MECHANICAL INNOVATIVE MECHANICAL PACKING

AND GASKETING TECHNOLOGY





Chesterton is a worldwide manufacturer and distributor of the highest performing sealing devices including pump and valve packings, pump sealants, live loading technology, sheet gaskets, joint sealants and metal gaskets for a wide range of applications.

Packing and gasketing are considered by some to be technologies of the past. We continuously research and advance the state-of-the-art for packing and gasketing. Our advanced packings provide such benefits as substantial water reduction, superior leakage control, superior emissions control, the ability to operate at high pressures and speeds, and the ability to withstand process chemicals and reduce sleeve and stem scoring. Our sheet gasketing features high stability, reinforced synthetics that provide excellent sealability and superior reliability. Our joint sealants provide long lasting high reliability seals that are fast and easy to use.

Chesterton Live Loading technology has become the worldwide standard for long-term, low-emissions, low-maintenance packing.

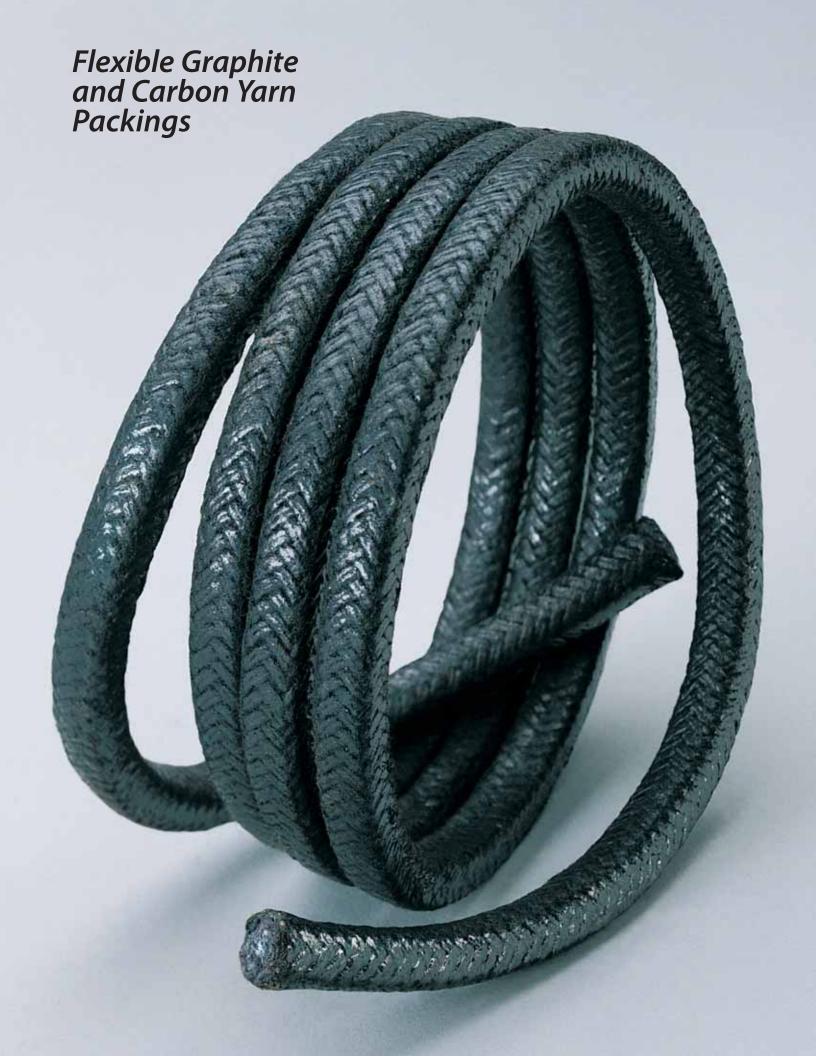


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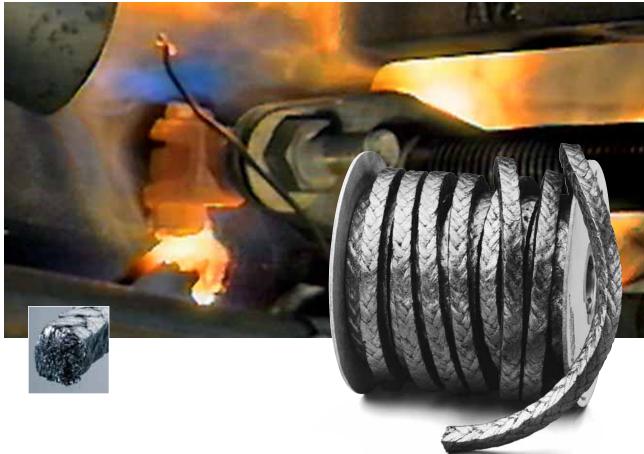
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Valve Packings

1600/1601



Superior emissions control over thousands of cycles

Fire safe: Passes API 589 standards at API 607 temperatures and pressures as tested by an independent laboratory

Easy installation and extrusion resistance in a single-spool packing

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

CHESTERTON 1601 is manufactured with the same advanced construction as the 1600. It offers the identical performance but is uniquely formulated to meet the purity requirements of the Nuclear Industry. Certificate of Compliance and Test Analysis available upon request.

TECHNICAL DATA

Temperature Limit:

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

Pressure Limit 1600:

8400 psi (580 bar)

Chemical Resistance:

pH 0 – 14

except strong oxidizers

Applications:

All control and block valves.

* Inconel is a registered trademark of International Nickel Company.



Valve Packings

401



Chesterton 401 is constructed with wire-reinforced braided yarn which surrounds a flexible and resilient asbestos-free core. The non-asbestos jacketed yarn construction encapsulates the wire reinforcement in the yarn, preventing stem wear and scoring. This special construction makes 401 an economical, non-asbestos, general service valve stem packing for use in high-temperature and high-pressure applications.

TECHNICAL DATA

Temperature Limit:

1200°F (650°C)

Pressure Limit:

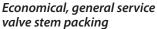
1500 psi (105 bar)

Chemical Resistance:

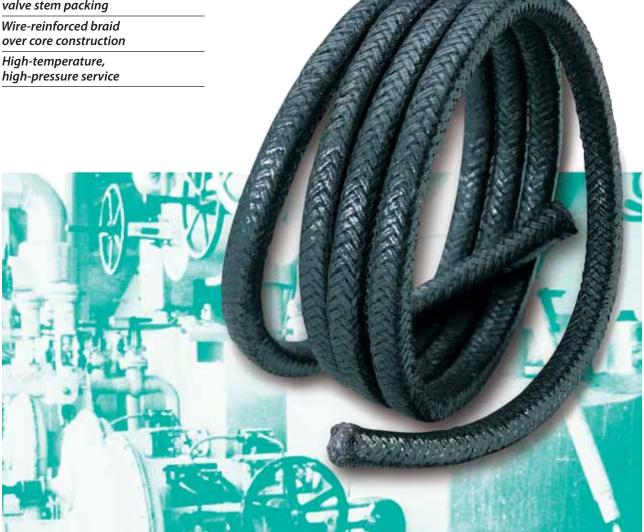
pH 1 - 12

Applications:

For general service high-temperature, high-pressure valve sealing applications.



over core construction



Pump and Valve Packings

1400R



Easy to use, easy to remove

Substantially reduces pump flush water

Adds structural carbon fiber reinforcement to eliminate the use of anti-extrusion end rings in most applications

Self-lubricating to eliminate shaft or stem scoring and extend packing life

Guaranteed emissions control capability in valves

Exclusive construction for plant wide use in pumps and valves

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 cannot penetrate the packing set. The all carbon/graphite set withstands higher shaft speeds while limiting shaft friction. The structural carbon fiber reinforcement prevents 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

Temperature Limit:

1200°F (650°C) steam 850°F (455°C) oxidizing atmosphere

Pressure Limit:

4000 psi (275 bar)* valves

Shaft Speeds:

4000 fpm (20 m/sec)

Chemical Resistance:

pH 0 – 14 except oleum, fuming nitric acid and aqua regia.

Applications: Power/Pumps

Boiler feed, condensate, hot water circulation and heater drain pumps.

Power/Valves

Lube oil, LP steam turbine and condensate line valves, all manually operated valves.

Power/Sootblowers Pulp and Paper:

Black liquor, white and green liquor, high and low density stock, refiners, agitators and mixers, hydropulpers, high and low pressure feeders, power recovery unit steam valves, condensate and boiler feed pumps.

Also used in...

Wastewater treatment, sugar plant and marine applications.

*For pressures above 3600 psi (250 bar) contact Mechanical Packing Application Engineering



Pump and Valve Packings

477-1



Strong yet pliable, continuous filament carbon yarn

Unique inorganic blocking agent stops gas/liquid penetration

Molybdenum based corrosion inhibitor prevents stem pitting

Chesterton 477-1 carbon fiber packing combines a new yarn formulation with superior blocking agents. New low modulus yarn provides the strength associated with continuous filament carbon fibers plus greater flexibility. This makes 477-1 strong yet pliable, without the brittleness of conventional carbon packings. 477-1 incorporates a high purity dispersion of inorganic platelets which prevent penetration of gases or liquids through the packing. Interbraid construction locks these blocking agents within the packing ring.

TECHNICAL DATA

Temperature Limit:

1050°F (565°C)

Pressure Limit:

3600 psi (250 bar) in valve applications 200 psi (14 bar) in pump applications

Shaft Speed:

3000 fpm (15 m/sec)

Chemical Resistance:

pH 0 – 13 except oleum, fuming nitric acid, aqua regia, and fluorine

Applications:

Virtually all pumps and valves against most solvents, gases and other liquids.

477-1T



Non-contaminating, non-staining carbon yarn packing

Unique inorganic blocking agent stops gas/liquid penetration

Molybdenum based corrosion inhibitor prevents stem pitting

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. 477-1T was developed for the tough applications in the pulp and paper industry. It is specially designed to be used in High Pressure Feeders, Pre-Steaming Vessels and applications that are moving abrasive slurries. The combination of the carbon yarn and PTFE dispersions increases the 477-1T chemical resistant properties when up against strong caustic

477-1T is also an excellent bottom anti-extrusion end ring in combination with 1400R in rotating equipment. This combination is ideal when attempting to reduce or eliminate flush water from a stuffing box.

and acid mediums.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Pressure Limit

200 psi (14bar)

Shaft Speeds:

2000 fpm (10 m/sec) 3000 fpm (15 m/sec) when used as a bottom anti-extrusion ring with 1400R

Chemical Resistance:

pH 0 – 14 except strong oxidizers

Applications:

Pulp and paper, Pre-steaming vessels, High and low pressure feeders, Grinding stone, Hydropulpers, Agitators and Mixers.



Pump Packings

Two



Maximum performance universal pump and valve packing
Self-lubricating, virtually no shaft scoring
Non-hardening, non-glazing

Chesterton Two super-graphite packing is manufactured from a pure quality graphite yarn braided in interbraid construction, then treated with special, high temperature, break-in lubricants. The special sacrificial multitemperature lubricants are used to ease break-in and quickly effect a satisfactory leakage rate. Once the break-in lubricants are sacrificed, the remaining super-graphite product has the chemical resistance to withstand virtually all chemicals. The highest conductivity of this packing combined with the automatic self-lubricating properties allow use with virtually no shaft scoring.

TECHNICAL DATA

Temperature Limit:

5000°F (2760°C) non-oxidizing 800°F (425°C) oxidizing

Shaft Speed:

4500 fpm (23 m/sec)

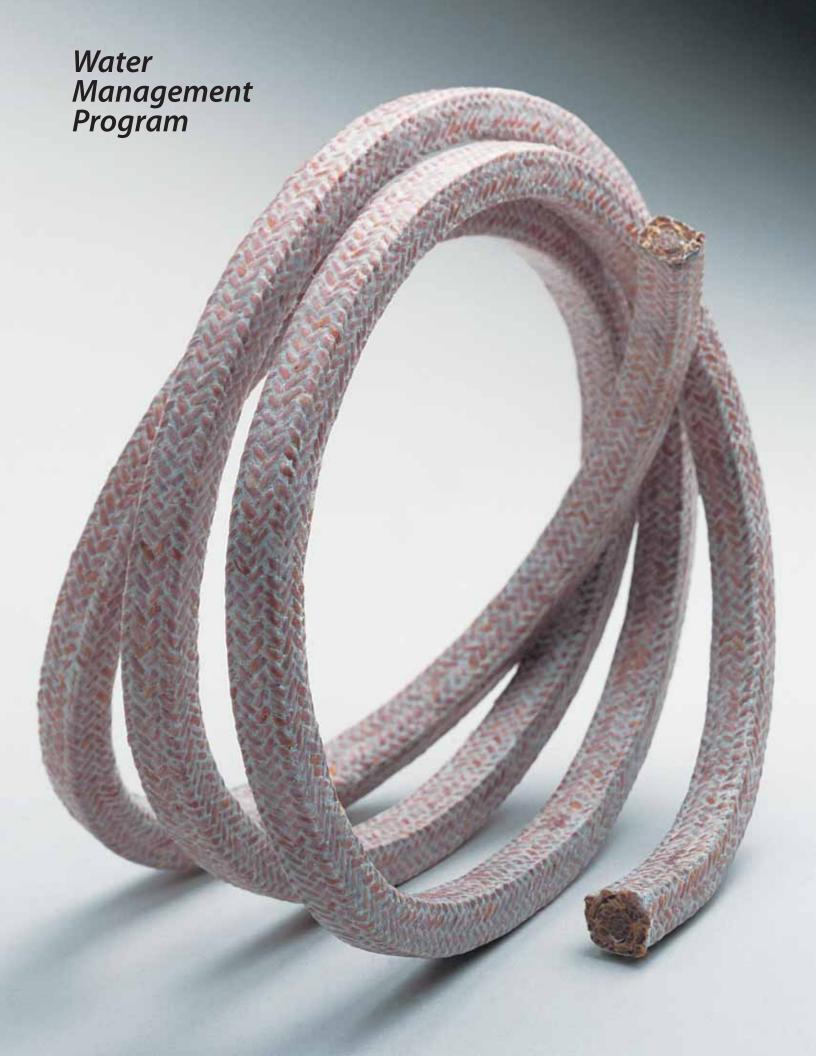
Chemical Resistance:

pH 0 – 14 except oleum, fuming nitric acid, aqua regia, and fluorine

Applications:

Virtually all pumps and valves against most solvents, gases and other liquids.





Chesterton Water Management for Packed Stuffing Boxes



Reduction in water use is an issue for plants around the world. Water use in rotating equipment is often high but can be reduced dramatically. Plants that reduce leakage from rotating equipment realize reductions in the amount of effluent treatment required. This can be a significant factor in achieving compliance with government regulations. In some cases, flow rate reduction assists in averting capital improvements in wastewater treatment facilities.

