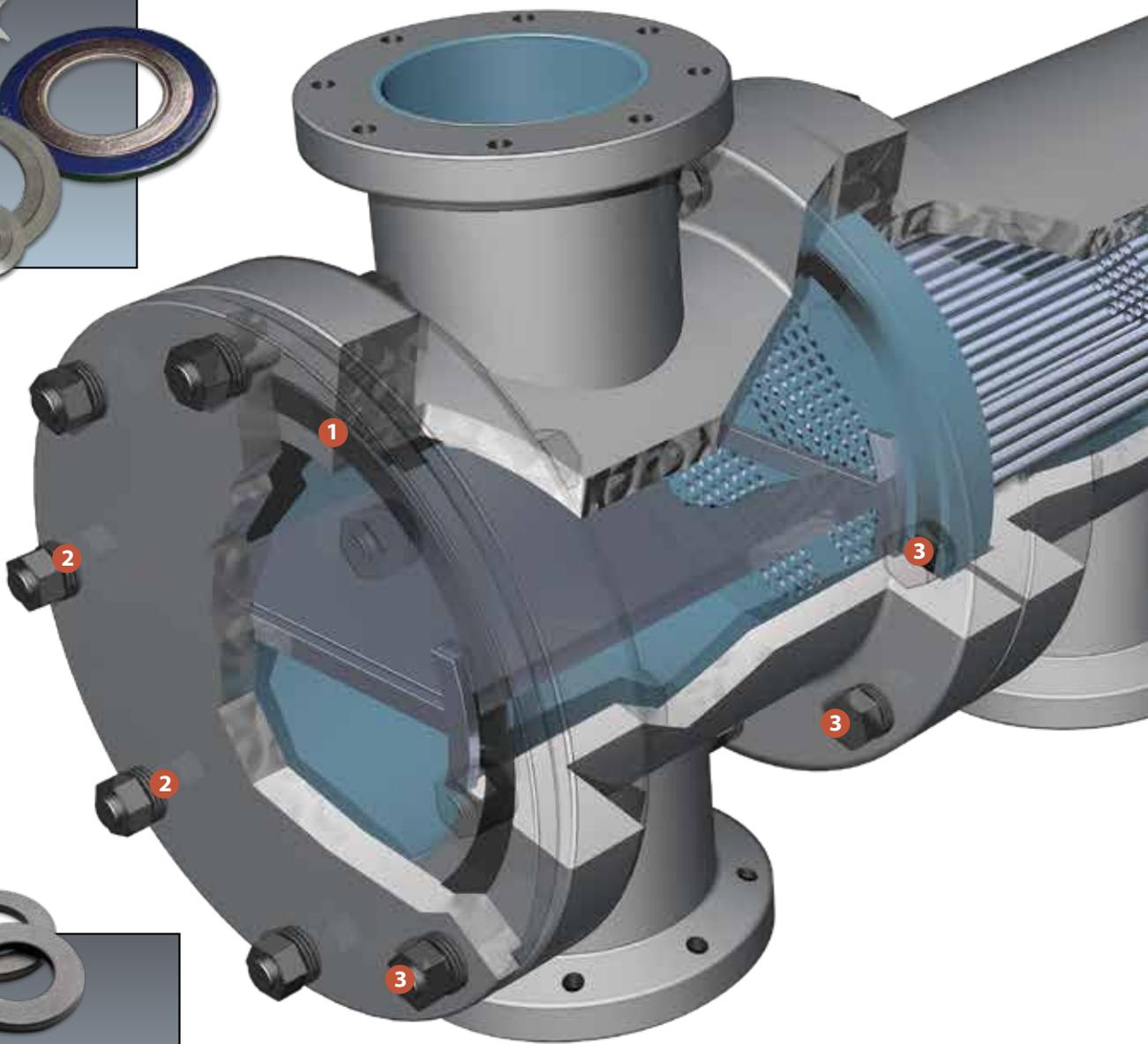
Technical Data

Applications	For use in sootblower applications: water, steam, acids and alkalies, solvents, and gases. Not recommended for use with highly ionized reducing acid or hydrochloric acids at elevated temperatures
Pressure Limit	45 bar g (680 psig)

Chesterton® Flange Sealing Solutions

1 Metal Gaskets

Chesterton Metallic gaskets are used in high-temperature and pressure applications. Engineered for extreme performance.



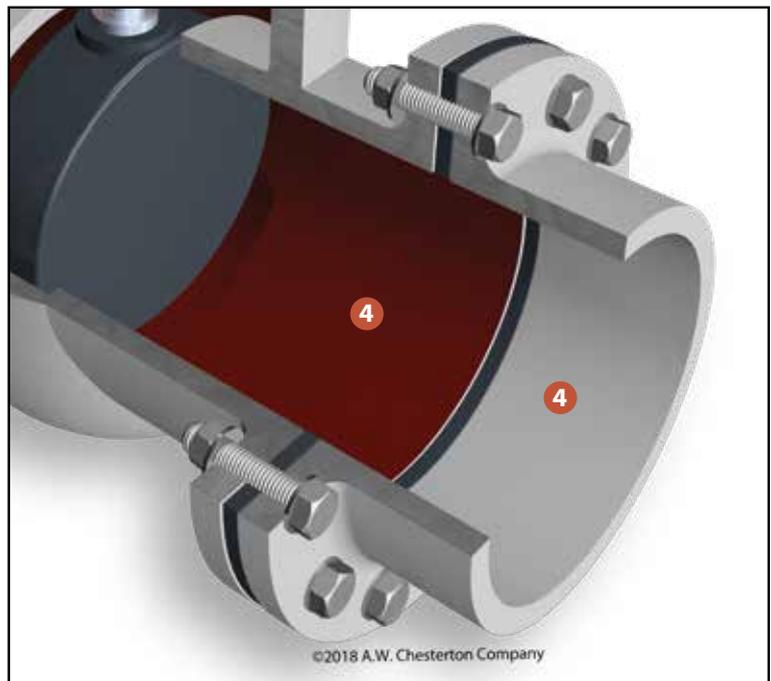
2 Flange Springs

Used to address differential thermal expansion issues. Flange springs provide added travel to the joint and lower the bolt load decay during thermal cycling.



3 Thread Lubrication

Chesterton anti-seize assists in accurate bolt load and resists bolt/nut seizing for easy adjustment and disassembly on flanges, bonnets, and packing followers. These products achieve consistent and correct bolt tensioning.



4 ARC Protective Coatings

Rebuild, restore, and coat pipe linings, flanges, valve bodies, and discs with **ARC Efficiency and Protective Coatings** that help resist corrosion and/or abrasion from process media and from the effects of cavitation on valve internals.



RUBBER SHEET GASKETS

100

Red Rubber Sheet Gasket

Chesterton 100 is a quality styrene butadiene rubber sheet compounded to remain soft and pliable with smooth surfaces. 100 is particularly suitable for air, hot and cold water, and saturated steam.

Technical Data

Applications	Capable of sealing air, hot or cold water, saturated steam
Pressure Limit	17 bar g (250 psig)
Durometer	70 to 85 Shore A
Temperature Limit	-29°C – 80°C (-20°F – 180°F)
Surface Finish	Smooth
Color	Red

100 Ordering Information

Thickness		Weight ± 10%		Approximate Weight Per Roll		Yds. Per Roll ± 10%	Item Number
mm	Inch	kg/m ²	lbs per yd	mm (W) x kg	Inches (W) x lbs		
1.6	1/16	2.4	4.8	914 x 45	36 x 100	21	010001
2.4	3/32	3.5	7.1	914 x 45	36 x 100	14	010066
3.2	1/8	4.5	9.1	914 x 45	36 x 100	11	010002
4.8	3/16	7.1	14.3	914 x 45	36 x 100	7	010003
6.4	1/4	9.9	20	914 x 45	36 x 100	5	010004



- Soft and pliable
- High quality SB rubber
- Smooth finish

119

Cloth-Inserted Rubber Sheet Gasket

Chesterton 119 is a styrene butadiene rubber, polyester cloth-inserted sheet of high strength, rendering it adaptable to light hydraulic service. The cloth is inserted on the inside, protecting both sides with a rubber cover. It may be used in hot or cold water, low pressure steam, or ammonia.

Technical Data

Applications	Hot or cold water Low pressure steam or ammonia
Pressure Limit	10 bar g (150 psig)
Tensile Strength	69 bar g (1000 psig) minimum
Durometer	70 to 85 Shore A
Temperature Limit	80°C (180°F)
Surface Finish	Smooth
Color	Black

119 Ordering Information

Thickness		Approximate Weight Per Roll		Yds. Per Roll ± 10%	Item Number
mm	Inch	mm (W) x kg	Inches (W) x lbs		
1.5	1/16	914 x 45	36 x 100	23	011901
2.4	3/32	914 x 45	36 x 100	15	011966
3.0	1/8	914 x 45	36 x 100	12	011902
5.0	3/16	914 x 45	36 x 100	8	011903
6.5	1/4	914 x 45	36 x 100	6	011904



- Polyester cloth-reinforced rubber
- 5 year shelf life
- Smooth surface finish

RUBBER SHEET GASKETS

122NN

Diaphragm Sheet Gasket

Chesterton 122NN is a superior quality, black diaphragm sheet for use in services where a high-strength, nylon, fabric-reinforced sheet will produce the best results.

Chesterton 122NN's neoprene rubber construction delivers excellent service in steam, gas, air, oil, water, and solvents. 122NN can be used on regulators, reducing valve actuators, or any diaphragm service.

Technical Data

Applications	Steam, gas, air, oil, water, and solvents Can be used on regulators, reducing valve actuators, or any diaphragm service
Width	Meets ASTM
Pressure Limit	17 bar g (250 psig) 3,2 mm (1/8") thick
Tensile Strength	97 bar g (1400 psig) minimum
Elongation	300% minimum
Durometer	65 to 75 Shore A
Temperature Limit	-40°C – 93°C (-40°F – 200°F)
Mullen Burst Test Rating	83 bar g (1200 psig), obtained using burst tester with 31,5 mm (1.24") diameter opening per ASTM D751 and 1 ply material
Surface Finish	Smooth
Color	Black

122NN Ordering Information

Thickness		Width		Weight Per Roll*		Length Per Roll*			Item Number
mm	Inch	mm	Inch	kg	lbs	Meters	Yds	Feet	
1.6	1/16	1422	56	46.8	104.0	15.2	16.7	50.0	012210
3.2	1/8	1422	56	46.8	104.0	7.6	8.3	25.0	012282
4.8	3/16	1422	56	56.3	125.0	6.1	6.7	20.0	012213
6.4	1/4	1422	56	56.3	125.0	4.6	5.0	15.0	012212

*Nominal



- Black diaphragm sheet
- High-strength, nylon-fabric-reinforced sheet

RUBBER SHEET GASKETS

124

Oil-Resistant Rubber Gasket

Chesterton 124 rubber sheet is made of oil-resistant materials and a fortified carbon black compound for gasketing against fatty acids, oils, water, low pressure steam, solvents, and non-aromatic petroleum products.

Technical Data

Applications	Fatty acids, oils, water, low pressure steam, solvents, and non-aromatic petroleum products
Durometer	55 to 65 Shore A
Temperature Limit	-29°C – 88°C (-20°F – 190°F)
Surface Finish	Smooth
Color	Black

124 Ordering Information

Thickness		Approximate Weight Per Roll		Yds Per Roll ± 10%	Item Number
mm	Inch	mm (W) x kg	Inches (W) x lbs		
1.6	1/16	914 x 45	36 x 100	24	012401
3.2	1/8	914 x 45	36 x 100	12	012402
4.8	3/16	914 x 45	36 x 100	8	012403
6.4	1/4	914 x 45	36 x 100	6	012404



- Oil-resistant rubber sheet
- Fortified carbon black compound

359

Graphite Gasket

Chesterton 359 is a cost-effective, general purpose graphite sheet reinforced with 304 Stainless Steel foil insert. Its excellent chemical resistance and thermal stability make this sheet a superior choice to compressed fiber sheet gasket for virtually all applications in the plant.

Technical Data

Applications	Excellent chemical resistance and thermal stability makes this sheet suitable for virtually all applications in the plant
Pressure Limit	140 bar g (2000 psig)
Compressibility	35% – 50%
Recovery	10% – 15% minimum
Temperature Limit	870°C (1600°F) non-oxidizing service 425°C (800°F) oxidizing service
Color	Grey

359 Ordering Information

Thickness		Dimensions		Item Number
mm	Inch	M	Inch	
0.75	1/32	1.00 x 1.00	39.4 x 39.4	153793
1.0	–	1.00 x 1.00	39.4 x 39.4	153794
1.5	1/16	1.00 x 1.00	39.4 x 39.4	153795
2.0	–	1.00 x 1.00	39.4 x 39.4	153796
3.2	1/8	1.00 x 1.00	39.4 x 39.4	153797



- Cost effective
- General purpose
- Graphite sheet reinforced with 304 Stainless Steel foil insert

PTFE GASKETS

ECS

Environmental Containment Sheet (ECS)

ECS-W, ECS-T, ECS-B

ECS-W is a white, PTFE sheet gasket suitable for general service in a wide variety of fluids, strong caustics, acids, chlorine, gases, water, steam, hydrocarbons, hydrogen, and aluminum fluoride.

ECS-T is a tan, PTFE sheet gasket material suitable for high pressure and temperature services, especially in chemical and hydrocarbon plants in strong acids.

ECS-B is a blue, FDA-approved, structured PTFE sheet gasket suitable for chemically aggressive services. It is recommended for services with water, steam hydrocarbons, hydrogen peroxide, solvents, refrigerants, cryogenic products, caustics, and strong acids.



- High chemical resistance
- Excellent in strong acids
- Suitable for aggressive services

Technical Data

Temperature Limit	-210°C (-346°F) to 260°C (500°F)
Pressure Limit	ECS-W and ECS-T: 83 bar g (1200 psig) ECS-B: 55 bar g (800 psig)
Chemical Resistance	pH 0 to 14 inert to all common chemicals except molten alkali metals, fluorine, and certain fluorine bearing compounds
Sealability (ASTM F37a) @ .7 bar g	ECS-W: 0,04 ml/h ECS-T: 0,20 ml/h ECS-B: 0,12 ml/h
Compressibility (ASTM F36a) @ 5000 psig	ECS-W: 5 – 15% ECS-T: 7 – 12% ECS-B: 30 – 50%
Sealability (DIN 3535)	< 0,015 cm ³ /min
Creep Relaxation (ASTM F38B)	ECS-W: 25% maximum ECS-T: 18% maximum ECS-B: 40% maximum
Recovery (ASTM F36a) @ 5000 psig	ECS-W and ECS-T: 40% minimum ECS-B: 25% minimum
Tensile Strength (ASTM F152)	2000 psig; (14 MPa)
P x T Factor	12,000 (°C x bar g) 350,000 for 1/16"; (°F x psig) 8,500 (°C x bar g) 250,000 for 1/8"; (°F x psig)

ECS Ordering Information

Thickness		Dimensions		ECS-W Reorder Number	ECS-T Reorder Number	ECS-B Reorder Number
mm	Inch	M	Inch			
0.8	1/32	1.19 x 1.19	47 x 47	058100	058109	058091
1.5	–	1.5 x 1.5	59 x 59	058106	058115	058097
1.6	1/16	1.5 x 1.5	59 x 59	058099	058108	058090
2.0	–	1.5 x 1.5	59 x 59	058107	058116	058098
2.4	3/32	1.5 x 1.5	59 x 59	058103	058112	058094
3.2	1/8	1.5 x 1.5	59 x 59	058102	058111	058093
FDA Sheets						
0.8	1/32	1.19 x 1.19	47 x 47	058125	058132	058118
1.5	–	1.5 x 1.5	59 x 59	058129	058136	058122
1.6	1/16	1.5 x 1.5	59 x 59	058124	058131	058117
2.0	–	1.5 x 1.5	59 x 59	058130	058137	058123
2.4	3/32	1.5 x 1.5	59 x 59	058127	058134	058120
3.2	1/8	1.5 x 1.5	59 x 59	058126	058133	058119

PTFE GASKETS

184

Expanded PTFE Sheet Gasket

Chesterton 184 is an expanded PTFE gasket with micro-fibrillated internal structure for excellent stability. This structure turns ordinary PTFE into a dimensionally strong, creep-resistant gasketing material. Its benefits include:

- A long lasting, highly reliable seal with minimum retorquing requirements
- Soft and pliable material that conforms to worn or uneven services and effects a tight seal
- Allows for cutting of gaskets using just a pair of scissors or knife

Technical Data

Applications	Excellent chemical resistance. For large areas and cut gasketing
Pressure Limit	Full vacuum to 210 bar g (3000 psig)
Temperature Limit	-267°C – 315°C (-450°F –600°F)
Chemical Resistance	pH 0 – 14 inert to all common chemicals except elemental fluorine and molten alkali metals.
Color	White

184 Ordering Information

Thickness		Dimensions		Item Number
mm	Inch	M	Inch	
1.6	1/16	1.52 x 1.52	60 x 60	004843
3.2	1/8	1.52 x 1.52	60 x 60	004844



- Soft and pliable to conform to uneven flange service
- Easy to cut and fit

PTFE GASKETS

185

Expanded Form-In-Place PTFE Spooled Joint Sealant

Chesterton 185 Expanded Form-In-Place Spooled Joint Sealant is 100% virgin PTFE with micro-fibrillated internal structure for excellent stability. Micro-fibrillated structure turns ordinary PTFE into a dimensionally strong, creep-resistant gasketing material. 185 provides a long lasting, high reliability seal with minimum re-torque requirements. 185 is soft and pliable to conform to worn or uneven surfaces. It is fast and easy to use. Lay out complex shapes fast with 185 Expanded PTFE Spooled Joint Sealant, eliminating waste from cut sheet. The self-adhesive strip holds the joint sealant in place for easy assembly in the shop or in the field.