Economic concerns about water are also a driving force in water conservation. The cost of water ranges widely depending on access, region, and accounting practices. The cost of typical filtered and treated water used for sealing devices could be approximately \$.30 per 1,000 gallons. In pulp mills that use black liquor as fuel, one gallon per minute of water dilution can cost more than \$5,000 per year in evaporation expense. An area often overlooked, is the cost of reheating when diluting a process at an elevated temperature.

The cost of reheating flush water can easily reach \$400 per year for each gpm of flush water injected into the process.

Combining packing material and construction with focus on water reduction produces flush water savings. Proper packing selection is critical to ensure both minimized water use and no decrease in equipment reliability.

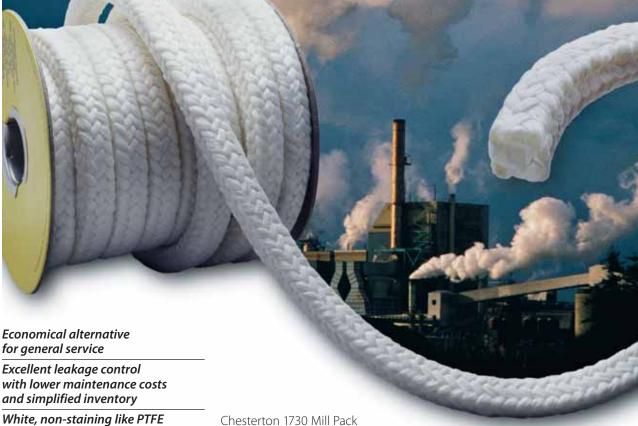
Chesterton's comprehensive approach to stuffing box water management can substantially reduce costs throughout the plant. In packed stuffing boxes, this includes the control or elimination of introduced flush and the minimization of packing lubrication leakage. The net value is a total reduction in consumption, makeup and treatment volume.

Chesterton provides total system solutions for water management. Recommendations are tailored to specific application needs with an array of systems to meet plantwide requirements.

Chesterton's high reliability systems extend useful life, eliminate excessive sleeve wear, minimize gland adjustments and reduce repack frequency. The result is far lower maintenance costs and greater production efficiencies.

If you are in the pulp and paper, mining, power, or any related industry with water reduction goals, Chesterton can help through our comprehensive Water Management programs. Let us be your singlesource problem-solver for water management of packed stuffing boxes. Our advanced product designs and application expertise extend across the total range of stuffing box leakage control technologies. Ask your local Chesterton Specialist for assistance in maximizing your water reduction plant performance.

1730 Mill Pack™



Significantly more rugged than PTFE fiber packing, or heavily coated PTFE packings in high speed applications

Resists heat damage and glazing; kind to shaft sleeves

User friendly, easy to cut and install, fast break-in

Far less susceptible to adverse treatment at installation or in use

Chesterton 1730 Mill Pack thermoset fiber packing provides outstanding heat resistance while maintaining excellent leakage control and reduced power consumption. Rugged, easy-to-use thermoset fiber packing controls leakage effectively while it is kind to shafts. 1730 Mill Pack provides high reliability in the most demanding applications. It is resistant to heat and will not glaze like common paper mill packings, even at high shaft speeds.

TECHNICAL DATA

Temperature Limit:

550°F (290°C)

Shaft Speed:

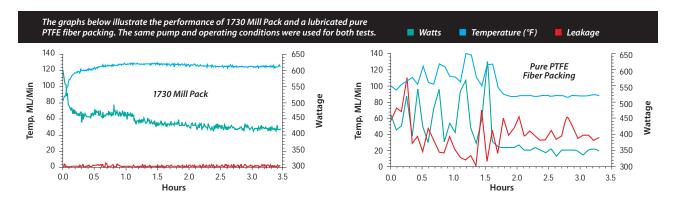
2000 fpm (10 m/sec)

Chemical Resistance:

pH 1 - 13

Applications:

Agitators, mixers, stock pumps, service water, white water, intensifiers.



SuperSet[™]





Dramatically reduces flush requirements- up to 90%

Extends Packing Life 2-6 times that of a standard packed stuffing box

Prevents solids from getting between the packing and shaft

Minimizes erosion and wear of shaft/sleeve

Typically reduces number of packing rings- 40% in typical stuffing box

- Less consolidation and fewer gland adjustments required
- Easier repacking
- · No lantern movement

Decreases product loss from the stuffing box

The SuperSet combines the superior sealing capabilities of Chesterton's Mechanical Packing products with the patented design of the EnviroSeal SpiralTrac* Version P Environmental Controller for Packed Stuffing Boxes. This total sealing solution set is specifically designed and proven to increase packing and equipment service life while dramatically reducing flush rates. The savings are real- increased reliability with lower maintenance and operating costs.

The SpiralTrac Version P actually enhances the utilization of the flow and centrifugal effects around the shaft; it performs similarly to

a centrifugal separator. The built-in tangential lantern ring and helical grooving system impart motion to the flush, and the resulting centrifugal force throws the particulates in the fluid to the outside of the bushing. The patented SpiralTrac grooving system then hydro-dynamically pumps the solids to the bottom of the stuffing box and back out into the pump casing. This ability to remove particulate from the stuffing box is what differentiates the SpiralTrac from plain restriction bushings on the market today.

The other component of the SuperSet sealing solution is Chesterton's line of high quality mechanical packings. In order to achieve maximum performance and sealability with the longest service life, the packing must have a number of features including minimal leakage capability, chemical compatibility, toughness, strength, and excellent thermal characteristics. Chesterton offers five high performance packing options in the SuperSet that cover a complete range of applications while meeting the needs and requirements of various industries (see table below).

The SuperSet offers a unique sealing solution for any application, and it helps dramatically reduce direct and indirect costs associated with packed pumps and equipment. Use less flush water more effectively and realize cost savings- the Superset is the Ultimate Sealing Solution for Packing. Patent # 5,553,868, # 5,167,418 Euro. Pat. App. 0 912 848

*SpiralTrac is a trademark of EnviroSeal Engineering Products Ltd.

Sealing Solution	Features	Applications
1730 SuperSet	White synthetic fiber, non-staining, good leakage control with minimal gland adjustments, excellent resistant to heat.	General Service in slurries and clean fluids.
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.
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.
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 & Paper Industry.
1760 SuperSet	PTFE/ Graphite fiber. Excellent chemical resistance, good leakage control.	General Service and highly aggressive chemical environments. Widely used in many industries.





Best choice for high temperature

Fast break-in; few adjustments; controlled leakage; long life

Multi-service permits plant-wide standardization; reduces inventory requirements

Low leachable chloride content for applications and industries where halogen content is restricted, such as nuclear*, petrochemical, fossil fuel plants

Interbraid construction, with 4-stage lubrication, controls leakage with minimal friction; allows turning off flush in many applications

Reduced leakage and flushing; cuts costs associated with housekeeping, sewage treatment, product dilution and evaporation losses.

Unique carbon and graphite construction provides plantwide utility off a single spool.
Chesterton 370 is manufactured from a high quality carbon yarn. 370 incorporates particles of pure graphite, high-temperature oils and molybdenum disulfide which act as long-life lubricants and blocking agents.
The low-friction carbon yarn has exceptional high-temperature capability in a non-oxidizing environment.

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

TECHNICAL DATA

Temperature Limit:

600°F (315°C) steam

Pressure Limit:

500 psi (35 bar)

Shaft Speed:

3600 fpm (18 m/sec)

Chemical Resistance:

pH 0 – 14 except oleum, fuming nitric acid, aqua regia and fluorine.

Applications:

Pulpers, stock pumps, agitators, fan pumps, vacuum pumps, condensate pumps, screw feeders, refiners.



CMS 2000



Eliminates flush and reduces leakage to insignificant levels

Will not score shaft sleeves

Effective with worn, fretted sleeves

An exclusive Internal Laminar Shear™ prevents frictional wear of shaft or sleeve

Eliminate individual inventories; standardize plantwide with these formulations

Never disassemble to repack again

Chesterton CMS 2000
Maintenance System is the revolutionary advanced stuffing box leakage control sealant made of high purity, reinforced fiber available in graphite, white and food grade non-staining formulations. This high purity, fiber reinforced sealant creates a solid composite ring that has no leak paths.

CMS 2000 pump sealant is provided in bulk form for initial loading and in cartridges* for final sealing under pressure to eliminate voids. Cartridges are then used for all subsequent resealing. Chesterton offers two CMS 2000 injection systems, the Manual Injection System which comes in its own case equipped with the gun, a three foot hose, a one foot hose, a quart of hydraulic fluid, male and female flow-through fittings, a spanner wrench and a CMS 2000 volume calculator.

NOTE:

For optimum performance Chesterton recommends the use of Chesterton Stabilizer Cage to maintain end ring loading in tough applications.

TECHNICAL DATA

Temperature Limit:

400°F (205°C), Black 400°F (205°C), White 400°F (205°C), 2000-FP

Shaft Speed:

1600 fpm (8 m/sec), Black 2000 fpm (10 m/sec), White 1200 fpm (6 m/sec), 2000-FP

Chemical Resistance:

pH 4 – 13, Black not recommended for oxidizing agents. pH 1 – 13, White not recommended for oxidizers, fluorine, chlorine trifluoride and related compounds, and molten alkali metals. pH 0 – 14, 2000-FP

Applications:

CMS 2000 black and white stock pumps, white water pumps, river water pumps, condensate pumps, water treatment pumps.
CMS 2000-FP
Rotating equipment applications in the food processing and handling industry.

*CMS 2000-FP is not available in cartridges.



1727 Multi-Lon_®



A superior general service pump packing with high chemical resistance

All the best features of your favorite process packing combined in a single product

Greater flexibility...less leakage

Long wearing... fewer repacks

Non-staining... protects product quality

Non-hardening... fewer adjustments

Non-abrasive... less sleeve wear

Non-pitting... saves shafts

Multi-Lon is a synthetic pump packing, unique to Chesterton, designed specifically for general service pump applications. It is able to deliver performance equal to synthetics but with the pliability of asbestos. Unlike the first generation of synthetic packings, Multi-Lon does not suffer from limitations that prevent general service use. It does not cause severe scoring like many synthetic yarns, does not cause electrolytic pitting like carbon or graphite yarns and does not have the shaft speed limitations or the elongation/ extrusion problems often associated with PTFE fiber yarns. Multi-Lon consists of interbraided continuous synthetic thermoset fibers, immunized with PTFE lubricant and a special silicone free break-in, sacrificial lubricant.

TECHNICAL DATA

Temperature Limit:

488°F (255°C)

Pressure Limit:

200 psi (15 bar)

Shaft Speed:

2000 fpm (10 m/sec)

Chemical Resistance:

pH1 - 13

Virtually 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.

Applications:

For use in water, steam, and chemical pump applications in pulp and paper and chemical plants.

Multi-Lon is a registered trademark of A.W. Chesterton Company.





1400R



Best choice for high temperature
Eliminates flush and effectively
eliminates stuffing box leakage
Self-lubricating to eliminate
shaft or stem scoring and

extend packing life

Chesterton 1400R is a unique reinforced braided graphite tape packing designed to handle both pump and valve applications. There is a two tiered reinforcement system utilized within the 1400R to make it extrusion resistant and capable of withstanding high operating pressures. Each strand of graphite is reinforced with a carbon filament, and the overall braid is reinforced with additional strands of carbon yarn.

The outstanding heat conductivity and extreme temperature resistance of this graphite packing make it an excellent option for water management programs. Because of its thermal characteristics, this packing is capable of sealing many applications with little or no leakage, minimizing the amount of flush required. Unlike synthetic type yarns, this graphite/carbon packing is not strictly dependant on the cooling and lubrication provided by a flush.

The compressible graphite tape yarn combined with the carbon reinforcement make this packing a good sealing option on equipment with some sleeve, shaft or stuffing box wear or imperfections. This can mean extended service time before a pump has to be removed or a costly sleeve or shaft replacement.

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.



Temperature Limit 1400R:

1200°F (650°C) steam 850°F (455°C) oxidizing atmosphere

Pressures:

4000 psi (275 bar) valves 200 psi (14 bar) pumps

Shaft Speed:

4000 fpm (20 m/sec)

Chemical Resistance:

pH 0 – 14 except oleum, fuming nitric acid and agua regia.

Applications:

Agitators, boiler feed pumps, condensate pumps, pulpers, stock pumps, refiners, mixers. Also ideal for use in steam valves.

Note:

477-1T can be used as a non-contaminating carbon yarn anti-extrusion end ring.







1724/324



The super packing guaranteed for the life of the valve

Non-hardening

Excellent chemical resistance

Chesterton 1724/324 is a PTFE valve packing specially treated with protective lubricants.
With 1724/324's unique formulation and construction you can't squeeze-out the lubricants. It will not harden, and it will not deteriorate in a wide range of chemical applications.
Chesterton 1724/324 is the super packing guaranteed for the life of the valve. If it doesn't outlast the valve it's in, we'll replace it for FREE*.

*Contact your local CHESTERTON representative for a copy of the written guarantee.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Pressure Limit 1724:

3000 psi (210 bar)

Pressure Limit 324 2500 psi (170 bar)

Chemical Resistance:

pH 0 - 14

Applications:

Valves handling steam, severe chemicals and solvents.

General Service Packings

1760/1761



Superior leakage control throughout the plant

Low friction, higher shaft speed

Non-abrasive, less wear, longer life

Higher chemical resistance for plantwide use

Chesterton 1760 is a unique packing consisting of a PTFE yarn lubricated with graphite particles. The finished packing is further lubricated with a special silicone oil for quick break-in.

Chesterton 1761 is a non-staining, white version of 1760, with PTFE yarn lubricated with a unique heat conducting compound which gives 1761 the heat dissipating qualities of a graphite packing.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Shaft Speed 1760:

3600 fpm (18 m/sec)

Shaft Speed 1761:

1500 fpm (8 m/sec)

Chemical Resistance:

pH 0 - 14

Applications:

Centrifugal pumps, reciprocating rods and agitators.



General Service Packings

DigesterPak™

Heavy Duty Carbon Reinforced PTFE/Graphite Packing



Reliable, High Performance Digester Packing

Long-Term Sealing

Superior Leakage Control

For all Digester Area Sealing Needs

Chesterton DigesterPak is specifically designed for sealing tough equipment in the digester area. It combines graphite coated PTFE braided packing with carbon reinforcement to provide outstanding resilience, superior leakage control and long term sealing. DigesterPak brings you a reliable, heavy-duty packing set for all digester area sealing on new and old equipment. DigesterPak can be combined with Chesterton's other high performance braided packing for best performance in the most demanding applications. See the Digester Application Guide, Form Number 088146 for specific configurations.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Shaft Speed:

3600 ft/min (18 m/s)

Compatible pH Range:

0 to 14 with the exception of strong oxidizers in the 0 to 2 pH range

Applications:

For use in Chip Meter, LP Feeder, HP Feeder, Impregnation Vessel Top Separator, Pulp Distributor, Digester Top Separator and Outlet Device.