Technical Data

Applications	Fume ducts, steam vessel flanges, concrete lids, manways, glass joints, ceramic joints, heat exchangers, water systems, hydraulic and pneumatic systems, fiberglass-reinforced plastic vessels, pump or compressor housing flanges, or practically any other industrial equipment where you require a long-life, trouble-free seal that cuts maintenance costs
Pressure Limit	Full vacuum to 210 bar g (3000 psig)
Chemical Resistance	pH 0 – 14 inert to all common chemicals except elemental fluorine and molten alkali metals.
Temperature Limit	-267°C – 315°C (-450°F – 600°F)

- Faster than cut rubber gaskets
- Cleaner and easier than two-part, form-in-place and spray can gaskets
- Adhesive backing makes it easy to secure and position gasket material
- Complete inventory of gaskets on a roll reduces need for many different cut gaskets
- Soft and pliable for ease of use and installation

185 Ordering Information

Size Width		Size Length		Item Number
mm	Inch	M	Feet	
1.0	-	30.0	100	004819
		305.0	1000	004820
3.0	1/8	30.0	100	004821
		305.0	1000	004822
5.0	3/16	23.0	75	004823
		230.0	750	004824
6.5	1/4	15.0	50	004825
		152.0	500	004826
9.5	3/8	7.5	25	004827
		15.0	50	004828
		76.0	250	004829
12.5	1/2	4.5	15	004830
		9.0	30	004831
		45.0	150	004832
16.0	5/8	4.5	15	004833
		9.0	30	004834
		45.0	150	004835
19.0	3/4	4.5	15	004836
		9.0	30	004837
		30.0	100	004838
25.5	1	4.5	15	004839
		9.0	30	004840
		23.0	75	004841
51.0	2	12.0	39	004842

GRAPHITE SHEET GASKETS

459

Nickel Foil / Graphite Gasket

Chesterton 459 graphite sheet with a nickel foil reinforcement is used in high-temperature, high-pressure flange applications. The nickel foil makes 459 easier to cut than other reinforced gasket sheets. It has excellent chemical resistance and can be used up to 1600°F (870°C) in a non-oxidizing atmosphere.

Technical Data

Material	Graphite sheet with a nickel foil reinforcement
Applications	High-temperature applications Resistant to most chemicals
Pressure Limit	140 bar g (2000 psig)
Compressibility (ASTM F36)	35% minimum
Creep relaxation (ASTM F38)	<5% maximum
Temperature Limit	870°C (1600°F) in non-oxidizing services 450°C (850°F) in oxidizing services
Recovery (ASTM F36)	10% minimum P x T = 60,000 (°C x bar g) P x T = 1,600,000 (°F x psig)
Color	Grey

459 Ordering Information

Thickness		Dimensions		Item Number
mm	Inch	M	Inch	
0.8	1/32	1.00 x 1.00	39.4 x 39.4	005038
0.5	–	1.00 x 1.00	39.4 x 39.4	005042
1.0	–	1.00 x 1.00	39.4 x 39.4	005043
1.6	1/16	1.00 x 1.00	39.4 x 39.4	005039
2.0	–	1.00 x 1.00	39.4 x 39.4	005044
3.0	1/8	1.00 x 1.00	39.4 x 39.4	005040
2.4	3/32	1.00 x 1.00	39.4 x 39.4	005050



- Ideal for high-temperature applications
- Excellent chemical resistance
- Easier to cut than other reinforced graphite sheets

GRAPHITE SHEET GASKETS

199

High Temp Gasket

A gasket for high temp applications, Chesterton 199 is a chemically inert graphite sheet with a 316 stainless steel foil insert for extreme stability. This gasket contains a corrosion inhibitor to prevent galvanic attack of flange faces. Its excellent thermal stability, chemical resistance and negligible creep characteristics make it a truly universal sheet gasket.

Technical Data

Applications	Flanged joints, high temperature, and steam, corrosives, hydrocarbons
Temperature Limit	870°C (1600°F) in non-oxidizing services 455°C (850°F) in oxidizing services
Pressure Limit	140 bar g (2000 psig)
Compressibility (ASTM F38)	40%
Creep Relaxation (ASTM F38)	<5%
Recovery (ASTM F36)	12 – 17%
Color	Grey

199 Ordering Information

Thickness		Dimensions Length x Width		Approximate Weight		Item Number
mm	Inch	M	Inch	kg	lbs	
0.8	1/32	1.00 x 1.00	39.4 x 39.4	0.86/1.28	1.89/2.83	014011
1.6	1/16	1.00 x 1.00	39.4 x 39.4	1.71/2.14	3.77/4.72	014012
3.2	1/8	1.00 x 1.00	39.4 x 39.4	3.42/3.85	7.54/8.49	014013
0.8	1/32	1.52 x 1.52	60 x 60	1.98/2.95	4.38/6.51	014014
1.6	1/16	1.52 x 1.52	60 x 60	3.97/4.94	8.75/10.88	014015
3.2	1/8	1.52 x 1.52	60 x 60	7.94/8.90	17.50/19.63	014016
2.0	–	1.00 x 1.00	39.4 x 39.4	2.79	6.15	014017
2.5	–	1.00 x 1.00	39.4 x 39.4	2.88	6.35	014018
1.0	–	1.00 x 1.00	39.4 x 39.4	1.18	2.59	014019



- Built-in corrosion inhibitor to minimize flange pitting
- Thermally stable for temperature changes

SEMI METAL GASKETS

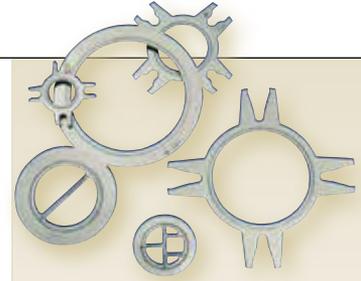
Steel Trap™

High Performance, Semi-Metallic Gasket

An innovative flange sealing system for safe and permanent sealing of flanges in severe services.

Technical Data

Material	Metal carrier from virtually any metal with graphite, PTFE, or ceramic sealing elements
Applications	Pipe flanges, heat exchangers, vessels, reactors, valve bonnets, and housings
Pressure Limit	415 bar g (6000 psig)
Temperature Limit	Atmosphere -200°C to 500°C (-328°F to 932°F) Steam up to 650°C (1200°F) Inert media -200°C to 900°C (-328°F to 1650°F)
Chemical Resistance	pH 0 – 14



- Thin design and soft sealing material encapsulation provides increased blow-out safety
- Replaces sheet gasketing without equipment modification
- Can be manufactured in virtually any shape

Camprofile

High Performance, Semi-Metallic Gasket

Highly reliable flange gasket with excellent emission control.

Technical Data

Material	Stainless steel carrier with a graphite or PTFE sealing element (more materials available)
Applications	Pipe flanges, heat exchangers, vessels, reactors, valve bonnets, housings
Pressure Limit	300 bar g (4350 psig)
Temperature Limit	graphite sealing layer 550°C (1020°F) inert media -200°C – 900°C (-328°F – 1650°F) PTFE sealing layer 300°C (572°F)



- Certified low emission performance
- High reliability
- DIN and ANSI standard gaskets
- Custom shapes available, including heat exchanger gaskets

Spiral Wound

Economical, Semi-Metallic Gasket

Excellent emission performance in an all-around general plant gasket.