InnerLube[™]



Patented advanced pump packing

Increased lubrication

Lower operating temperatures

Non-staining, chemically resistant

Chesterton InnerLube is a unique packing combining Chesterton's newly developed synthetic composite yarn and patented InnerLube construction. InnerLube is lubricated with PTFE and further coated with a specially formulated break-in lubricant. InnerLube offers increased lubrication at start-up, and continues to disperse lubrication during operation, resulting in lower operating temperatures and reduced shaft/sleeve wear. InnerLube's construction incorporates lubricant reservoirs within the braided structure. Standard packing lubricants dissipate quickly from frictional heat. Like time-released medicine, the InnerLube reservoirs slowly release additional lubricant under gland pressure and increased temperature. InnerLube absorbs twice the amount of blocking agents as conventional packings for better leakage control and superior life.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Shaft Speed:

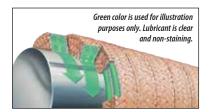
2000 fpm (10 m/sec)

Chemical Resistance:

pH 2 - 12

Applications:

Paper Mills; stock pumps, hydropulpers, and refiners. waste water and sewage plants municipal applications, slurries, water and brine pumps marine services Mining; dewatering pumps river water applications power plants, mixers, agitators, slurry pumps.





General Service Packings

412-W



Pure white packing constructed of exclusive ARG™ synthetic yarn

Superior tensile strength for durability and extrusion resistance

Unique fibrous structure holds twice the PTFE blocking agent of traditional fibers

Chesterton 412-W combines a newly developed synthetic composite yarn with a specially formulated break-in lubricant. Continuous filament center provides 10 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 prevent 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

Temperature Limit:

450°F (230°C)

Shaft Speed:

2000 fpm (10 m/sec)

Chemical Resistance:

pH 4 - 10

Applications:

Paper mills, stock pumps;
Waste water and sewage plants;
Municipal water plants;
Mining applications, slurries;
Water and brine pumps;
Marine services;
Oil field services,
drilling mud pumps;
Mild acid and alkali services;
Knife gate valves due to
superior conformability.

1740



Non-asbestos, multi-service packing

Non-staining, non-contaminating

Excellent extrusion resistance in abrasive applications

Chesterton 1740 is an interbraid packing using KEVLAR* yarn and lubricated 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 is also used as back-up rings for added extrusion resistance in abrasive applications.

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Pressure Limit:

300 psi (20 bar)

Shaft Speed:

2000 fpm (10 m/sec)

Chemical Resistance:

pH 4 – 11

Applications:

For shafts, rods, valves, expansion joints against water, steam, solvents, mild acids, alkalies and oils.

*Kevlar is a registered trademark of E.I. DuPont's de Nemours.



General Service Packings

1830



Expanded Graphite PTFE packing made up of filaments developed to meet rigid specifications. 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.

Chesterton 1830 is an Advanced

TECHNICAL DATA

Temperature Limit:

500°F (260°C)

Pressure Limit:

200 psig (14 bar g)

Shaft Speed:

3600 ft/min (18 m/sec)

Chemical Resistance:

pH 0 – 14 except with strong oxidizers in the 0 - 2 pH range

Developed to meet rigid specifications in pumps, valves, agitators, mixers and other rotating equipment

Low friction, less heat generation, non-abrasive, saves shafts and shaft sleeves

Quick to install, easy to disassemble

Low leakage and long life

Wide range of applications

1830-SSP Slurry Packing



hybrid yarn combining advanced, expanded graphite PTFE yarn with carbon yarn reinforcement. This unique construction of yarns yields a packing that is easily removable during repack resulting in reduced downtime. 1830-SSP is applicable in a wide range of slurry sealing applications.

Chesterton 1830-SSP Slurry Pump Packing is manufactured with a

TECHNICAL DATA

Temperature Limit: 500°F (260°C)

Pressure Limit:

400 psig (28 bar g)

Shaft Speed:

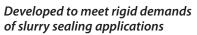
3600 ft/min (18 m/s)

Chemical Resistance:

pH 0 to 14 with the exception of strong oxidizers in the 0 to 2 pH range

Applications:

For use in bauxite slurries, bottom ash slurry pumps, mineral handling slurries, tailings pumps and other slurry processing applications.



Low friction, less heat generation non-abrasive, saves shafts and shaft sleeves

Low leakage and long life



Chemical packing for all chemicals
Completely inert to most materials
Handles high shaft speeds
Virtually eliminates shaft scoring

Chesterton 328 is a chemical packing completely inert to all materials except molten alkali metals. It is capable of handling high shaft speeds because of the inclusion of Chesterton's exclusive "blocking agent". Shaft scoring is virtually eliminated with the development of this soft PTFE form. Chesterton 328 fibers have been preshrunk and braided in our interbraid construction to give greater dimensional stability at elevated temperatures. Additionally, PTFE and other lubricants are incorporated into the fibers to resist migration.

TECHNICAL DATA

Temperature Limit: 500°F (260°C)

Shaft Speed:

1200 fpm (6 m/sec)

Chemical Resistance:

pH 0 - 14

Applications:

For use in all chemical pumps, also for air and gas valves.

1730SC



Rugged, easy to use general service packing Withstands radial shaft motion and vibration

NOTE:

Please contact Customer Service or your Chesterton Technical Sales Specialist for Available Sizes

Chesterton 1730SC combines a resilient silicone rubber core with the heat resistant, thermoset fiber of Chesterton's MillPack 1730. The elastic rubber core gives the packing better memory, allowing it to withstand radial shaft motion and vibration while maintaining excellent leakage control with minimal gland adjustments. Rugged, easy to use and break-in, the 1730SC is designed for use in general service applications such as agitators, blenders, mixers, or any other applications that undergo shaft deflection in normal operating conditions.

TECHNICAL DATA

Temperature Limit:

450°F (230°C)

Shaft Speed:

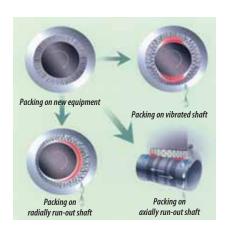
2000 fpm (10 m/sec)

Chemical Resistance:

pH 2 - 12

Applications:

Agitators, mixers, blenders, washers, and pulpers.





Food Process Packings

1725



Meets USDA requirements

Meets FDA requirements 21 CFR 178.3570 and 21 CFR 177.1550

For use in pumps, mixers and other rotating and reciprocating equipment

Chesterton 1725 Food Process Packing is constructed with virgin PTFE filament and a specially designed lubricant to provide superior sealing capability, especially in rotating equipment such as pumps, mixers and agitators. Interbraided construction ensures maximum strength as well as minimal wicking of fluid through the packing. Chesterton 1725 complies with the USDA requirements for minimal food contact and FDA specification 21 CFR, 178.3570 for lubricants with incidental food contact as well as 177.1550 perfluorocarbon resins. 1725 is applicable for use in valves, pumps, agitators, mixers, and other rotary and reciprocating equipment.

TECHNICAL DATA

Temperature Limit:

450°F (230°C)

Shaft Speed:

1200 fpm (6 m/sec)

Chemical Resistance:

pH 3 - 11

Applications:

For use in pumps, agitators, and mixers handling food processing fluids.

425



Meets USDA requirements

Meets FDA requirements 21 CFR 178.3620 and 21 CFR 177.1550

For use in valves, pumps and other rotating and reciprocating equipment

Chesterton 425 is manufactured with a virgin PTFE filament and a white oil lubricant. It is perfectly suited for use in valves and also in rotating equipment such as blenders, mixers, agitators and other rotating equipment. Chesterton 425 complies with the USDA requirements for minimal food contact and FDA specification 21 CFR, 178.3620 for lubricants with incidental food contact as well as 177.1550 perfluorocarbon resins.

TECHNICAL DATA

Temperature Limit:

450°F (230°C)

Shaft Speed:

1200 fpm (6 m/sec)

Chemical Resistance:

pH 0 - 14

Applications:

For use in all types of equipment in the food processing and handling industry such as valves, cookers, blenders, agitators, pumps, and mixers.



Lid-Lock Packing



PTFE based construction makes it impervious to almost all chemicals

Soft, conformable yet resilient design provides excellent sealability and durability to withstand repeated tank cover opening and closing

Available in bulk lengths or preformed, endless rings

Chesterton's Lid-Lock packing is designed specifically to handle the unique sealing requirements of the tank covers, hatches and lids found on marine and rail based chemical transport equipment. In an industry where the variety of cargoes being shipped can vary on a frequent basis, it is important to have a universally compatible product sealing the tank lids.

The Lid-Lock starts with a rubber core overwrapped with a high quality PTFE film. This core is then overbraided with the non-absorbent, chemically resistant polypropylene yarn. The combination of the two gives this packing its excellent compressibility and elasticity. This flexible core is then wrapped with a double layer of high quality PTFE film. Finally, the Lid-Lock is overbraided with a tough, pure PTFE filament jacket that protects the PTFE film barrier from damage.

TECHNICAL DATA

Temperature Limit: 210°F (100°C) **Chemical Resistance:** pH 0 − 14



329



Stern Tube/ Paper mill packing

Most recognized product for the marine industry in Stern Tubes

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. This is followed with a plasticizing "break-in" lubricant which assures compressibility, flexibility, and good packing-to-shaft contact. Large sizes need not be hammered into place. Finally, in order to minimize frictional attrition, a finely divided fluorocarbon powder is embedded into the surface of the packing. 329 produces little or no shaft or sleeve wear.

TECHNICAL DATA

Temperature Limit:

275°F (135°C)

Pressure Limit:

300 psi (20 bar)

Shaft Speed:

1000 fpm (5 m/sec)

Chemical Resistance:

pH 6 - 8

Applications:

Marine

For stern tubes, rudder posts, shaft bulkhead glands, and cold water.

Pulp and Paper

Jordans, claflins, hydro-finers.





5800



The patented, high technology solution for modulated, actuated valves

Reduced stem friction lower actuation force needed

Meets API 589 Fire Test

Certifiable for Nuclear Service

Chesterton 5800 Wedge Packing sets are manufactured from high purity graphite. The die-formed rings are non-absorbent and non-wicking. A corrosion inhibitor is incorporated into the rings to help prevent electrolytic pitting. At elevated system pressures, 5800 gives the added benefit of reduced stem friction while sealing effectively, thus critical control valves with limited torque capabilities can respond more rapidly and precisely throughout the pressure range, up to peak system pressure. Five-year guarantee available when used with 5150 Live Loading assemblies.

TECHNICAL DATA

Temperature Limit:

5000°F (2760°C)

Pressure Limit:

For steam services between 3000 psi (210 bar) and 4500 psi (310 bar), use 477-1 or 1600 end rings

Chemical Resistance:

pH 0 - 14

Applications:

For nuclear and process industry services to seal MOV's, AOV's and steam services.

5800E WedgeSeal™



Graphite packing sets for fugitive emissions service

Designed specifically for air operated control valves

Reduced stem friction; lower actuation force required

Passes API 589 Fire Test

Chesterton 5800E WedgeSeal™ is designed for high temperature, fugitive emissions service in friction sensitive valves. Combining Chesterton's 5800 pure die-formed graphite sealing rings with our 477-1 braided carbon yarn end rings, the WedgeSeal seals to extremely low VOC* emissions levels while providing minimal friction against the stem. The carbon/graphite base materials in the set are unaffected by high temperatures, and the set passes the API 589 Fire Test thus ensuring maximum safety in hazardous services. The WedgeSeal set incorporates passive corrosion inhibitors retards 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 reduced stem friction which ensures that the valve actuator can respond to system changes more rapidly and precisely.

TECHNICAL DATA

Temperature Limit:

From -40°F (-40°C) up to 1050°F (565°C)

Maximum Pressure Limit:

3600 psi (250 bar)

Chemical Resistance:

pH 0 - 13

Applications:

Light and heavy hydrocarbon services Steam services Chronic leakers in fugitive emissions services – block or control valve Live loading recommended for most applications

*Volatile Organic Compound

NOTE

Also available 5800T for low temperature service -300°F to 450°F (-180°C to 230°C) 600°F (315°C) in steam services — see brochure number 071093.



5800E Control Valve Kits



The 5800E WedgeSeal is a combination packing set that utilizes Chesterton's unique wedge shaped, die-formed sealing set along with our 477-1 braided carbon end rings. The 5800E set has been proven to seal to extremely low VOC emissions levels. 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. Reduced stem friction ensures that the valve will respond to system changes more rapidly and precisely. Passive corrosion inhibitors are impregnated in the packing set to help prevent electrolytic pitting. The WedgeSeal set also passes API 589 fire testing thus ensuring maximum safety in hazardous services.

Complete kit to repack a number of the most popular control valves in industry today

For high temperature, VOC emissions services

Reduced stem friction; lower actuation forces required

Exceeds EPA VOC emissions requirements (< 500 ppm as measured by EPA Method 21)

Simplified installation – Torque wrench not required

Can be installed in the field without removing the valve actuator

Chesterton 5800E Control Valve Kits are specifically designed to be used on pneumatically actuated control valves. The kit contains all parts necessary to repack the valve in the field with Chesterton's Live-Loading system; the set includes a 5800E 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. Simply fit the assembly over the stud and tighten the gland bolt until the flat washer is flush with the top of the outer guide. No torque wrench is required.

Contact your Chesterton representative for available kits.

TECHNICAL DATA

Applications:

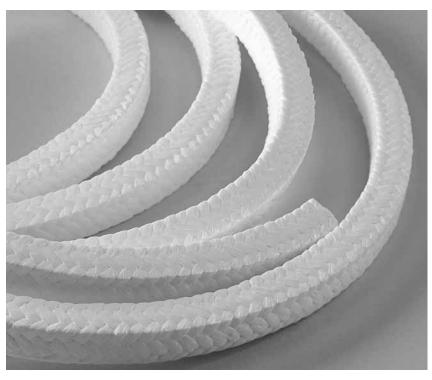
Air Operated Control Valves Light and heavy hydrocarbon services

Maximum Service Temperature: 1050°F (565°C)





1724E Control Valve Kits



The kit includes a 1724 5 ring die-formed PTFE packing set, a precut 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. Simply fit the assembly over the stud and tighten the gland bolt until the flat washer is flush with the top of the outer guide. No torque wrench is required.