Technical Data

Material	Stainless steel windings with graphite or PTFE sealing layer, stainless steel inner ring, coated carbon steel outer ring (more materials available)
Applications	Pipe flanges, vessels, reactors, valve bonnets, and housings
Pressure Limit	350 bar g (5075 psig)
Temperature Limit	graphite sealing layer 450°C (840°F) PTFE sealing layer 300°C (570°F)
Chemical Resistance	pH 0 – 14



- Economical, semi-metallic solution
- Low emissions
- DIN and ANSI standard gaskets and custom shapes available
- Various configurations

COMPRESSED NON-ASBESTOS GASKETS

450

Synthetic Fiber Gasket

Chesterton 450 Synthetic Fiber Sheet is a low-temperature, non-asbestos sheet gasketing material suitable for general services to 200°C (390°F), 25 bar (365 psi). Chesterton 450 is recommended for use in water, gas, brine, and steam applications.

Note: Not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

Technical Data

Applications	Recommended for use in water, gas, brine, and steam applications Not recommended for use in chlorinated hydrocarbons, aromatic, and ester ketones
Pressure Limit	25 bar g (365 psig)
Compressibility (ASTM F36)	7 – 17%
Creep relaxation (ASTM F38)	20% maximum
Temperature Limit	200°C (390°F)
Recovery (ASTM F36)	40% minimum tensile strength across grain (ASTM-F152) 110 bar g (1600 psig) P x T = 4,375 (°C x bar g) P x T = 125,000 (°F x psig)
Color	Green

450 Ordering Information

Thickness		Dimensions		Reorder Number
mm	Inch	M	Inch	
0.4	1/64	1.52 x 1.52	60 x 60	003050
0.8	1/32	1.52 x 1.52	60 x 60	003051
1.6	1/16	1.52 x 1.52	60 x 60	003052
2.4	3/32	1.52 x 1.52	60 x 60	003053
3.2	1/8	1.52 x 1.52	60 x 60	003054



- Low-temperature service
- General service

COMPRESSED NON-ASBESTOS GASKETS

195

Synthetic Fiber Gasket

A heavy-duty synthetic gasket sheet consisting of aramid fibers and high-quality nitrile binder. Applicable for use in a wide range of general service flange gasket applications.

Technical Data

Applications	General service flange gasket applications Low-pressure steam
Pressure Limit	100 bar g (1470 psig), 20 bar g (300 psig) saturated steam service
Temperature Limit	400°C (750°F)
Color	White

195 Ordering Information

Thickness		Dimensions		Packaged ± 10%		Reorder Number
mm	Inch	M	Inch	kg	lbs	
0.4	1/64	1.52 x 1.52	60 x 60	1.4	3.8	019561
0.8	1/32	1.52 x 1.52	60 x 60	2.7	7.6	019562
1.6	1/16	1.52 x 1.52	60 x 60	5.4	15.0	019501
2.4	3/32	1.52 x 1.52	60 x 60	8.2	23.0	019586
3.2	1/8	1.52 x 1.52	60 x 60	10.9	30.0	019502
0.8	1/32	1.52 x 3.04	60 x 120	5.4	15.0	019574
1.6	1/16	1.52 x 3.04	60 x 120	10.9	30.0	019571
2.4	3/32	1.52 x 3.04	60 x 120	16.3	46.0	019576
3.2	1/8	1.52 x 3.04	60 x 120	21.8	60.0	019572



- Aramid fibers allow higher temperature capability than rubber
- Heavy-duty sheet

COMPRESSED NON-ASBESTOS GASKETS

455

Aramid Fiber Gasket

Chesterton 455 Aramid Fiber/Nitrile Binder, non-asbestos sheet is a general purpose sheet gasket material offering good sealability and chemical resistance. 455 incorporates synthetic fiber with a nitrile binder, and can be used against water, salt solutions, organic alkali aliphatic and aromatic hydrocarbons, alcohols, ester, oils and gases up to 300°C (575°F). 455 is not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

Technical Data

Applications	Recommended for water, salt solutions, organic alkali aliphatic and aromatic hydrocarbons, alcohols, ester, oils and gases up to 300°C (575°F) Not recommended for use in chlorinated hydrocarbons and aromatic
Pressure Limit	50 bar g (735 psig)
Compressibility (ASTM F36)	7 – 17%
Creep relaxation (ASTM F38)	25% maximum
Tensile strength across grain (ASTM F152)	100 bar g (1500 psig)
Temperature Limit	300°C (575°F)
Recovery (ASTM F36)	50% minimum
Color	Light Red

455 Ordering Information

Thickness		Dimensions		Reorder Number
mm	Inch	M	Inch	
0.4	1/64	1.52 x 1.52	60 x 60	003630
0.8	1/32	1.52 x 1.52	60 x 60	003631
1.6	1/16	1.52 x 1.52	60 x 60	003632
2.4	3/32	1.52 x 1.52	60 x 60	003633
3.2	1/8	1.52 x 1.52	60 x 60	003634
3.2	1/8	1.52 x 4.56	60 x 180	003643
1.6	1/16	1.52 x 4.56	60 x 180	003644



- Good chemical resistance
- Aramid fiber/Nitrile binder material
- General purpose sheet gasket material offering good sealability

COMPRESSED NON-ASBESTOS GASKETS

457

High-Temperature Carbon Fiber Sheet

Chesterton 457 Carbon Fiber/Nitrile Binder Sheet is a high-temperature, non-asbestos sheet gasket material formulated for a wide variety of gasketing needs. 457 is recommended for use in a broad range of steam, water, oil, and hydrocarbon applications.

Note: Not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

Technical Data

Material	Carbon fiber with nitrile binder
Applications	A broad range of steam, water, oil and hydrocarbon applications
Temperature Limit	450°C (840°F)
Pressure Limit	100 bar g (1470 psig)

457 Ordering Information

Thickness		Dimensions		Item Number
mm	Inch	M	Inch	
0.4	1/64	1.52 x 1.52	60 x 60	003851
0.8	1/32	1.52 x 1.52	60 x 60	003852
1.6	1/16	1.52 x 1.52	60 x 60	003853
2.4	3/32	1.52 x 1.52	60 x 60	003854
3.2	1/8	1.52 x 1.52	60 x 60	003855



- High-temperature capability
- Material formulated for a wide variety of gasketing needs

FLANGE SPRINGS

Flange Live Loading**Flange Discs**

Increase reliability, lower emissions, and reduce total costs by using tailored sealing solutions for critical flanges.

Technical Data	5500	5505H
Material	Specialized stainless steel alloy	Chromium steel with oxide coating
Temperature Limit	-200°C – 300°C (-328°F – 575°F)	0°C – 600°C (32°F – 1100°F)
Corrosion Resistance	better	good
Applications	Use in combination with Chesterton® Camprofile or Steel Trap™ gaskets on process flanges, heat exchangers, vessels, reactors, valve bonnets, housings, sight glasses	
Warranty	3 year warranty (see flange Live Loading warranty for conditions)	



- Shutdown to shutdown reliability
- Significantly reduces downtime on critical equipment
- Lowers emissions and meets environmental regulations
- Reduces leakage and product loss
- Reduces housekeeping concerns
- Improves plant efficiency and reduces total cost

Manway Sealing

Manway Gaskets

Improper manway sealing can result in a door gasket failure and significant safety risks. Chesterton has developed a more reliable manway sealing solution. Please contact your local Chesterton Representative to help you select the best product for your application.



Technical Data	Steel Trap™	459
Material	Metal carrier from virtually any metal with graphite, PTFE, or ceramic sealing elements	Graphite sheet with nickel foil reinforcement
Pressure Limit	415 bar g (6000 psig)	140 bar g (2000 psig) Compressibility (ASTM F36) 35% minimum
Temperature Limit	Atmosphere -200°C – 500°C (-328°F – 932°F) Steam up to 650°C (1200°F) Inert media -200°C – 900°C (-328°F – 1650°F)	870°C (1600°F) in non-oxidizing services 450°C (850°F) in oxidizing services
Chemical Resistance	pH 0 – 14	pH 0 – 14

- Reduces housekeeping concerns
- No hot retorquing
- Reduces maintenance requirements

Heat Exchanger Sealing

Heat Exchanger Gasket and Live Loading

The design and function of heat exchangers present one of the most difficult sealing applications in a plant. The wide range of operating conditions subject heat exchangers to severe thermal cycling and hydrostatic pressures.