1724E should be utilized with live-loading in control valves to ensure effective long term sealing over many cycles.

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 (< 500 ppm as measured by EPA Method 21)

Simplified installation – Torque wrench not required

Can be installed in the field without removing the valve actuator

Chesterton's 1724E Control Valve Kits are specifically designed to be used on pneumatically actuated control valves. 1724E is best suited for services where operating temperature is 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 parts necessary to repack the valve in the field with Chesterton's Live-Loading system.

Contact your Chesterton representative for available kits.

TECHNICAL DATA

Maximum Service Temperature: 400°F (200°C)

Chemical Resistance:

pH Range 0 – 14 Inert to all common chemicals except molten alkali metals, elemental fluorine, and strong oxidizers.

Applications:

Air Operated Control Valves Light and heavy hydrocarbon services



Valve Sealing Program

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

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

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

Valve sealing satisfaction is assured with a Five-Year warranty Valve Sealing Program for Nuclear and Fossil Plants, Refineries, and Chemical Plants

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

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

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

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











Valve Sealing Program

5150 Live-Loading Assemblies

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

One-CI Braided Graphite Rings

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

5300 (GTPI) Die-Formed Inhibited Graphite Rings

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

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

5100 Split Carbon Sleeves

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

772 Premium Nickel Anti-Seize

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





5700B



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

Provides longer service life

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

bearing to maintain lance tube concentricity to the stuffing box in blowers that require more than a conventional 5-ring set of packing.

TECHNICAL DATA

Chemical Resistance:

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

Applications:

For use in sootblower applications to 680 psi (45 bar).



3000



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

Resilient tapered lips for positive sealing

Bendable cut rings for easy installation

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

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

operation. Individual sealing rings expand under bolt loading to maintain a tight, virtually leak-proof set with up to 50% longer service over braided styles.

TECHNICAL DATA

Temperature Limit:

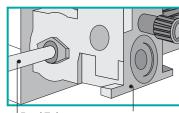
500°F (260°C)

Chemical Resistance:

pH 0 - 14

Applications:

For use against water, steam, acids and alkalies, solvents and gases.



Feed Tube

Carriage

5500



Automatically maintains uniform clamping force

Compensates for thermal expansion and contraction

Absorbs vibrational shock

Dampens effects of common pressure surges, preventing gasketing blowouts

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

NOTE:

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

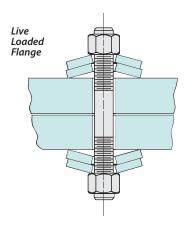
TECHNICAL DATA

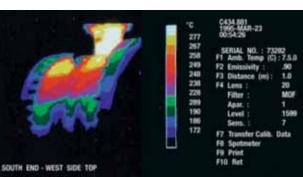
Temperature Limit:

575°F (300°C)

Applications:

Manway and handholes bolted bonnet valves, gage glasses, condensers and other heat exchangers.







Static Seals/Flange Bolting System

5505H



Chesterton's 5505H Flange Springs are specially designed, high-strength springs. They deliver a reserve of elastic energy to each bolt, allowing them to maintain constant load on the flange and gasket during normal operation, or during thermal cycles. Properly selected and installed, Chesterton's 5505H Flange Springs can provide dramatic improvements in leakage performance and service life.

TECHNICAL DATA

Temperature Limit:

1100°F (595°C) maximum

Material:

H13 Chromium Steel with oxide coating

Applications:

High-temperature flanges in non-corrosive service

For bolted heat exchangers and pipe flanges

Maintains constant compression on gasket seals

Eliminate leakage problems caused by thermal cycling, vibration and pressure surges

High temperature capability

5900



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

TECHNICAL DATA

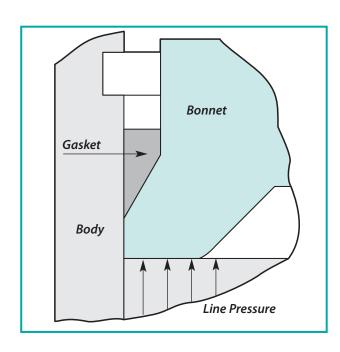
Temperature Limit: 1200°F (650°C) Pressure Limit: 4200 psi (290 bar)

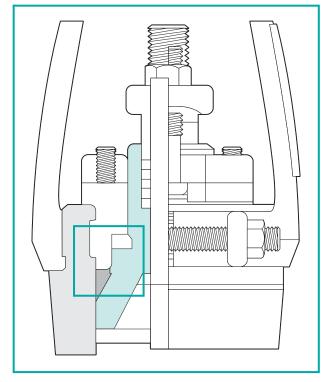
Conform easily to the valve's body and bonnet

Maintain excellent anti-extrusion properties

Requires significantly lower pressure to seal than traditional metal bonnet seals

Enable easy removal without damage to the valve body







359/459/198/199



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 - 359

Temperature Limit:

1600°F (870°C) in non-oxidizing services 850°F (455°C) in oxidizing services

Pressure Limit:

2000 psi (140 bar),

Compressibility:

35% **Color:** Grey

Chesterton **459** graphite sheet with a nickel foil reinforcement is designed for use 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 – 459

Maximum Pressure Limit:

2000 psi (140 bar)

Compressibility (ASTM-F36)

35%

Creep relaxation (ASTM-F38)

<5%

Recovery (ASTM-F36)

10% minimum

PxT = 1,600,000 (°Fxpsi)

 $P \times T = 60,000 \, (^{\circ}C \times bar)$

Color: Grey

Maximum Temperature Limit:

1600°F (870°C) non-oxidizing 850°F (450°C) oxidizing

Chesterton **198** is a high purity graphite sheet with no fillers or binders. 198 contains a corrosion inhibitor making it an excellent gasket for almost all environments. For use in extreme temperature applications where metal reinforcement cannot be used.

TECHNICAL DATA - 198

Maximum Operating Temperature:

-400°F (-240°C) to 5000°F (2760°C) in non-oxidizing services 850°F (455°C) in oxidizing services

in oxidizing services

Maximum Service Pressure: 2000 psi (140 bar),

Compressibility (ASTM-F36)

Creep Relaxation (ASTM-F38) <5%

Recovery (ASTM-F36)

12 - 17%

 $P \times T = 1,600,000 \text{ (°F } \times psi)$ $P \times T = 58,000 \text{ (°C } \times bar)$

Color: Grey

Chesterton **199** is a high purity, chemically inert graphite sheet with a 316 stainless steel foil insert for extreme stability. 199 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 – 199

Temperature Limit:

1600°F (870°C) in non-oxidizing services 850°F (455°C) in oxidizing services

Pressure Limit:

2000 psi (140 bar)

Compressibility (ASTM-F38)

Creep Relaxation (ASTM-F38) <5%

Recovery (ASTM-F36)

12-17%

 $P \times T = 1,600,000 \text{ (°F } \times psi)$ $P \times T = 58,000 \text{ (°C } \times bar)$

Color: Grey



Non-Asbestos Gasketing*

450/455/457/195



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

450 is not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

TECHNICAL DATA – 450

Maximum Operating Temperature: 390°F (200°C)

Maximum Service Pressure: 365 psi (25 bar)

Compressibility (ASTM-F36) 7-17% Sealability (ASTM-F37) 0,25 ml/hr Creep relaxation (ASTM-F38) 20% Recovery (ASTM-F36) 50% Tensile strength

across grain (ASTM-F152) 1600 psi (110 bar)

 $P \times T = 4,375 \,(^{\circ}C \times bar)$

 $P \times T = 125,000 \, (^{\circ}F \times psi)$ Color: Grey Green

Chesterton 455 Aramid Fiber/Nitrile Binder 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 575°F (300°C). 455 is not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

TECHNICAL DATA - 455

Maximum Continuous Operating Temperature:

575°F (300°C)

Maximum Continuous Service

Pressure: 735 psi (50 bar)

Compressibility (ASTM-F36) 7-17% Sealability (ASTM-F37) 0,25 ml/hr Creep relaxation (ASTM-F38) 25%

Recovery (ASTM-F36) 50%

Tensile strength

across grain (ASTM-F152)

1500 psi (100 bar)

 $P \times T = 350,000 \text{ (°F } \times \text{ psi)}$ $P \times T = 12,810 (^{\circ}C \times bar)$

Color: Light Red

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. 457 is not recommended for use in chlorinated hydrocarbons, aromatic and ester ketones.

TECHNICAL DATA - 457

Maximum Operating Temperature: 840°F (450°C)

Maximum Service Pressure: 1470 psi (100 bar)

Compressibility (ASTM-F36)

5 - 15%Sealability (ASTM-F37)

0.30 ml/hr Creep relaxation (ASTM-F38)

30% maximum

Recovery (ASTM-F36) 50% minimum

Tensile strength across arain (ASTM-F152)

1500 psi (100 bar)

 $P \times T = 600,000 \, (^{\circ}F \times psi)$ $P \times T = 21,800 \,(^{\circ}C \times bar)$

Color: Black

Chesterton 195 Synthetic Fiber, Nitrile Binder Sheet is a heavy duty 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 - 195

Temperature Limit:

750°F (400°C)

Pressure Limit:

1450 psi (100 bar), 300 psi (20 bar)

saturated steam service

 $P \times T = 400,000 \, (^{\circ}F \times psi)$ $P \times T = 14.400 \, (^{\circ}C \times bar)$

Color: White

*Chesterton recommends a Graphite Sheet (Gasket) or a Metal Gasket for Steam Services or Flammable Services > 400°F (205°C).



160/161/162/289/345



Chesterton's line of Fiberglass products (160, 161, 162 and 289) for gasket sealing, wrapping insulating and protecting in a broad variety of industrial and marine applications. This product line offers many unique characteristics and advantages including flexibility, dimensional stability and high tensile strength. They are resistant to many acids and alkalies, and most bleaches and solvents.

TECHNICAL DATA – 160 FIBERGLASS TAPE

Temperature Limit

up to 1000°F (540°C)

Elongation

3% Maximum

Flammability

Non Flammable

Chemical Incompatibilities

Hydrofluoric acid, hot phosphoric acid and wet hydrogen chloride



TECHNICAL DATA – 161 TWISTED FIBERGLASS ROPE

Temperature Limit

up to 1000°F (540°C)

Elongation

3% Maximum

Flammability

Non Flammable

Chemical Incompatibilities

Hydrofluoric acid, hot phosphoric acid and wet hydrogen chloride

TECHNICAL DATA – 162 FIBERGLASS CLOTH

Temperature Limit:

up to 1000°F (540°C)

TECHNICAL DATA – 289 FIBERGLASS TAPE

Temperature Limit

up to 400°F (204°C)

Pressure Limit

180 psig (12,4 bar g)

Compatible pH Range

4 to 9

Chemical Incompatibilities

Hydrofluoric acid, hot phosphoric acid and wet hydrogen chloride



Chesterton's **345** Ceramic Packing offers gasket and sealing materials with excellent insulating value and high temperature durability in boiler, furnace, oven and molding applications. They resist most corrosive agents except phosphoric and hydrofluoric acid and hot concentrated alkalies.

TECHNICAL DATA – 345 CERAMIC BRAIDED PACKING

Temperature Limit

up to 2300°F (1260°C)

Boiling Point

3260°F (1790°C)

Chemical Incompatibilities

Soluble in hydrofluoric acid, phosphoric acid and concentrated alkali chloride



184/ECS-B/ECS-T/ECS-W



Chesterton **184** 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. 184 provides a long lasting, high reliability seal with minimum re-torque requirements. 184 is soft and pliable to conform to worn or uneven services and effects a tight seal. Cut your gaskets from a 184 sheet using just a pair of scissors or knife.

TECHNICAL DATA - 184

Temperature Limit:

-450°F (-270°C) up to 600°F (315°C)

Pressure Limit:

Full vacuum up to 3000 psi (210 bar)

Chemical Resistance:

pH 0 – 14 inert to all common chemicals except molten alkali metals and elemental fluorine.

Applications:

For large areas and cut gasketing **Color:** White

ECS-B is a 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.

ECS-T is a PTFE Sheet Gasket Material suitable for high pressure and temperature services, especially in chemical and hydrocarbon plants in strong acids.

ECS-W is a 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.

TYPICAL PROPERTIES – ECS

Temperature Limit:

346°F (210°C) – 500°F (260°C)

Pressure Limit:

ECS-B: 800 psig (55 bar g) ECS-T and ECS-W:

1200 psig (83 bar g)

Chemical Resistance:

pH 0 – 14 Inert to all common chemicals except Molten alkali metals, fluorine and certain fluorine bearing

compounds.

Compressibility (ASTM F-36A) @ 5000 psig:

ECS-B: 30 – 50% ECS-T: 7 – 12% ECS-W: 5 – 15%

Sealability (ASTM F-37A) @ .7 bar g:

ECS-B: 0,12 ml/h ECS-T: 0,20 ml/h ECS-W: 0,04 ml/h

Sealability:

(DIN 3535): $< 0.015 \text{ cm}^3/\text{min}$

Creep Relaxation (ASTM F-38B):

ECS-B: 40% maximum ECS-T: 18% maximum ECS-W: 25% maximum

Recovery (ASTM F-36A) @ 5000 psig:

ECS-B: 25% minimum

ECS-T and ECS-W: 40% minimum

Tensile Strength:

(ASTM F-152): 2000 psig; (14 MPa)

P x T Factor:

350,000 for 1/16"; (°F x psig) 12,000 (°C x bar g) 250,000 for 1/8"; (°F x psig) 8,500 (°C x bar g)



100/119/122NN/124



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 - 100

Temperature Limit:

180°F (80°C) -40°F (-40°C)

Pressure Limit:

150 psi (10 bar)

Durometer:

65 – 80 Shore A

Surface Finish: Smooth

Color: Red

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 – 119

Temperature Limit:

180°F (80°C)

Tensile Strength:

1000 psi (69 bar) minimum

Pressure Limit:

300 psi (20 bar)

Durometer:

75 – 85 Shore A **Surface Finish:** Smooth

Color: Black

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. 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 - 122NN

Maximum Service Pressure:

250 psi (17 bar) minimum 1/8" (3.2 mm) thick

Maximum Service Temperature: 200°F (93°C)

Tensile Strength:

1400 psi (97 bar) minimum Elongation: 300% minimum Shore Durometer: 65 to 75 Maximum Service Temperature:

-40°F (-40°C)

Width:

48", +/- 1" (122 +/- 2,5 cm) Meets ASTM D2000 BC714

Mullen Burst Test Rating:

1,200 psi (83 bar), obtained using burst tester with 1.24" (31,5 mm) diameter opening per ASTM D751 and 1 ply material.

Surface Finish: Smooth

Color: Black

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 - 124

Temperature Limit:

200°F (90°C) -40°F (-40°C)

Durometer:

55 – 65 Shore A **Surface Finish:** Smooth

Color: Black



165



pH 0 - 14, inert to all chemicals

Handles pressures to 2000 psi (140 bar)

Fast, easy to use

Superior sealability in high pressure, high temperature service

Chesterton **165** Ultraseal features advanced materials for tight jointed connections. This exclusive joint sealant is constructed using graphite reinforced with an Inconel* wire mesh covering on a self-adhesive backing. 165 provides the high temperature, high pressure performance of a graphite sheet on a roll for fast and easy use. Layout complex shapes fast with spooled Joint Sealant, eliminating waste from cut sheet.

TECHNICAL DATA

Temperature Limit:

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

Pressure Limit:

2000 psi (140 bar)

Chemical Resistance:

pH 0 - 14

inert to all chemicals

Applications:

For high pressure, high temperature flange sealing services.

*Inconel is a registered trademark of International Nickel Company

175



Faster than cut rubber gaskets. Cleaner and easier than two-part, form-in-place and spray can gaskets

Complete inventory of gasketing on a roll

Closed-cell foam forms and compresses better than solid silicone rubber

No binders, no fillers, no leak paths

More economical than PTFE joint sealants and just as convenient

Chesterton **175** Peel&Seal silicone foam gasketing puts a high quality gasket in your tool box. Just lay out the path for the gasket, peel off the adhesive paper backing and apply. The aggressive adhesive is specially designed to hold in place for bolt tightening, but is easily removed.

TECHNICAL DATA

Temperature Limit:

350°F (180°C)

Pressure Limit:

200 psi (15 bar)

Chemical Resistance:

It can be used in many chemicals, lubricating oils and alcohols. Diluted acids and alkalies have little effect on the performance of this material.

Applications:

For use on flanges, manway and handway covers, electric motor junction boxes; NEMA 12 and 4 control panel. Door gaskets, HVAC duct covers.



185



Superior sealability, even on worn or uneven flange surfaces

Long lasting, high reliability seal with minimum re-torque requirements

Fast and easy to use

Suitable for food grade applications FDA 21CFR 77.1550

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 gasket 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. Fast and easy to use. Layout complex shapes fast with 185 Expanded PTFE Spooled Joint Sealant, eliminating waste from cut sheet. Self-adhesive strip holds the joint sealant in place for easy assembly in the shop or in the field.

185 PTFE Joint Sealant Kit Reorder No. 004801.

Kit includes four spool sizes: 3/16", 1/4", 3/8" and 1/2".

TECHNICAL DATA

Temperature Limit:

-450°F (-270°C) up to 600°F (315°C)

Pressure Limit:

Full vacuum up to 3000 psi (210 bar)

Chemical Resistance:

pH 0 – 14 inert to all common chemicals, except molten alkali metals and elemental fluorine.

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.



Steel Trap™



Withstands temperature extremes

Superior pressure handling

Impervious to most chemicals

No flange galling

Works with all existing flanges

Superior fugitive emissions control capability

Specialty materials available

Long term reliability without flange welding

Chesterton Steel Trap Metal/ Graphite Gasket is manufactured with concentric, isolated convolutions in sheet stainless steel that trap pure graphite against the flange face. As the flange is tightened, the convolutions are progressively flattened, thus trapping the graphite sealing media. Not only is a highly effective seal effected against both faces of the flange, but the graphite is protected against oxidizing atmospheres and corrosives. Steel Trap gaskets can remain in place and will continue to seal effectively until removal is necessary for equipment servicing or repair. These seals pay for themselves many times over in reduced maintenance and downtime. The unique, self-locating design allows the same size gasket to be used in the vast majority of flange pressure classes. This results in unmatched time savings in locating the right gasket, while reducing inventory and virtually eliminating the chance of incorrect gasket selection.

TECHNICAL DATA

Temperature Limit:

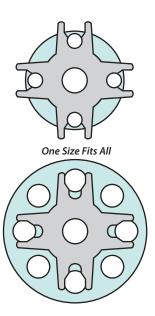
-328°F (-200°C) to 932°F (500°C) atmosphere -328°F (-200°C) to 1200°F (650°C) steam -328°F (-200°C) to 1650°F (900°C) inert media

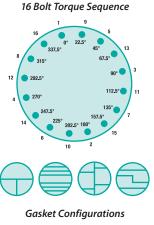
Pressure Limit:

vacuum to 6000 psi (415 bar)

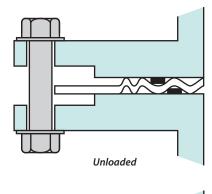
Chemical Resistance:

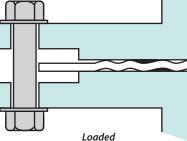
pH0 - 14













Profile of Steel Trap Carrier and Sealing Strips





Product Reorder Number Charts

100

THICK	INESS		WEIGHTS ±10%		APPROXIMATE WEIGHTS PER ROLL		REORDER NUMBER
Inches	mm	lbs. per yd.	kg./m²	Inches (W) x lbs.	mm (W) x kg.		
1/16	1,6	5	3,3	36"W x 100 lbs	914,4 x 45,4	21	010001
3/32	2,4	7	4,9	36"W x 100 lbs	914,4 x 45,4	14	010066
1/8	3,0	9	6,5	36"W x 100 lbs	914,4 x 45,4	11	010002
3/16	5,0	14	9,8	36"W x 100 lbs	914,4 x 45,4	7	010003
1/4	6,5	20	13,0	36"W x 100 lbs	914,4 x 45,4	5	010004

Two

SIZ	ĽE		AGED 0%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/4	6,5	2 5	0,908 2,270	037754 037704
5/16	8,0	2 5	0,908 2,270	037755 037705
3/8	9,5	2 5	0,908 2,270	037756 037706
7/16	11,0	5	2,270	037707
1/2	12,5	2 7	0,908 2,722	037758 037708
9/16	14,0	7	2,722	037709
5/8	16,0	7	2,722	037710
11/16	17,5	7	2,722	037711
3/4	19,0	7	2,722	037712
7/8	22,0	Factory Order	Factory Order	037714
1	25,5	Factory Order	Factory Order	037716

119

THIC	KNESS	APPROXIMATE WEIGHTS PER ROLL		YDS. PER ROLL ±10%	REORDER NUMBER
Inches	mm	Inches (W) x lbs.	mm (W) x kg.		
1/16	1,5	36"W x 100 lbs	914,4 x 45,4	23	011901
3/32	2,4	36"W x 100 lbs	914,4 x 45,4	15	011966
1/8	3,0	36"W x 100 lbs	914,4 x 45,4	12	011902
3/16	5,0	36"W x 100 lbs	914,4 x 45,4	8	011903
1/4	6,5	36"W x 100 lbs	914,4 x 45,4	6	011904

122NN

THIC	KNESS	APPROXIMATE WEIGHTS PER ROLL		YDS. PER ROLL ±10%	REORDER NUMBER
Inches	mm	Inches (W) x lbs.	mm (W) x kg.		
1/16	1,5	48"W x 100 lbs	1219,2 x 45,4	19	012201
1/8	3,0	48"W x 100 lbs	1219,2 x 45,4	9	012202
3/16	5,0	48"W x 100 lbs	1219,2 x 45,4	6	012203
1/4	6,5	48"W x 100 lbs	1219,2 x 4,54	5	012204
1/8	3,0	56"W x 100 lbs	1422,4 x 45,4	8	012282

124

THIC	KNESS	APPROX WEIGHTS I		YDS. PER ROLL ±10%	REORDER NUMBER
Inches	mm	Inches (W) x lbs.	mm (W) x kg.		
1/16	1,6	36"W x 100 lbs	914,4 x 45,4	24	012401
1/8	3,0	36"W x 100 lbs	914,4 x 45,4	12	012402
3/16	5,0	36"W x 100 lbs	914,4 x 45,4	8	012403
1/4	6,5	36"W x 100 lbs	914,4 x 45,4	6	012404
1/2	12,5	36"W x 100 lbs	914,4 x 45,4	8	012408

NOTE: For products 289, 401, 3000, 5700B Please contact Customer Service or your Chesterton Technical Sales Specialist for Available Sizes



160 Fiberglass Tape

SIZ	ÆS	LENGTH	PER ROLL		REORDER NUMBER
Inches	mm	Feet	М	lbs. / 100'	
1/16 x 1	1,6 x 25,4	100	30,5	2.0	001601
1/16 x 2	1,6 x 50,8	100	30,5	4.1	001602
1/16 x 3	1,6 x 76,2	100	30,5	6.1	001603
1/8 x 1	3,2 x 25,4	100	30,5	4.2	001604
1/8 x 1-1/2	3,2 x 38,1	100	30,5	6.2	001607
1/8 x 2	3,2 x 50,8	100	30,5	8.1	001605
1/8 x 3	3,2 x 76,2	100	30,5	12.2	001606

161 Twisted Fiberglass Rope

SIZE			PACE ±1	(AGED 10%		REORDER NUMBER
Inches	mm	lbs.	kg.	ft./lb.	M/kg.	
1/4	6,4	25	11,4	55	37	016104
5/16	7,9	25	11,4	46	30,9	016103
3/8	9,5	25	11,4	24.5	16,5	016106
1/2	12,7	25	11,4	20	13,4	016108
5/8	15,9	25	11,4	13.5	9,1	016110
3/4	19,1	25	11,4	9	6,1	016112
7/8	22,2	25	11,4	6.5	4,4	016114
1	25,4	25	11,4	4.5	3,0	016116
1 - 1/4	31,8	25	11,4	3.7	2,5	016120
1 - 1/2	38,1	25	11,4	2.7	1,8	016124
1 - 3/4	44,5	25	11,4	2.1	1,4	016128
2	50,8	25	11,4	1.2	0,8	160132

162 Fiberglass Cloth

THICK	NESS	WI	DTH	LENGTH	PER ROLL	REORDER NUMBER
Inches	mm	Inches	Meters	Yards	Meters	
1/16	1,6	40	1,02	50	45,7	016201

165

SIZE	APPROXIMATE LENGTH		REORDER NUMBER
Inches	Feet	M	
1/8	50	15	003209

SIZE		APPROXIMATE LENGTH	
Inches	Feet	М	
3/8	25		000558
1/2	25		000559
3/4	25		000561
1	25		000562
3/8		50	001325

Product Reorder Number Charts

184

SIZE		DIMEN	ISIONS	REORDER NUMBER
Inches	mm	Inches	М	
1/16	1,6	60 x 60	1,5 x 1,5	004843
1/8	3,0	60 x 60	1,5 x 1,5	004844

InnerLube[™]

SIZ	SIZE		PACKAGED ±10%		
Inches	mm	lbs.	kg.		
1/4	6,5	2 5	0,908 2,270	035603 035604	
5/16	8,0	2 5	0,908 2,270	035605 035606	
3/8	9,5	5 10	2,270 4,540	035607 035608	
_	10,0	2 5	0,908 2,270	035609 035610	
7/16	11,0	5	2,270	035611	
_	12,0	2 5	0,908 2,270	035612 035613	
1/2	12,5	5 10	2,270 4,540	035614 035615	
9/16	14,0	5 10	2,270 4,540	035616 035617	
5/8	16,0	10	4,540	035618	
11/16	17,5	10	4,540	035619	
3/4	19,0	10	4,540	035620	
13/16	20,5	10	4,540	035621	
7/8	22,0	10	4,540	035622	
15/16	24,0	10	4,540	035623	
1	25,5	10	4,540	035624	

185

SIZ WID	YE OTH	SI. Len	ZE GTH	REORDER NUMBER
Inches	mm	Feet	M	
-	1,0	100 1000	30,0 305,0	004819 004820
1/8	3,0	100 1000	30,0 305,0	004821 004822
3/16	5,0	75 750	23,0 230,0	004823 004824
1/4	6,5	50 500	15,0 152,0	004825 004826
3/8	9,5	25 50 250	7,5 15,0 76,0	004827 004828 004829
1/2	12,5	15 30 150	4,5 9,0 45,0	004830 004831 004832
5/8	16,0	15 30 150	4,5 9,0 45,0	004833 004834 004835
3/4	19,0	15 30 100	4,5 9,0 30,0	004836 004837 004838
1	25,5	15 30 75	4,5 9,0 23,0	004839 004840 004841
2	51,0	39	12,0	004842

Lid-Lock

STANDARD SIZES (BULK LENGTH)	REORDER NUMBER
mm	
25	087750
30	087751
38	087752
40	087753

THICK	INESS	DIMEI	VSIONS		AGED 0%	REORDER NUMBER
Inches	mm	Inches.	М	lbs.	kg.	
1/64	0,4	60 x 60	1,52 x 1,52	3.8	1,4	019561
1/32	0,8	60 x 60	1,52 x 1,52	7.6	2,7	019562
1/16	1,6	60 x 60	1,52 x 1,52	15.0	5,4	019501
3/32	2,4	60 x 60	1,52 x 1,52	23.0	8,2	019586
1/8	3,0	60 x 60	1,52 x 1,52	30.0	10,9	019502
1/32	0,8	60 x 120	1,52 x 3,04	15.0	5,4	019574
1/16	1,6	60 x 120	1,52 x 3,04	30.0	10,9	019571
3/32	2,4	60 x 120	1,52 x 3,04	46.0	16,3	019576
1/8	3,0	60 x 120	1,52 x 3,04	60.0	21,8	019572



ECS-B/ECS-T/ECS-W

THICKI ±5			ISIONS /16	REORDER NUMBER	REORDER NUMBER	REORDER NUMBER
Inches	mm	Inches	М	ECS-B	ECS-T	ECS-W
1/32	0,8	47 x 47	1,19 x 1,19	058091	058109	058100
-	1,0	62 x 62	1,57 x 1,57	058096	058114	058105
-	1,5	62 x 62	1,57 x 1,57	058097	058115	058106
1/16	1,6	62 x 62	1,57 x 1,57	058090	058108	058099
-	2,0	62 x 62	1,57 x 1,57	058098	058116	058107
3/32	2,4	62 x 62	1,57 x 1,57	058094	058112	058103
1/8	3,2	62 x 62	1,57 x 1,57	058093	058111	058102
		FD	A SHEETS			
1/32	0,8	47 x 47	1,19 x 1,19	058118	058132	058125
-	1,0	62 x 62	1,57 x 1,57	058121	058135	058128
-	1,5	62 x 62	1,57 x 1,57	058122	058136	058129
1/16	1,6	62 x 62	1,57 x 1,57	058117	058131	058124
-	2,0	62 x 62	1,57 x 1,57	058123	058137	058130
3/32	2,4	62 x 62	1,57 x 1,57	058120	058134	058127
1/8	3,2	62 x 62	1,57 x 1,57	058119	058133	058126