Chesterton offers a complete sealing solution ideal for all heat exchanger applications, especially those subject to vibrations, pressure surges, and the effects of thermal cycling.



Technical Data	Steel Trap	Flange Discs	
		5500	5505H
Material	Metal carrier from virtually any metal with graphite, PTFE, or ceramic sealing elements	Specialized stainless steel alloy	Chromium steel with oxide coating
Temperature Limit	Atmosphere -200°C – 500°C (-328°F – 932°F) Steam up to 650°C (1200°F) Inert media -200°C – 900°C (-328°F – 1650°F)	-200°C – 300°C (-328°F – 575°F)	0°C – 600°C (32°F – 1100°F)
Warranty	3-year warranty (see flange Live Loading warranty for conditions)		

- Reduce unscheduled downtime
- Meet current fugitive emissions and environmental regulations
- Reduces leakage and product loss
- Reduces housekeeping concerns

174

Packing Knife

Chesterton 174 Packing Cutting Knife has a fine, bevelled blade to cut braided packings and a serrated blade to cut molded items.

Blade length 125 mm (5")

Overall length case included 250 mm (10")

Order Item Number 002300



176

Tamping Tools

Chesterton 176 Tamping Tools are applicable for use on valves and pumps to tamp the packing into the stuffing box.



Pump Packing Tamping Tools Ordering Information	
Packing Size	Item Number
6 – 8 mm (0.250" – 0.312")	002505
6 – 12 mm (0.312" – 0.500")	002507
12 – 20 mm (0.500" – 0.750")	002506

Valve Packing Tamping Tools Ordering Information	
Packing Size	Item Number
3 – 6 mm (0.125" – 0.25")	002307
6 – 12 mm (0.312" – 0.500")	002308
12 – 20 mm (0.500" – 0.750")	002309

178

Ring Packing Cutter

Chesterton 178 Ring Packing Cutter permits accurate cutting of rings from spiral or flat coil packings. The scale reads directly in terms of shaft sizes, in inches and, in millimeters. To operate, simply set one scale to correspond with cross-sectional size of packing, set other scale for shaft diameter, and cut ring. Handles packing sizes 3 mm (1/8") through 25 mm (1") and shaft sizes up to 100 mm (4").

Kit Order Item Number 003400

Knife for Ring Packing Cutter Order Item Number 003402



179

Gasket Cutter and Accessories

Chesterton Gasket Cutter utilizes a sturdy brass cutting head that slides easily over a variety of gasket materials. The unique design gasket cutter allows you to quickly adjust your cutting size from 6 mm ID to 940 mm OD (1/4" ID to 37" OD). Special cutting blades are held securely, ensuring consistent and repetitive cuts in material up to 19 mm (3/4") thick. Includes 457 mm (18") cutting board with fiber pad.

Gasket Cutter Kit (Metric) Order Item Number 042651

Gasket Cutter Kit (Inch) Order Item Number 042650

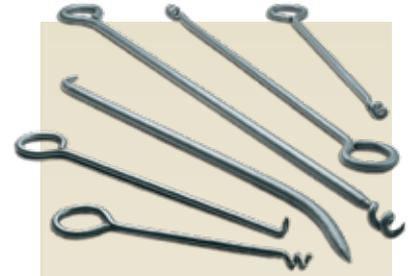


242

Stiff Packing Extractors

Chesterton 242 Stiff Packing Extractors are made of a special tool steel to withstand the roughest usage. The 242 packing tools are only sold in complete sets of six.

Order Item Number 002402



253

Flexible Packing Extractors

Chesterton 253 Flexible Packing Extractors are used for strong pull packing removal. Construction features include high-strength aircraft cable, precision heat-treated extracting worm, and unbreakable rotary-swaged assembly. Worm tips have plastic protective coating. Large, smooth, easy-grip handle. Furnished in sets of four tools.



253 Ordering Information

Number	Minimum OD	Item Number
Set		002400
0	requires 4.2 mm (0.165")	002499
1	requires 6.6 mm (0.260")	002501
2	requires 10.7 mm (0.420")	002502
3	requires 10.7 mm (0.420")	002503

Sure-Cut Packing Cutter

The Sure-Cut Packing Cutter will save time, money, and braided packing while providing precision butt and skive cuts for the highest quality packing installations. The Sure-Cut Packing Cutter provides fast, accurate cuts every time and has been tested and will cut a number of different Chesterton packings* including 412-W, 1724, 1727, 1730, 1400, 1400R, and 1600.** Sure-Cut Maintenance Kit which includes a pocket sharpener and replacement blade is also available.

Order Item Number 001924

Maintenance Kit Reorder No. 001925



* Not recommended for Kevlar® products.
** Cuts up to 5/8" cross section for 45° skive cuts and up to 1" for butt cuts for all styles.

Water Jet Packing Extractor

The Water Jet Packing Extractor system consists of an air-operated, high-pressure pumping system, high-pressure hose, extraction gun, portable reservoir, and nozzle kit. This system has been designed for fast and efficient removal of valve stem packing, pump packing, and flange gaskets.

Order Item Number 104991



Equipment and Process	Chesterton Packing
Asphalt Plants	
Asphalt Pumps 600 F.P.M.	1760, 1400R/(477-1), 1830-SSP
Asphalt Pumps 1200 F.P.M.	1760, 1400R/(477-1), 1830-SSP
Bituminous Tank Agitators	1730SC, 1400R/(477-1), GraphMax
Asphalt Loading Pumps	1760, 1400R/(477-1), 1830-SSP
Emulsified Asphalt Pumps	1760, 1400R/(477-1), 1830, GraphMax
Solvent Pumps	1760, 1400R/(477-1), 1830
Light Flux Pumps	1765
Auto Assembly	
Bonderite pumps	1765
Paint pumps	1727, 412-W
Battery Manufacture	
Acid pumps	1760, 1765, 1830
Hydraulic platen presses	600, 6K, 27K, 22K, 23K
Bottling Companies	
Bottle washer	1730, 1727, 1760, 1765, 1830, 2211
Breweries	
Air compressor	1730, 1400R, 1727, 1760, 1830
Ammonia compressor	1400R/(477-1)
Ammonia valves	1400R, 477-1, 1724, 1726
Liquid ammonia pumps	1400R, 477-1, 1730, 412-W, GraphMax
Corn syrup pumps	1730, 412-W
Brine pumps	1730, 412-W, 2212
Beer pumps	1730, 412-W, 425, 1725A, 1935*
Stock pumps	1760, 1730, 412-W, 1830-SSP, 2211, 2212
Rinse pumps	1760, 1730, 412-W, 1765, 1830
Slurry pumps	1760, 1730, 412-W, 1830-SSP, 2211, 2212
Caustic rinse pumps	1760, 1730, 1830, 2211
Storage tanks	185, 289
Feed water treatment tanks	185, 289
Cookers and kettles	184, 185, 1724, 425, 1935*
Brick Manufacturing	
Oven door gaskets	289, 160, 161, 162
Steam pumps - rods	1400R/(477-1), 1724, 1760
Tunnel kiln pushers	600, 22K, 23K, 27K
Cement Plants	
Sludge pumps	1730, 1727, 2212
Chemical Plants	
Mild chemicals pH 5 to 9	1760, 1730, 1727, 1830, 2211, 2212
Strong acids pH 1 to 4	
Valves & reciprocating	1724, 1765, 1726
Centrifugals	1760, 1765, 1724, 1830
Strong caustics pH 10 to 14	
Valves & reciprocating	1724, 1765
Centrifugals	1765, 1760, 1724, 1830
Solvent pumps	1765, 1727, 1730, 1760, 1830
Sheet Packings:	
Tank and door gaskets:	
Regular	185, 289
Solvents	184, 185
Cold oils	124, 140
Acids	459, 359, 199, 184, 185, ECS-T
Alkalies	459, 359, 199, 184, 185, ECS-T
Hot solvents	459, 199, 184, 185, ECS-T
Steam	459, 359, 199, 457, 455
Coal Mines	
Centrifugal pumps	1730, 1727, 1830-SSP, 2211, 2212
Plunger pumps	600, 22K, 23K, 27K
Strip mine shovels, jacks	600
Cold Storage	
Ammonia compressors	1400R/(477-1)
Ammonia valves	1400R/(477-1), 1724, 1726

Equipment and Process	Chesterton Packing
Corn Processing	
Acid pumps	1765, 1760, 1830
Alkaline pumps	1765, 1727, 1730, 1760, 1830
Stock pumps	1727, 1730, 1830, 2212, 2211
Cotton Ginning	
Presses, hydraulic pumps	22K, 23K, 27K
Cotton Seed Oil	
Oil pumps	1727, 1730, 1830, 2211, 2212
Hexane pumps	1760, 477-1, 1400R/(477-1), GraphMax
Compress, rams	600, 6K, 27K, 22K, 23K
Creosote Treating	
Pressure pumps:	
Centrifugal	
Reciprocating	1400R/(477-1), 1760
Liquid rods	1760, 1724
Steam rods	1760, 1724
Pressure tank door gaskets	1727, 1730, 1724
Dairies	
Food or milk	1725A, 425, 1935*
Homogenizers, viscolizers	
Bottle and can washer pumps	1725A, 425, CMS 2000-FP, 1935*
Distilleries (also see Breweries)	
Whiskey pumps	1725A, 425, 1935*
Rinse pumps	1725A, 425, CMS 2000-FP, 1935*
Slop, mash pumps:	
Centrifugal	1725A, 425, CMS 2000-FP, 1935*
Reciprocating	1725A, 425, 1935*
Evaporating drum driers	1724, 1730SC
Elevator Repair and Manufacturing	
Hydraulic jack (ram)	600, 6K, 27K, 22K, 23K
Farm Machinery (repairs, earthmoving)	
Hydraulic rams and rods	600, 6K, 27K, 22K, 23K
Fertilizer Plants (also see and include recommendations for Fish Oil and Meal)	
Acid pumps	1765, 1760, 1830
Fish Oil and Meal	
Acid pumps	1765, 1760, 1830
Caustic wash pumps	1765, 1727, 1730, 1830
Fish pumps:	
Centrifugal	1727, 1730, 2212
Reciprocating	1727, 1730, 1760, 1830-SSP
Cooker, retort gaskets	289, 184, 185
Food Processing (also see Meat Packing)	
Blood cookers	1765, 1725A, 425, 1935*
Food pumps:	
Centrifugals	1725A, 425, CMS 2000-FP, 1935*
Reciprocating	1725A, 425, 1935*
Cooker or retort gaskets	289, 184, 185
Ammonia compressors	1400R/(477-1)
Ammonia valves	1724, 1400R/(477-1), 1726
Mixers	1725A, 425, 1935*
Gaskets	184, 185
Forging Plants	
Steam hammer rods:	
End rings	1724, 477-1
Balance	600
Furniture Manufacturing	
Backbenders	600, 27K
Steam chest gaskets	289, 1600

NOTE: 1400R/(477-1) – Combination sets of 1400R with 477-1 as anti-extrusion rings.
*Europe only.

Equipment and Process	Chesterton Packing
Gas Manufacturing	
Ammonia solutions	1400R/(477-1), 1727, 1730
Ammonia valves	1400R/(477-1), 1724, 1726
Crude Oil	1400R/(477-1), 1727, 1730, 2211
Exhauster shafts	1400R/(477-1), GraphMax
Fuels and gas oil	1400R/(477-1), 1727, 1730
Gas tar, tar water	1400R/(477-1), 1727, 1730, GraphMax
Generator ash and clinker doors	289
Hot valves:	
Generator to carburetor	5300/5600, GTP, 1600, 1400R/(477-1)
Naphthalene	1400R/(477-1), GraphMax
Oil splash lubricated engines	1400R/(477-1), 1727, 1730
Purifier box cover and door seals	289
Seal, box and scrubber	1727, 1730, 2212
Greenhouses (also see Power Generating Plants)	
Humidifier centrifugals	1727, 1730, 1830
Gold Mines	
Reciprocating sludge pumps	1765, 1760, 1830-SSP, 2211
Reciprocating slime pumps	1765, 1760, 1830-SSP, 2211
Centrifugals	1765, 1760, 1730, 1727, 1830, 2211
Acid pumps	1765, 1760, 1830
Hospitals (also see and include Power Generating Plants recommendations)	
Ammonia compressor	1400R/(477-1)
Expansion joints	1724
Fire pumps – Centrifugals	1400R/(477-1), 1727, 1730, 1760, 1830
Feed and vacuum pumps	1400R/(477-1), 1760, 370, 1830
Sterilizers, autoclaves (gaskets)	185, 289
Junk Yards	
Hydraulic reciprocating oil pumps	600, 27K
Body baling press	600, 6K, 27K, 22K, 23K
Laundry – Dry Cleaning (also see Power Generating Plants)	
Filter cloth gasket	140
Solvent pump	1765, 1727, 1730, 1760, 1830
Soap pump	1765, 1727, 1730, 1760, 1830
Air compressor	1730, 1727, 1760, 1830, 370
Flat work ironer, mangles, presses	1730SC
Loading Platforms and Equipment	
Rams	600, 6K, 27K, 22K, 23K
Lumber Operations	
Shotguns, feed engines, riggers, winches donkey engines, log turners, loaders	
Use end rings	477-1, 1724
Balance of set	1730SC, 2212
Also recommended	600, 27K
Meat Packing	
Crackling press	600, 6K, 27K, 22K, 23K
Hydraulic pumps	600, 8000
Blood cookers	1725A, 425, 1935*
Tree washer pumps	1727, 1730, FDA 1725A, 425, 1935*
Cookers, dryers, blenders	1727, 1730, FDA 1725A, 425, 1935*
Cookers, dryers-gaskets	289
Stock liquor pumps	1765, 1760
Acid pumps	1765, 1760
Caustic pumps	1765, 1760
Ammonia compressor	1400R/(477-1)
Ammonia valves	1724, 1726

Equipment and Process	Chesterton Packing
Metal Casting	
Quench – oil pumps	1727, 1730, 2211
Hydraulic pumps	1727, 1730, 600, 1760
Accumulators	600, 6K, 27K, 22K, 23K
Hydraulic rams	600, 6K, 27K, 22K, 23K
Oil Refineries	
For critical installations where mechanical seals are advisable because of explosive conditions, or where economy requires minimum loss of fluids, selection should be made from our range of <i>Chesterton Mechanical Seals</i> . In this category of fluids are solvent vapors, solvent charges, solvent oils, propane, butane and the like. Other recommendations for soft packings are as follows:	
Mild chemicals – pH 5 to 9	1727, 1730, 1760, 1830, 2211, 2212
Strong acids pH 1 to 4	
Valves and reciprocating	1724, 1760
Centrifugals	1765, 1760, 1724, 1830
Strong caustics pH 10 to 14	
Valves and reciprocating	1765, 1724, 1760
Centrifugals	1724, 1760, 1830
Oil Refineries	
Gasoline, Lubricating Oils, Light Fuel Oils: up to 230°C (450°F)	1400R/(477-1), 1724, 1727, 1730, 1760, 1830
over 230°C (450°F)	1400R/(477-1), 370
Hot crude charge pumps and hot oil pumps: over 200°C (400°F) when flushed	1400R/(477-1), 370
Note: deep boxes over 6 rings require special bottom bushings	
Control valves, chemical valves: to 260°C (500°F)	5800, 5800E, 5800T, 1622, 1400R/(477-1) GTP/5600, 1724, 1726
over 260°C (500°F)	5800, 5800E, 1622, 1400R/ (477-1), GTP/5600
Block valves, chemical	1622
Steam valves:	
High temperature	1400R/(477-1), GTP, 1601
Condensate centrifugal pumps	1400R/(477-1), 370, 1830
Cooling tower acid pumps	1727, 1730, 1760, 1830
MEK Unit Filters	1400R/(477-1), 1724, 5300
Asphalt:	
Reciprocating pump rods, steam end	1760, 1730SC, 1724, 2212
Air compressor	1730, 1727, 1760, 1830
Refrigeration	1400R/(477-1), 1760, 370
Power Plant (see Power Generating Plants)	
Sheet Packings	
Cold oils	140, 455, 457
Hot solvents	184, 185, ECS-T
Acids	184, 185, ECS-T
Caustics	459, 199, 184, 185, ECS-T
Steam	459, 199, 457, 455
General purpose	455, 457
Gaskets:	
Regular	140, 455, 457
Solvents, chemicals	184, 185, ECS-T
Paint Manufacturing	
Paint pumps	1727, 412-W
Solvent pumps	1760, 1730, 1727, 1830

NOTE: 1400R/(477-1) – Combination sets of 1400R with 477-1 as anti-extrusion rings.

*Europe only.