THICK	NESS		ISIONS x width	APPRO) Weig		REORDER NUMBER
Inches	mm	Inches.	M	lbs.	kg.	
1/32	0,8	39.4 x 39.4	1,00 x 1,00	1.89/2.83	0,86/1,28	014011
1/16	1,6	39.4 x 39.4	1,00 x 1,00	3.77/4.72	1,71/2,14	014012
1/8	3,0	39.4 x 39.4	1,00 x 1,00	7.54/8.49	3,42/3,85	014013
1/32	0,8	60 x 60	1,52 x 1,52	4.38/6.51	1,98/2,95	014014
1/16	1,6	60 x 60	1,52 x 1,52	8.75/10.88	3,97/4,94	014015
1/8	3,0	60 x 60	1,52 x 1,52	17.50/19.63	7,94/8,90	014016
_	2,0	39.4 x 39.4	1,00 x 1,00	6.15	2,79	014017
-	2,5	39.4 x 39.4	1,00 x 1,00	6.35	2,88	014018
_	1,0	39.4 x 39.4	1,00 x 1,00	2.59	1,18	014019

TECHNICAL DATA

Product Reorder Number Charts

199

THICKN	IESS	DIMEN Length		APPRO) Weig		REORDER NUMBER
Inches	mm	Inches.	М	lbs.	kg.	
-	2,0	39.4 x 39.4	1,00 x 1,00	6.15	2,79	014020
1/32	0,8	39.4 x 39.4	1,00 x 1,00	1.89/2.83	0,86/1,28	014021
1/16	1,6	39.4 x 39.4	1,00 x 1,00	3.77/4.72	1,71/2,14	014022
1/8	3,0	39.4 x 39.4	1,00 x 1,00	7.54/8.49	3,42/3,85	014023
1/32	0,8	59.1 x 59.1	1,52 x 1,52	4.38/6.51	1,98/2,95	014024
1/16	1,6	59.1 x 59.1	1,52 x 1,52	8.75/10.88	3,97/4,94	014025
1/8	3,0	59.1 x 59.1	1,52 x 1,52	17.50/19.63	7,94/8,90	014026
-	2,5	39.4 x 39.4	1,00 x 1,00	6.35	2,88	014029
1/16	1,6	59.1 x 120	1,52 x 3,05	15.31	6,94	014030
-	2,6	-	1,5 x 1,5	14.87	6,75	014035
1/8	3,0	59.1 x 120	1,52 x 3,05	29.25	13,26	014036
3/16	5,0	39.4 x 39.4	1,00 x 1,00	12.0	5,44	014010
1/16	1,6	59.1 x 96	1,52 x 2,43	12.0	6,35	014038
-	2,4	39.4 x 39.4	1,00 x 1,00	5.88	2,66	014034

Miscellaneous Tools

DESCRIPTION	:	SIZE	REORDER NUMBER
174 Packing Knife			002300
178 Ring Packing Cutter			003400
Knife for Ring Packing Cutter			003402
242 Stiff Packing Tools			002402
253 Flexible Packing Extractors			
	6 in	152 mm	002499
	7 in	178 mm	002501
	11 in	279 mm	002502
	14 in	356 mm	002503
Set of Four			002400
Sure-Cut Packing Cutter			001924
Sure-Cut Maintenance Kit			001925
Gasket Cutter	Inch		042650
	Metric		042651
Mini Water Jet Extractor			104991

Siz	ZE		(AGED 10%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	003260
-	4,0	2	0,908	003261
3/16	5,0	2	0,908	003262
-	6,0	2	0,908	003263
1/4	6,5	2 5	0,908 2,270	032464 032473
5/16	8,0	2 5	0,908 2,270	032465 032474
3/8	9,5	2 5	0,908 2,270	032466 032475
-	10,0	2	0,908	032467
7/16	11,0	5	2,270	032477
-	12,0	5	2,270	032478
1/2	12,5	2 5 10	0,908 2,270 4,540	032470 032479 032483
9/16	14,0	5	2,270	032480
5/8	16,0	10	4,540	032485
3/4	19,0	10	4,540	032487
7/8	22,0	10	4,540	032489
1	25,5	10	4,540	032494

328

SIZ	SIZE		AGED 0%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	032860
3/16	5,0	2	0,908	032862
_	6,0	2	0,908	032863
1/4	6,5	2 5	0,908 2,270	032864 032873
5/16	8,0	2 5	0,908 2,270	032865 032874
3/8	9,5	2 5 10	0,908 2,270 4,540	032866 032875 032881
_	10,0	5	2,270	032876
7/16	11,0	5	2,270	032877
-	12,0	5	2,270	032878
1/2	12,5	2 5 10	0,908 2,270 4,540	032870 032879 032883
9/16	14,0	5 10	2,270 4,540	032880 032884
5/8	16,0	10	4,540	032885
3/4	19,0	10	4,540	032887
13/16	20,5	10	4,540	032888
7/8	22,0	10	4,540	032889
1	25,5	10	4,540	032894

SIZ	SIZE		PACKAGED ±10%	
Inches	mm	lbs.	kg.	
1/4	6,5	5	2,270	032973
5/16	8,0	5	2,270	032974
3/8	9,5	5 10	2,270 4,540	032975 032981
7/16	11,0	5	2,270	032977
1/2	12,5	5 10	2,270 4,540	032979 032983
9/16	14,0	5 10	2,270 4,540	032980 032984
5/8	16,0	10	4,540	032985
11/16	17,5	10	4,540	032986
3/4	19,0	10	4,540	032987
13/16	20,5	10	4,540	032988
7/8	22,0	10	4,540	032989
15/16	24,0	10	4,540	032993
1	25,5	10	4,540	032994

345 Ceramic Braid

SIZ	ZE CONTRACTOR OF THE PROPERTY	PACKAGED ±10%			REORDER NUMBER	
Inches	mm	lbs.	kg.	ft./lb.	M/kg.	
1/4	6,4	25	11,4	43	28,9	029304
3/8	9,5	25	11,4	23	15,4	029306
1/2	12,7	25	11,4	15	10,1	029308
5/8	15,9	25	11,4	11	7,4	029310
3/4	19,1	25	11,4	6.5	4,4	029312
7/8	22,2	25	11,4	4.9	3,3	029314
1	25,4	25	11,4	4.0	2,7	029316
1-1/2	38,1	25	11,4	2.0	1,3	029318

359

THICK	THICKNESS		DIMENSIONS	
Inches	mm	Inches	М	
1/32	0,75	39.4 x 39.4	1,00 x 1,00	153793
-	1,0	39.4 x 39.4	1,00 x 1,00	153794
1/16	1,5	39.4 x 39.4	1,00 x 1,00	153795
-	2,0	39.4 x 39.4	1,00 x 1,00	153796
1/8	3,0	39.4 x 39.4	1,00 x 1,00	153797

SIZE		PACK ±1	AGED 0%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	037060
3/16	5,0	2	0,908	037062
-	6,0	2	0,908	037063
1/4	6,5	2 5	0,908 2,270	037064 037073
5/16	8,0	2 5	0,908 2,270	037065 037074
3/8	9,5	2 5 10	0,908 2,270 4,540	037066 037075 037081
_	10,0	2 5	0,908 2,270	037067 037076
7/16	11,0	2 5	0,908 2,270	037068 037077
_	12,0	5	2,270	037078
1/2	12,5	2 5 10	0,908 2,270 4,540	037070 037079 037083
9/16	14,0	5	2,270	037080
5/8	16,0	10	4,540	037085
11/16	17,5	10	4,540	037086
3/4	19,0	10	4,540	037087
7/8	22,0	10	4,540	037089
1	25,5	10	4,540	037094
1-1/2	38,0	10	4,540	037022

Product Reorder Number Charts

412-W

SIZ	Æ	PACKA ±10		REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	004127
3/16	5,0	2	0,908	004129
-	6,0	2	0,908	004131
1/4	6,5	2 5	0,908 2,270	004101 004102
5/16	8,0	2 5	0,908 2,270	004105 004106
3/8	9,5	5 10	2,270 4,540	004108 004109
-	10,0	2 5	0,908 2,270	004133 004134
7/16	11,0	5	2,270	004112
_	12,0	2 5	0,908 2,270	004136 004137
1/2	12,5	5 10	2,270 4,540	004114 004115
9/16	14,0	5 10	2,270 4,540	004139 004140
5/8	16,0	10	4,540	004117
11/16	17,5	10	4,540	004142
3/4	19,0	10	4,540	004119
13/16	20,5	10	4,540	004144
7/8	22,0	10	4,540	004121
15/16	24,0	10	4,540	004146
1	25,5	10	4,540	004123

425

SIZ	ZE C		KAGED 10%	REORDER NUMBER
Inches	mm	lbs.	kg.	
3/16	5,0	2	0,908	042514
1/4	6,5	2 5	0,908 2,270	042515 042516
5/16	8,0	2 5	0,908 2,270	042517 042518
3/8	9,5	2 5	0,908 2,270	042519 042520
_	10,0	2 5	0,908 2,270	042550 042551
7/16	11,0	5	2,270	042552
_	12,0		To Order	
1/2	12,5	2 5 10	0,908 2,270 4,540	042553 042554 042555
9/16	14,0	5	2,270	042556
5/8	16,0	10	4,540	042557
3/4	19,0	10	4,540	042558
7/8	22,0	10	4,540	042559
1	25.5		To Order	

450

THICKNESS				REORDER NUMBER	
	Inches	mm	Inches	М	
	1/64	0,4	60 x 60	1,52 x 1,52	003050
	1/32	0,8	60 x 60	1,52 x 1,52	003051
	1/16	1,6	60 x 60	1,52 x 1,52	003052
	3/32	2,4	60 x 60	1,52 x 1,52	003053
	1/8	3,2	60 x 60	1,52 x 1,52	003054

455

THICK	THICKNESS		DIMENSIONS	
Inches	mm	Inches	М	
1/64	0,4	60 x 60	1,52 x 1,52	003630
1/32	0,8	60 x 60	1,52 x 1,52	003631
1/16	1,6	60 x 60	1,52 x 1,52	003632
3/32	2,4	60 x 60	1,52 x 1,52	003633
1/8	3,2	60 x 60	1,52 x 1,52	003634
1/8	3,2	60 x 180	1,52 x 4,56	003643
1/16	1,6	60 x 180	1,2 x 4,56	003644

457

THICKNESS		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
1/64	0,4	60 x 60	1,52 x 1,52	003851
1/32	0,8	60 x 60	1,52 x 1,52	003852
1/16	1,6	60 x 60	1,52 x 1,52	003853
3/32	2,4	60 x 60	1,52 x 1,52	003854
1/8	3,2	60 x 60	1,52 x 1,52	003855

THICK	NESS	DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	М	
1/32	0,8	39.4 x 39.4	1,00 x 1,00	005038
-	0,5	39.4 x 39.4	1,00 x 1,00	005042
_	1,0	39.4 x 39.4	1,00 x 1,00	005043
1/16	1,6	39.4 x 39.4	1,00 x 1,00	005039
_	2,0	39.4 x 39.4	1,00 x 1,00	005044
1/8	3,0	39.4 x 39.4	1,00 x 1,00	005040
3/32	2,4	39.4 x 39.4	1,00 x 1,00	005050

TECHNICAL DATA

Product Reorder Number Charts

477-1

477-1T

SIZ	E		(AGED 10%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	004752
3/16	5,0	2	0,908	004754
_	6,0	2	0,908	004756
1/4	6,5	2 5	0,908 2,270	004730 004731
5/16	8,0	2 5	0,908 2,270	004733 004734
3/8	9,5	2 5 10	0,908 2,270 4,540	004722 004723 004724
-	10,0	2 5	0,908 2,270	004758 004759
7/16	11,0	2 5	0,908 2,270	004736 004737
-	12,0	2 5	0,908 2,270	004782 004791
1/2	12,5	2 5 10	0,908 2,270 4,540	004726 004727 004728
9/16	14,0	5 10	2,270 4,540	004739 004740
5/8	16,0	10	4,540	004742
11/16	17,5	10	4,540	004744
3/4	19,0	10	4,540	004700
13/16	20,5	10	4,540	004793
7/8	22,0	10	4,540	004746
15/16	24,0	10	4,540	004796
1	25,5	10	4,540	004748

SIZ	ĽΕ	PACKAGED ±10%		REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	004346
3/16	5,0	2	0,908	004348
_	6,0	2	0,908	004349
1/4	6,5	2 5	0,908 2,270	004350 004351
5/16	8,0	2 5	0,908 2,270	004352 004353
3/8	9,5	2 5 10	0,908 2,270 4,540	004354 004355 004356
-	10,0	2 5	0,908 2,270	004357 004358
7/16	11,0	2 5	0,908 2,270	004359 004392
-	12,0	2 5	0,908 2,270	004395 004396
1/2	12,5	2 5 10	0,908 2,270 4,540	004397 004399 004413
9/16	14,0	5 10	2,270 4,540	004415 004417
5/8	16,0	10	4,540	004418
11/16	17,5	10	4,540	004446
3/4	19,0	10	4,540	004447
13/16	20,5	10	4,540	004448
7/8	22,0	10	4,540	004449
15/16	24,0	10	4,540	004450
1	25,5	10	4,540	004451

1400R

SI	SIZE PACKAGED ±10%		(AGED 10%	REORDER Number
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	000924
3/16	5,0	2	0,908	000926
-	6,0	2	0,908	000927
1/4	6,5	2 5	0,908 2,270	000937 000941
5/16	8,0	2 5	0,908 2,270	001054 001055
3/8	9,5	2 5 7	0,908 2,270 3,175	000943 000944 000946
-	10,0	2 5	0,908 2,270	000947 000949
7/16	11,0	2 5	0,908 2,270	000950 000952
-	12,0	2 5	0,908 2,270	000953 000955
1/2	12,5	2 5 7	0,908 2,270 3,175	000956 000958 000959
9/16	14,0	5 7	2,270 3,175	001056 001057
5/8	16,0	7	3,175	001058
11/16	17,5	7	3,175	001059
3/4	19,0	7	3,175	001071
13/16	20,5	7	3,175	001092
7/8	22,0	7	3,175	001093
15/16	24,0	7	3,175	001095
1	25,5	7	3,175	001096

SIZE		PACKAGED ±10%		REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	035002
-	4,0	2	0,908	035004
3/16	5,0	2	0,908	035006
-	6,0	2	0,908	035008
1/4	6,5	2 5	0,908 2,270	035010 035011
5/16	8,0	2 5	0,908 2,270	035013 035014
3/8	9,5	2 5 10	0,908 2,270 4,540	035016 035017 035018
-	10,0	2 5	0,908 2,270	035020 035021
7/16	11,0	2 5	0,908 2,270	035023 035024
-	12,0	5	2,270	035026
1/2	12,5	2 5 10	0,908 2,270 4,540	035028 035029 035030
9/16	14,0	5 10	2,270 4,540	035032 035033
5/8	16,0	10	4,540	035035
11/16	17,5	10	4,540	035037
3/4	19,0	10	4,540	035039
7/8	22,0	10	4,540	035041
1	25,5	10	4,540	035043