Equipment and Process	Chesterton Packing
Paper and Pulp Mills	
Control valves to 260°C (500°F)	5800, 5800T, 1724,
Mild chemicals – pH 5 to 9	412-W, 1730, 1727, 1830, 2211, 2212
Strong acids – pH 1 to 4: Valves and reciprocating Centrifugals (also seals)	1760, 1765, 1830 1400R/(477-1), 1724, 1760 1730, 1760, 1727, 1400R/(477-1T), 1830
Strong caustics – pH 10 to 13: Valves and reciprocating Centrifugals	1400R/(477-1), 1724, 1760 1730, 1760, 1727, 1400R/(477-1T), 1830
Sheet Gaskets: Steam and general Caustics Acids Water	455, 459, 457 ECS-T, 459, 185 ECS-T, 459, 185 100, 175
Stock pumps, Jordans, Claflins	370, 1730, 1760, 1727, GraphMax 1400R/(477-1T), 1830-SSP, 2211, 2212
Hydropulpers, hydrofiners	370, 1730SC, 1760, 1727, GraphMax, 1400R/(477-1T), 1830-SSP, 2211, 2212
Refiners, stock chests	1730, 1760, 370, GraphMax, 1400R/(477-1T), 1830-SSP, 2211, 2212
White water pumps	1730, 1760, 1727, GraphMax, 1400R/(477-1T), 1830-SSP, 2211, 2212
White liquor pumps	1760, 1727, 1400R/(477-1T), 1765, GraphMax
Black liquor pumps (also seals) Green liquor pumps (also seals)	1400R/(477-1T), 1760, GraphMax 1760, 1400R/(477-1T), 370, GraphMax
Bleach liquor pumps Chlorine pumps Evaporators	1765 1765 1760, 1400R/(477-1T), 1765, GraphMax
Sulphate and soda, digester Sulphate digester top gland Sulphate acid, digester Lime slurry Sodium chlorate Hydraulic pumps, accumulator Cold water rods Cold water shafts	1760, 1765 1760, 1765 1760, 1765 1400R, 1760, GraphMax 1765 1724, 1760 1724, 1760 1730, 1727, 1760, 412-W, 1830-SSP, 2211, 2212
Pocket grinder Raw acid pumps Mixers, bleach dept High density stock pump	412-W, 1730 1765 1765 1730, 1760, 370, GraphMax, 1400R/(477-1T), 1830-SSP, 2211, 2212
Drying cylinder box Vacuum pumps	1730 1730, 370, 1830-SSP
Pharmaceutical	
1726 Control valves, to 260°C (500°F)	GTP, 1724, 5800, 1726
Steam valves	GTP, 1724, 1600, 1400R
Pumps: Neutral liquids	1727, 1725A, 1765, 1730, 1935*, 425, 1830, 2211, 2212
Liquids subject to discoloration Acids Alkalies Solvents	1727, 1725A, 1765, 1730, 425, 1935* 1765, 1724, 1760 1760, 1765 1724, 1730, 1727, 1760, 1830
Kettle gaskets: Glass joints PTFE tape for chemicals	184, 185 185

Equipment and Process	Chesterton Packing
Phosphate Mines	
Phosphate centrifugal pumps Acid pumps	1730, 1727, CMS 2000, 2211 1724, 1765, 1760
Piano Manufacturing	
Platen press rams Hydraulic pump and accumulator	1760, 477-1, 477-1T 1760, 477-1, 477-1T
Plastic Moulding	
Rams of press Hydraulic pump and accumulator	1760, 477-1, 477-1T 1760, 477-1, 477-1T, 1830
Plywood Manufacturing	
Curing press Lathes Hydraulic pump and accumulator	1760, 477-1, 477-1T 1760, 477-1, 477-1T 1760, 477-1, 477-1T, 1830
Potteries	
Glaze pumps, pottery slip Soup pumps (plunger)	1765, 1724, 1730, 1727, 2212 1760, 477-1, 477-1T
Power Generating Plants (For All Industries)	
Steam valves: High temperatures under 260°C (500°F)	GTP/1600, 1600, 1400R, 477-1 1724, 1601, 1400R, 477-1
Isolating valves Soot blower Stokers	GTP, 1601, 1400R, 477-1, 1726 5700B 1600, 1400R/(477-1)
Ash sluice pumps: Bottom ring Balance	1740, 477-1 1730, 1727, 1760, 1400R, 2211, 2212
Condensate pumps Circulating and cooling pumps:	1760, 1400R/(477-1), 370, 1830 1760, 477-1, 1730, 1727, 412-W, 1830, 2211, 2212
Boiler feed pumps Fuel oil service	370, 1400R/(477-1), 1830 1400R/(477-1), 1760, 1730, 1830, 2211, 2212
Transfer pumps	1400R/(477-1), 1760, 1730, 1830, 2211, 2212
Milton-Roy or Proportioneers Chemical Injectors: Acid Alkalines	1724, 1760 1724, 1760
Sheet gasket services Heat exchanger gaskets	455, 457, 459, ECS-T, 199 252, 459, 199
Rolling Mills	
Cooling systems: Centrifugal pumps – Coolant, booster, balance, filter: Oil Water	1724, 1760, 1830 1730, 1727, 412-W, CMS 2000, 1830 1760, 1400R/(477-1), 1830
Geared pumps Valves: Oil Water	1760, 1400R/(477-1), 1830 GTP/1600, 1600, 477-1 GTP/1600, 1600, 477-1
Heat exchanger: Head gaskets Oil gaskets	252, 459, 199 252, 459, 199
Remelt Dept. – casting pit rams Pumps – furnace, casting pit, balester, cut-off saw Sump pump, boring machining pump Valves	600, 6K, 22K, 23K 1760, 477-1, 1730 1760, 1730 GTP/1600, 1600, 1400R, 477-1
Pump House: Fire pump	1730, 477-1, 1760, 1400R, 1727 1830, GraphMax, 2211, 2212
Turbine pumps, condensate, water	1730, 477-1, 1760, 1400R, 1727, 1830, 2211, 2212

NOTE: 1400R/(477-1) – Combination sets of 1400R with 477-1 as anti-extrusion rings.
*Europe only.

Equipment and Process	Chesterton Packing
Rolling Mills	
Propane Plant:	
Valves	GTP/1600, 1724, 1400R, 477-1
Compressor	1760, 1724
Rotary displacement meter, control valves	GTP/1600, 1724, 5800
Sewage Disposal:	
Sewage	1730, 1760, 2211, 2212, CMS 2000, 1727, 1830
Circulating	1730, 1760, 2211, 2212, CMS 2000, 1727, 1830
Extrusion:	
Leveller rams	600, 6K, 27K, 22K, 23K
Hydropress	1760, 1730, 6K, 22K, 23K
Tube Dept.:	
Embossers, bridal assembly jacks	6K, 22K, 23K
Draw bench, tube pointer pumps	1760
Slitter pumps	1760, 1730
Hot Mill, Tandem Mill jacks	6K, 27K
Rubber Manufacturing	
Rams of platen presses	600, 6K, 27K, 22K, 23K
Press pullbacks	600, 6K, 27K, 22K, 23K
Hydraulic pumps and accumulators	600, 22K, 23K, 27K
Solvent pumps	477-1, 1400R, 1760, 1830
Solvent cement mixers	1730, 1740, 1760, 2211, 2212
Mills, crackers:	
Steam end	1601
Water end	1760, 1727, 1730
Calenders:	
Steam end	1724, 477-1
Water end	1760, 1727, 1730, 1830
Air compressors	1730, 1727, 1760, 1400R, 1830
Steam valves:	
High temperatures under 260°C (500°F)	GTP/1601, 1601, 477-1, 1400R GTP/1601, 324, 1601, 1724, 477-1, 1400R
Regulator valves	5800, GTP/5600, 1724, 1601
De-vulcanizers	1600, 1601
Pipe flange gaskets	252, 459, 199, ECS-T
Sewage Disposal	
Centrifugal pumps	1730, 1760, 1727, CMS 2000, 1830-SSP, 2211, 2212
Sludge pump (plunger type)	600, 1760, 1727, 1730
Mudhog pump	1727, 1730, 2211, 2212
Sump pumps:	
Acid	1765, 1724, 1760, 1830
Alkalines	1724, 1765, 1760, 1830
Water valves	477-1, 1400R, 1724, GraphMax