TECHNICAL DATA

Product Reorder Number Charts

1601

SIZ	E PACKAGED ±10%			REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	034902
-	4,0	2	0,908	034904
3/16	5,0	2	0,908	034906
-	6,0	2	0,908	034908
1/4	6,5	2 5	0,908 2,270	034910 034911
5/16	8,0	2 5	0,908 2,270	034913 034914
3/8	9,5	2 5 10	0,908 2,270 4,540	034916 034917 034918
-	10,0	2 5	0,908 2,270	034920 034921
7/16	11,0	2 5	0,908 2,270	034923 034924
-	12,0	5	2,270	034926
1/2	12,5	2 5 10	0,908 2,270 4,540	034928 034929 034930
9/16	14,0	5 10	2,270 4,540	034932 034933
5/8	16,0	10	4,540	034935
11/16	17,5	10	4,540	034937
3/4	19,0	10	4,540	034939
7/8	22,0	10	4,540	034941
1	25,5	10	4,540	034943

SI	ZE	PACK ±1	AGED 0%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	003260
-	4,0	2	0,908	003261
3/16	5,0	2	0,908	003262
-	6,0	2	0,908	003263
1/4	6,5	2 5	0,908 2,270	003264 003273
5/16	8,0	2 5	0,908 2,270	003265 003274
3/8	9,5	2 5 10	0,908 2,270 4,540	003266 003275 003281
-	10,0	2 5	0,908 2,270	003267 003276
7/16	11,0	2 5	0,908 2,270	003268 003277
-	12,0	2 5	0,908 2,270	003269 003278
1/2	12,5	2 5 10	0,908 2,270 4,540	003270 003279 003283
9/16	14,0	5 10	2,270 4,540	003280 003284
5/8	16,0	10	4,540	003285
11/16	17,5	10	4,540	003286
3/4	19,0	10	4,540	003287
13/16	20,5	10	4,540	003288
7/8	22,0	10	4,540	003289
15/16	24,0	10	4,540	003293
1	25,5	10	4,540	003294

SIZ	ZE	PACK ±1		REORDER NUMBER
Inches	mm	lbs.	kg.	
3/16	5,0	2	0,908	003362
1/4	6,5	2 5	0,908 2,270	003364 003373
5/16	8,0	2 5	0,908 2,270	003365 003374
3/8	9,5	2 5	0,908 2,270	003366 003375
_	10,0	5	2,270	003376
7/16	11,0	5	2,270	003377
1/2	12,5	2 5 10	0,908 2,270 4,540	003370 003379 003383
9/16	14,0	5	2,270	003380
5/8	16,0	10	4,540	003385
3/4	19,0	10	4,540	003387
7/8	22,0	10	4,540	003389
1	25,5	10	4,540	003394

1727 Multi-Lon_®

SIZ	ĽΕ	PACKAGED ±10%		REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	009260
-	4,0	2	0,908	009261
3/16	5,0	2	0,908	009262
-	6,0	2	0,908	009263
1/4	6,5	2 5	0,908 2,270	009264 009273
5/16	8,0	2 5	0,908 2,270	009265 009274
3/8	9,5	5 10	2,270 4,540	009275 009281
-	10,0	2 5	0,908 2,270	009267 009276
7/16	11,0	5	2,270	009277
-	12,0	2 5	0,908 2,270	009269 009278
1/2	12,5	5 10	2,270 4,540	009279 009283
9/16	14,0	5 10	2,270 4,540	009280 009284
5/8	16,0	10	4,540	009285
11/16	17,5	10	4,540	009286
3/4	19,0	10	4,540	009287
13/16	20,5	10	4,540	009288
7/8	22,0	10	4,540	009289
15/16	24,0	10	4,540	009293
1	25,5	10	4,540	009294

1730 Mill Pack™

SIZE LENGTHS REORDER NUMBER M Inches Feet mm 6,0 1/4 6,5 5/16 8,0 3/8 9,5 10,0 7/16 11,0 12,0 1/2 12,5 9/16 14,0 5/8 16,0 11/16 17,5 3/4 19,0 13/16 20,5 7/8 22,0 25,5

SIZE		PACI ±	KAGED 10%	REORDER NUMBER	
	Inches	mm	lbs.	kg.	
	1/8	3,0	2	0,908	004360
	_	4,0	2	0,908	004361
	3/16	5,0	2	0,908	004362
	_	6,0	2	0,908	004363
	1/4	6,5	2 5	0,908 2,270	004364 004373
	5/16	8,0	2 5	0,908 2,270	004365 004374
	3/8	9,5	2 5 10	0,908 2,270 4,540	004366 004375 004381
	-	10,0	2 5	0,908 2,270	004367 004376
	7/16	11,0	5	2,270	004377
	-	12,0	2 5	0,908 2,270	004369 004378
	1/2	12,5	2 5 10	0,908 2,270 4,540	004370 004379 004383
	9/16	14,0	5	2,270	004380
	5/8	16,0	10	4,540	004385
	11/16	17,5	10	4,540	004386
	3/4	19,0	10	4,540	004387
	13/16	20,5	10	4,540	004388
	7/8	22,0	10	4,540	004389
	15/16	24,0	10	4,540	004393
	1	25,5	10	4,540	004394

SIZ	Œ		AGED 0%	REORDER NUMBER
Inches	mm	lbs.	kg.	
3/16	4,7	2	0,908	175910
1/4	6,4	2 5	0,908 2,270	175911 175912
5/16	8,0	2 5	0,908 2,270	175913 175914
3/8	9,5	2 5 10	0,908 2,270 4,540	175915 175916 175917
-	10,0	2 5	0,908 2,270	175918 175919
7/16	11,1	2 5	0,908 2,270	175920 175921
-	12,0	2 5	0,908 2,270	175922 175923
1/2	12,7	2 5 10	0,908 2,270 4,540	175924 175925 175926
9/16	14,3	5 10	2,270 4,540	175927 175928
5/8	15,9	10	4,540	175929
11/16	17,5	10	4,540	175930
3/4	19,1	10	4,540	175931
-	20,0	10	4,540	175932
13/16	20,6		TO ORDER	
7/8	22,2	10	4,540	175933
15/16	23,8	10	4,540	175934
1	25,4	10	4,540	175935

1830-SSP

	SIZE		CKAGED ±10%	REORDER NUMBER
Inches	mm	lbs.	kg.	
3/8	9,5	2 5 10	0,908 2,270 4,540	052605 052606 052607
-	10,0	2 5	0,908 2,270	052608 052609
7/16	11,1	2 5	0,908 2,270	052610 052611
-	12,0	2 5	0,908 2,270	052612 052613
1/2	12,7	2 5 10	0,908 2,270 4,540	052614 052615 052616
9/16	14,3	5 10	2,270 4,540	052617 052618
5/8	15,9	10	4,540	052619
11/16	17,5	10	4,540	052620
3/4	19,1	10	4,540	052621
-	20,0	10	4,540	052622
13/16	20,6		TO ORDER	
7/8	22,2	10	4,540	052624
15/16	23,8	10	4,540	052625
1	25,4	10	4,540	052626

DigesterPak™

SIZ	Œ		KAGED 5%	REORDER NUMBER
Inches	mm	lbs.	kg.	
1/2	12,7	5 10	2,270 4,540	087501 087502
5/8	15,9	10	4,540	087506
3/4	19,1	15 25	6,804 11,340	087510 087524
-	20,0	15 25	6,804 11,340	087514 087525
13/16	20,6	15 25	6,804 11,340	087517 087526
7/8	22,2	15 25	6,804 11,340	087519 087527
15/16	23,8	15 25	6,804 11,340	087521 087528
1	25,4	15 25	6,804 11,340	087523 087529

TECHNICAL DATA

Product Reorder Number Charts

1760

SI	ZE	PACK ±1		REORDER NUMBER
Inches	mm	lbs.	kg.	
1/8	3,0	2	0,908	008360
3/16	5,0	2	0,908	008362
-	6,0	2	0,908	008363
1/4	6,5	2 5	0,908 2,270	008364 008373
5/16	8,0	2 5	0,908 2,270	008365 008374
3/8	9,5	2 5 10	0,908 2,270 4,540	008366 008375 008381
-	10,0	2 5	0,908 2,270	008367 008376
7/16	11,0	2 5	0,908 2,270	008368 008377
-	12,0	2 5	0,908 2,270	008369 008378
1/2	12,5	2 5 10	0,908 2,270 4,540	008370 008379 008383
9/16	14,0	5	2,270	008380
5/8	16,0	10	4,540	008385
11/16	17,5	10	4,540	008386
3/4	19,0	10	4,540	008387
13/16	20,5	10	4,540	008388
7/8	22,0	10	4,540	008389
1	25,5	10	4,540	008394

CMS 2000

DESCRIPTION	REORDER NUMBER	REORDER NUMBER
Injectable Compound	White	Black
Cartridge	001048	004431
CMS 2000 Injectable 13.2 liter	001047	004432
CMS 2000 Injectable 3.8 liter	001046	004433

CMS 2000

DESCRIPTION	REORDER NUMBER
Pneumatic Injection System	
Pneumatic Injection System Complete Kit	004536

1761

SI	ZE	PACKAGED ±10%		REORDER NUMBER
Inches	mm	lbs.	kg.	
3/16	5,0	2	0,908	009662
1/4	6,5	2 5	0,908 2,270	009664 009673
5/16	8,0	2 5	0,908 2,270	009665 009674
3/8	9,5	5 10	2,270 4,540	009675 009681
7/16	11,0	5	2,270	009677
1/2	12,5	5 10	2,270 4,540	009679 009683
9/16	14,0	5 10	2,270 4,540	009680 009684
5/8	16,0	10	4,540	009685
11/16	17,5	10	4,540	009686
3/4	19,0	10	4,540	009687
13/16	20,5	10	4,540	009622
7/8	22,0	10	4,540	009689
1	25,5	10	4,540	009694

CMS 2000

DESCRIPTION	REORDER NUMBER
Manual Injection System	
CMS 2000 Injection System	004434
6 FT Hose Alone	004424
1 FT Hose Alone	004422
1/4 NPT Female Alone	004428
1/4 NPT Male Alone	004427
1/4 NPT Plug Alone	004426
1/4 GG-S Pipe Connector Alone	004425
Shoulder Strap	004437

CMS 2000-FP

REORDER NUMBER
127533
127532

Control Valve Kits Designed by Chesterton to Fit Fisher® Valves

1724E Control Valve Kit

KIT NUMBER AND PACKING SIZE	NOMINAL SIZE	PRESSURE CLASS	REORDER NUMBER
Inches	Inches		
1 – 0.375 x 0.875	1 and 1.5	150# - 3600#	148004
2 – 0.500 x 1.000	2, 3 and 4	150# — 300#	148005
3 – 0.750 x 1.375	6 and 8	150# — 300#	148006
4 – 0.750 x 1.375	6 and 8	600#	148007

5800E Control Valve Kit

KIT NUMBER AND PACKING SIZE	NOMINAL SIZE	PRESSURE CLASS	REORDER NUMBER
Inches	Inches		
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

Control Valve Kits Designed by Chesterton to Fit Valtek® Valves

1724E Control Valve Kit

KIT Number	NOMINAL SIZE	PRESSURE CLASS	REORDER NUMBER
	Inches		
1	0.5 and 1	150# — 600#	148039
2	1.5 and 2	150# — 600#	148040
3	3	150# — 300#	148041
4	4	150# — 300#	148042
5	4	150# — 300#	148043
6	3	600#	148044
7	4	600#	148045
8	4	600#	148046
9	6	150#	148047
10	6	150#	148048
11	6	300#	148049
12	6	300#	148050
13	6	600#	148051
14	6	600#	148052
15	8	150#	148053
16	8	300#	148054
17	8	300#	148055

600#

600#

148056

148057

5800E Control Valve Kit

KIT Number	NOMINAL SIZE	PRESSURE CLASS	REORDER NUMBER
	Inches		
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

Fisher is a trademark of Emerson Process Management. Valtek is a trademark of Flowserve Corporation.

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TECHNICAL DATA

Braided Packing Sizes ft./lb. ±10%

	324	328	329	370	412-W	425	477-1	477-1T	1400R	1600	1601
SIZE											
1/8	75.0	100.0	-	124.2	95.6	97.0	116.0	117.0	95.0	66.2	75.0
4 mm	-	-	-	-	76.9	-	-	-	71.0	45.6	59.0
3/16	36.0	32.9	-	54.9	49.1	36.0	49.0	38.0	30.0	32.6	40.0
6 mm	26.5	21.7	-	37.2	34.0	30.0	36.0	25.6	26.1	26.0	30.5
1/4	20.3	20.7	28.0	29.9	30.0	22.6	31.3	22.0	23.0	20.0	25.0
5/16	12.0	14.6	18.8	17.1	20.0	14.9	19.8	14.4	18.3	14.1	17.9
3/8	9.0	9.3	12.7	12.0	13.8	9.2	13.8	10.9	13.4	9.7	12.1
10 mm	8.3	8.7	18.8	11.2	12.5	8.1	12.4	10.7	13.2	8.9	10.7
7/16	7.0	7.1	9.8	9.0	11.1	6.9	10.3	8.8	10.3	6.8	9.3
12 mm	5.7	5.8	-	7.6	8.9	6.5	8.5	7.0	9.5	6.0	7.3
1/2	5.3	5.3	8.2	7.2	7.9	5.3	8.3	6.9	8.3	5.6	6.0
9/16	4.3	4.5	6.5	5.7	6.2	4.1	6.5	4.8	6.5	4.5	5.3
5/8	3.2	3.4	5.1	4.6	5.4	3.6	5.2	4.5	5.0	3.6	4.0
11/16	-	-	4.1	3.5	4.4	3.2	4.2	3.9	4.7	3.1	3.6
3/4	2.3	2.4	3.6	3.1	3.7	2.5	3.5	3.2	3.9	2.6	2.7
13/16	-	2.0	2.6	2.5	3.2	-	3.1	2.5	3.2	2.1	-
7/8	1.8	1.9	2.4	2.3	2.8	-	2.5	2.3	2.8	1.9	2.0
15/16	-	-	2.2	-	2.1	-	2.4	1.9	2.0	-	-
1	1.4	1.4	1.9	1.8	1.7	-	2.1	1.8	1.9	1.5	1.8
1-1/4	-	-	1.2	-	0.9	-	-	-	_	_	-
1-1/2	-	-	0.9	0.9	0.7	-	-	-	-	-	-
1-3/4	-	-	0.7	-	-	-	-	-	-	-	-