Equipment and Process	Chesterton Packing
Ships and Shipyards	
Condenser pumps	1760, 1730, 1727, 412-W, 1830
Condensate pumps	370, 1760, 1400R/(477-1), 1830
Chemical transfer pumps	1724, 1765, 1760, 1830,
Transfer pumps (neutral products)	1760, 477-1, 1730, 1727, 1400R, 1830, 2211, 2212
	GraphMax
Discharge pumps	1760, 477-1, 1730, 1400R, 1830, GraphMax
Pure water pumps	1730, 1765, 1724, 1760, 1830
Chemical injection pump	1765, 1724, 1760
Boiler feed pumps	370, 1400R/(477-1), 1830
Stern tube	329, 412-W
Rudder post	329, 412-W
Salt water pumps	1760, 1730, 1727, 2211, 2212
	412-W, 1830
Hydraulic pumps (cent.)	1760, 477-1, 1730, 1830
Ballast and bilge pumps	1760, 1730, 1727, 412-W, 1830
Fire pumps	1730, 1760, 1400R/(477-1), 1727, 1830
Fuel and lube oil pumps	1730, 1760, 1400R/(477-1), 1727, 1830
Steam:	
High temperature valves to 650°C (1200°F)	GTP/1600, 1601, 1400R
Medium temperature valves to 260°C (500°F)	GTP/1600, 1601, 1400R, 477-1
Low temperature valves	GTP/1600, 1724, 477-1, 1601, 1400R
Reciprocating pumps	1760, 1724
Gaskets:	
Fuel, chemical hatches	184, 185, ECS-T, 459, 199
Steam	459, 199, 252, 455, 457
Water	100, 450
Diesel oil	140, 455, 457
Soap Making (Generally follow the same recommendations as for Chemical Plants)	
Other suggestions: Toothpaste, shampoos, deodorants, hair conditioners (slow speed pumps)	1724, 1725A, 425, 1935*
Agitator shafts	
Highly acid	1765, 1724
Highly caustic	1765, 1760, 1724, 1830
Neutral	1730, 1760, 1727, 2211, 2212, 1830
Solder Manufacturing	
Rams extruding presses	600, 6K, 27K, 22K, 23K
Soy Bean Oil	
Rams of compressors	1760, 1740, 1724
Hydraulic pumps	600, 6K, 27K, 22K, 23K
Hexane pumps	1400R/(477-1), 1760, 1830
Oil pumps	1400R/(477-1), 1760, 1730, 1727, 1830
Rotary driers	1730, 1727, 1830
Chandler drilling machine	1730, 1727
Stone, Crushed	
Air compressor	1730, 1760, 1830
Asphalt pump	1400R/(477-1), 1760, 1830
Centrifugal sludge pumps	1730, 1727, 1760, CMS 2000, 1830, 2211, 2212
Clear water pump	412-W, 1730, 1830, 2211, 2212
Fuel oil pump	1400/(477-1), 1730, 1760, 1830

NOTE: 1400R/(477-1) – Combination sets of 1400R with 477-1 as anti-extrusion rings.

*Europe only.

Equipment and Process	Chesterton Packing
Raw Sugar Mill (Cane) (also see and include Power Generating Plant)	
Cleaning Plant:	
Mud pumps	1730, 1727, 1400R/(477-1)
Water pumps	1730, 1760, 1727, 1400R/(477-1), 1830
Lime slurry pumps	1760, 1400R/(477-1)
Crushing Plant:	
Raw juice pumps	1730, 1400R/(477-1), 1760, 1727, 1830, 2211, 2212
Water pumps	1730, 1400R/(477-1), 1760, 1727, 412-W, 1830
Condensate pumps	1730, 1400R/(477-1), 1760, 1727, 1830
Accumulator	477-1, 1760
Boiling House:	
Clarified juice pumps	1400R, 1725A, 1730, 425, 1935* 412-W, 1760
Sweet water pumps	1400R, 1725A, 425, 1760, 1935*
Molasses pumps	1400R, 1725A, 425, 1760, 1935*
Massecuite pumps	1730, 1727, 1760
Salt water	1760, 1727, 1730, InnerLube, 412-W, 1830
Caustic soda	1760, 1400R/(477-1), 1830
Limed juice	425, 1725A, 1760, 1730, 1935*
Hot syrup	425, 1935*
Remelt sugar	1725A, 425, 1935*
White Sugar Refining	
Melter House:	
Mingler glands	1725A, 425, 1400R, 1935*
Centrifugal mixer glands	1725A, 425, 1400R, 1935*
Affination syrup	1725A, 425, 1400R, 1935*
Melter liquor pumps	1725A, 425, 1400R, 1935*
Filter House:	
Clarifier liquor pumps (treated)	1724, 1765, 1760, 1400R
Carbonation liquor pumps	1760, 1727, 1730, 1400R, 1765
Filter press, rotary and sluicing pumps	1760, 1727, 1730, 1400R
Press cake slurry pump	1724, 1760, 1765
Lime slurry pump	1760, 1400R/(477-1)
Activated carbon slurry pump	1730, 1727, 1760, 477-1, 1400R
Filter medium slurry (diatomaceous earth)	1760, 370, 1730, 1400R, 2211, 2212
Acid pump – dilute	1760, 1765, 1730
Acid pump – concentrated	1724, 1765, 1760
Pan House:	
Vacuum pan circulator glands	1730, 1727, 1760
Evaporator pumps	1730, 1727, 1760
Crystallizer glands	1730, 1727, 1765, 1760
Centrifugal mixer glands	1730, 1727, 1760
Liquor, syrup, and remelt pumps	1725A, 425, 1760, 1730, 1935* 1760, 1724
Magma pumps	1760, 1724
Scale treatment pumps (caustic)	1760, 1765, 1724, 1400R
Scale treatment pumps (acid)	1765, 1724, 1730, 1760
Condensate water pumps	1730, 1727, 1400R/(477-1), 370
Commercial liquor pumps	1760, 1725A, 425, 1935*
CO ₂ pumps	370, 1400R/(477-1), 1760
Salt water pumps	1760, 1730, 1727, 2211, 2212, 412-W, 1830

Equipment and Process	Chesterton Packing
Textile Mills (also see and include Power Generating Plant)	
Steam valves	GTP/1600, 1600, 1400R, 477-1
Control valves	GTP/5600, 5800, 1600, 1400R, 477-1, 1724
Air compressor	1730, 1760, 1830
Dry cans, slasher	1730, 1727, 1760
Pumps:	
Humidifier	1727, 1730, 1760, 1400R/(477-1), 1830
Circulating	1727, 1730, 1760, 1400R/(477-1), 1830
Screen	1727, 1730, 1760, 1400R/(477-1), 1830
Filtrate	1727, 1730, 1760, 1400R/(477-1), 1830
Size – starch	1400R/(477-1), 1760, 1830
Size – acrylic	1724, 1727, 1730, 1765
Dye	1724, 1765, 1760
Bleach	1765, 1724, 1760
Textile Finishing and Dyeing	
Service and Metering Pumps:	
Sulphuric acid	1724, 1765
Hydrochloric acid	1724, 1765, 1760
Acetic acid	1724, 1765, 1760, 1400R
Hydrogen Peroxide (90%)	1724, 1765
Sodium Hydroxide (caustic soda)	1760, 1400R/(477-1), 1765, 1830
Cloth heat treating (formaldehyde – textile resins)	1724, 1765
Bleaching – sodium hypochlorite	1724, 1765
Sizing – sodium sillcate	1730, 1727, 1760, 1830
Steam valves on continuous service	GTP/1600, 1600, 1400R, 477-1
Drying cylinders – end of journals	459, 455, 457
Diaphragm motor valves	122-NN
Bailing presses	600, 6K, 27K, 22K, 23K
Thermo Plastics (see Plastic Moulding)	
Utilities (see Power Generating)	
Veneer (see Plywood)	
Water Works	
Water Works:	
Plunger pumps	1730, 1760, 600
Centrifugal pumps	1730, 1760, 1830, 412-W
Water treating pumps	
Chlorine	1724, 1765
Caustic	1724, 1765, 1760
Acids	1724, 1765
Water valves	1724
Drinking water and potable water	
Pumps	425, 1725A
Valves	425
Whiskey Manufacturing (see Distilleries)	
Wines (see Distilleries)	
Wire Manufacturing	
Continuous vulcanizers	1724, 324, 1600, 477-1
Wood Production (see Lumber Operations)	

NOTE: 1400R/(477-1) – Combination sets of 1400R with 477-1 as anti-extrusion rings.

*Europe only.



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A.W. Chesterton Company
860 Salem Street
Groveland, MA 01834 USA

Telephone: 781-438-7000
Fax: 978-469-6528
chesterton.com

Form No. 073972
Packing and Gasket
Catalog – English
05/19