	1724	1725	1727	1730	1730SC	1740	1760	1761	1830	1900	Innerlube
SIZE											
1/8	64.0	-	101.0	60.0	_	85.0	58.5	-	-	96.5	-
4 mm	-	-	-	-	-	61.0	53.4	-	-	72.5	_
3/16	32.0	34.2	48.0	33.0	-	45.7	35.0	33.5	43.5	45.4	-
6 mm	23.6	-	32.0	30.0	-	26.0	24.5	-	-	40.2	-
1/4	19.0	23.0	31.0	25.0	-	23.2	21.0	18.6	20.1	28.2	24.2
5/16	13.5	15.4	22.0	15.9	-	16.3	15.4	13.4	15.0	16.5	20.7
3/8	9.6	10.6	14.1	11.2	11.6	11.3	10.5	8.6	9.3	11.3	13.2
10 mm	8.7	9.4	12.6	10.2	10.0	10.2	9.0	-	-	10.8	11.6
7/16	7.3	8.3	10.5	8.2	8.6	8.6	7.0	7.5	7.6	9.0	10.0
12 mm	6.3	-	8.7	6.9	7.0	7.2	6.3	-	-	7.7	8.5
1/2	5.4	6.4	8.2	6.4	6.1	6.3	6.1	5.7	5.4	6.9	7.0
9/16	4.4	5.3	6.3	4.5	4.9	5.0	4.0	4.6	4.5	5.5	5.7
5/8	3.4	4.0	4.9	3.7	4.0	4.3	3.0	3.6	3.8	4.3	5.0
11/16	3.0	-	4.1	3.4	3.4	3.4	2.8	3.0	3.1	3.6	4.3
3/4	2.5	2.8	3.4	2.8	3.1	2.8	2.7	2.5	2.6	3.0	3.5
13/16	2.2	-	3.0	2.1	2.5	2.7	2.3	2.1	2.0	-	2.9
7/8	2.0	2.1	2.5	1.8	2.1	2.3	1.7	1.8	1.9	2.1	2.6
15/16	1.9	-	2.2	1.6	-	2.1	1.5	1.6	1.7	-	2.2
1	1.7	-	2.0	1.4	1.7	1.7	1.0	1.4	1.4	1.9	2.0
1-1/4	0.9	-	-	1.0	-	1.0	-	-	1.0	-	-
1-1/2	-	-	0.8	0.5	-	0.9	0.7	-	-	-	-
1-3/4	-	-	-	-	-	-	-	-	-	-	-

TECHNICAL DATA

Braided Packing Sizes M/kg. $\pm 10\%$

	324	328	329	370	412-W	425	477-1	477-1T	1400R	1600	1601
SIZE											
3,0	50,1	67,2	-	83,4	64,2	65,1	90,4	78,6	63,8	44,5	50,4
4,0	-	-	-	-	51,7	-	-	-	47,7	30,6	39,6
5,0	24,2	22,1	_	36,9	32,9	24,2	32,9	25,5	20,2	21,9	26,9
6,0	17,8	14,6	-	25,0	22,8	20,1	24,2	17,2	17,5	17,5	20,5
6,5	13,6	13,9	18,8	20,1	20,1	15,2	21,0	14,8	15,5	13,4	16,8
8,0	8,1	9,8	12,6	11,5	13,4	10,0	13,3	9,7	12,3	9,5	12,0
9,5	6,0	6,2	8,5	8,1	9,3	6,2	9,3	7,3	9,0	6,5	8,1
10,0	5,6	5,8	-	7,5	8,4	5,4	8,3	7,2	8,8	6,0	7,2
11,0	4,7	4,8	6,6	6,1	7,5	4,6	6,9	5,9	6,9	4,5	6,2
12,0	3,8	3,9	-	5,1	5,9	4,4	5,7	4,7	6,4	4,0	4,9
12,5	3,6	3,6	5,5	4,8	5,3	3,6	5,6	4,6	5,6	3,8	4,0
14,0	2,9	3,0	4,4	3,8	4,2	2,8	4,4	3,2	4,4	3,0	3,6
16,0	2,2	2,3	3,4	3,1	3,6	2,4	3,5	3,0	3,4	2,4	2,7
17,5	-	-	2,8	2,4	2,9	2,2	2,8	2,6	3,2	2,1	2,4
19,0	1,5	1,6	2,4	2,1	2,5	1,7	2,4	2,2	2,6	1,7	1,8
20,5	-	1,3	1,7	1,7	2,2	-	2,1	1,7	2,2	1,4	-
22,0	1,2	1,2	1,6	1,5	1,9	-	1,7	1,6	1,9	1,3	1,3
24,0	-	-	1,5	-	1,4	-	1,6	1,3	1,3	-	-
25,5	0,9	0,9	1,3	-	1,1	-	1,4	1,2	1,2	1,0	1,2
31,8	-	-	-	-	0,6	-	-	-	-	-	-
38,1	-	-	-	0,6	0,5	-	-	-	-	-	-
44,5	-	-	-	-	-	-	-	-	-	-	-

	1724	1725	1727	1730	1730SC	1740	1760	1761	1830	1900	Innerlube
SIZE											
3,0	43,0	-	80,6	40,3	-	57,1	39,3	-	-	64,8	_
4,0	-	-	-	-	-	40,9	35,9	-	-	48,7	-
5,0	21,5	22,9	37,3	22,1	_	30,7	23,6	22,5	29,2	30,5	_
6,0	15,9	-	33,6	20,2	_	17,5	16,5	-	-	27,0	-
6,5	12,7	15,5	21,8	16,8	_	15,6	14,1	12,5	13,5	18,9	16,3
8,0	9,1	10,3	14,8	10,7	-	10,9	10,3	9,0	10,1	11,1	13,9
9,5	6,5	7,1	9,5	7,5	7,8	7,6	7,1	5,8	6,2	7,6	8,9
10,0	5,8	6,3	8,5	6,9	6,7	6,9	6,0	-	-	7,3	7,8
11,0	4,9	5,6	7,1	5,5	5,8	5,8	4,7	5,0	5,1	6,0	6,7
12,0	4,2	-	5,8	4,6	4,7	4,8	4,2	-	-	5,2	5,7
12,5	3,6	4,3	5,5	4,3	4,1	4,2	4,1	3,4	3,6	4,6	4,7
14,0	3,0	3,6	4,2	3,0	3,3	3,4	2,7	3,1	3,0	3,7	3,8
16,0	2,3	2,6	3,3	2,5	2,7	2,9	2,0	2,4	2,6	2,9	3,4
17,5	2,0	-	2,8	2,3	2,3	2,3	1,9	2,0	2,1	2,4	2,9
19,0	1,7	1,8	2,3	1,9	2,1	1,9	1,8	1,7	1,7	2,0	2,4
20,5	1,5	-	2,0	1,4	1,7	1,8	1,5	1,4	1,3	-	1,9
22,0	1,3	1,4	1,7	1,2	1,4	1,5	1,1	1,2	1,2	1,4	1,7
24,0	1,2	-	1,5	1,1	-	1,4	1,0	1,1	1,1	-	1,5
25,5	1,1	-	1,3	0,9	1,1	1,1	0,7	0,9	0,9	1,3	1,3
31,8	0,6	-	-	0,7	-	0,7	-	-	0,7	-	-
38,1	-	-	0,5	0,3	0,6	-	0,5	-	-	-	-
44,5	-	-	-	-	-	-	-	-	-	-	-





Chesterton 242 Stiff Packing Tools are made of a special tool steel, to withstand the roughest usage. They are warranted not to break when removing packing from any type of stuffing box. The 242 packing tools are only sold in complete sets of 6. Reorder No. 002402

Mini 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. Reorder No. 104991

253



Chesterton 253 Flexible Packing Extractors are designed 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 4 tools. Set Reorder Number 002400

No. 0 – requires 0.165" (4.2 mm) min. O.D.

No. 1 – requires 0.260" (6.6 mm) min. O.D.

No. 2 - requires 0.420" (10.7 mm) min. O.D.

No. 3 – requires 0.420" (10.7 mm) min. O.D.

Sure-Cut



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. Reorder No. 001924

*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.



Gasket Cutter



Chesterton Gasket Cutter Tool 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 1/4" I.D. – 37" O.D. (6 mm I.D. – 940 mm O.D.). Specially designed cutting blades are held securely, ensuring consistent and repetitive cuts in material up to 3/4" (19 mm) thick. Includes 18" (457 mm) cutting board with fiber pad.

Gasket Cutter Kit (Inch) - 042650 Gasket Cutter Kit (Metric) - 042651 174



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

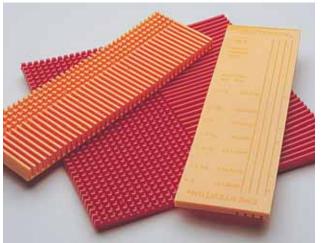
Blade length 5" (125 mm). Overall length case included 10" (250 mm). Reorder No. 002300

178



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 1/8" (3 mm) through 1" (25 mm) and shaft sizes up to 4" (100 mm). Reorder No. 003400

176



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

Reorder	Packing	Pump	Packing
No.	Size	Item No.	Size
002306	1/8" – 6 mm	002505	6 mm - 5/16"
002307	1/4" – 5/16"	002507	3/8" – 12 mm
002308	3/8" – 12 mm	002508	1/2"- 3/4"
002309	1/2"_ 3/4"		

PRODUCTS BY INDUSTRY

FOURMENT AND DROCECC	CUECTEDTON DACKING	FOURDMENT AND DROCECC	CHECTEDTON DACKING
EQUIPMENT AND PROCESS	CHESTERTON PACKING	EQUIPMENT AND PROCESS	CHESTERTON PACKING
ASPHALT PLANTS	47(0,44000//477.4) 4020	COTTON GINNING	000 0000 40 000
Asphalt Pumps 600 F.P.M. Asphalt Pumps 1200 F.P.M.	1760, 1400R/(477-1), 1830 1760, 1400R/(477-1), 1830	Presses, hydraulic pumps	800, 8000, 10,000
Bituminous Tank Agitators	1730SC, 1400R/(477-1)	COTTON SEED OIL	1727 1720 1020
Asphalt Loading Pumps Emulsified Asphalt Pumps	1760, 1400R/(477-1), 1830 1760, 1400R/(477-1), 1830	Oil pumps Hexane pumps	1727, 1730, 1830 1760, 477-1, 1400R/(477-1)
Solvent Pumps	1760, 1400R/(477-1), 1830	Compress, rams	600, 6000, 8000, 10,000
Light Flux Pumps AUTO ASSEMBLY	328	CREOSOTE TREATING	
Bonderite pumps	328	Pressure pumps: Centrifugal Reciprocating	1400R/(477-1), 555, 1760
Paint pumps	1727, 412-W, InnerLube	Liquid rods	1760, 1724
BATTERY MANUFACTURE		Steam rods Pressure tank door gasketing	1760, 1724 1727, 1730, 1724
Acid pumps	1760, 328	DAIRIES	1727, 1730, 1721
Hydraulic platen presses	600, 6000, 8000, 10,000	Food or milk	1725, 425
BOTTLING COMPANIES	1720 1727 1770 220 1020	Homogenizers, viscolizers	
Bottle washer BREWERIES	1730, 1727, 1760, 328, 1830	Bottle and can washer pumps	1725, 425
	1720 1400P 1727 1760 1920	DISTILLERIES (also see Breweries)	1735 435
Air compressor Ammonia compressor	1730, 1400R, 1727, 1760, 1830 1400R/(477-1)	Whiskey pumps Rinse pumps	1725, 425 1725, 425
Ammonia valves Liquid ammonia pumps	1400R, 477-1, 1724	Slop, mash pumps: Centrifugal	1725, 425
Corn syrup pumps	1400R, 477-1,1730, 412-W 1730, 412-W	Reciprocating	1725, 425
Brine pumps Beer pumps	1730, 412-W 1730, 412-W, 425, 1725	Evaporating drum driers	324, 1724, 1730SC
Stock pumps	1760, 1730, 412-W, 1830	ELEVATOR REPAIR & MFG	
Rinse pumps Slurry pumps	1760, 1730, 412-W, 328, 1830 1760, 1730, 412-W, 1830	Hydraulic jack (ram)	600, 6000, 8000, 10,000
Caustic rinse pumps	1760, 1730, 1830	FARM MACHINERY (repairs, earthmoving)	COO COOO 0000 10 000
Storage tanks Feed water treatment tanks	185, 289 185, 289	Hydraulic rams and rods FERTILIZER PLANTS (also see and include	600, 6000, 8000, 10,000
Cookers and kettles	184, 185, 1724, 425	recommendations for Fish Oil & Meal)	
BRICK MANUFACTURING		Acid pumps	328, 1760, 1830
Oven door gaskets Steam pumps - rods	345, 289,160, 161, 162 1400R/(477-1), 1724, 1760	FISH OIL & MEAL	
Tunnel kiln pushers	600, 8000, 10,000	Acid pumps	328, 1760, 1830
CEMENT PLANTS		Caustic wash pumps Fish pumps:	328, 1727, 1730, 1830
Sludge pumps	555,1730,1727, 555 or combination sets	Centrifugal	1727, 1730
CHEMICAL PLANTS		Reciprocating Cooker, retort gaskets	1727, 1730 289, 184, 185
Mild chemicals pH 5-9 Strong acids pH 1-4	1760, 1730, 1727, 1830	FOOD PROCESSING (also see Meat Packing)	
valves & reciprocating	1724, 328	Blood cookers	328, 1725, 425
centrifugals Strong caustics pH 10-14	1760, 328, 1724, 324, 1830	Food pumps: Centrifugals	1725, 425
valves & reciprocating	324, 1724, 328	Reciprocating	1725, 425
centrifugals Solvent pumps	328, 1760, 1724, 324, 1830 328, 1727, 1730, 1760, 1830	Cooker or retort gasketing Ammonia compressors	289, 184, 185 1400R/(477-1)
Sheet Packings:	320, 1727, 1730, 1700, 1030	Ammonia valves	324, 1724, 1400R/(477-1)
Tank and door gasketing: Regular	185, 289	Mixers Gasketing	1725, 425 184, 185
Solvents	184, 185	FORGING PLANTS	
Cold oils Acids	124, 140 459, 198, 199, 184, 185, ECS-T	Steam hammer rods:	
Alkalies Hot solvents	459, 198, 199, 184, 185, ECS-T	end rings balance	1724, 477-1 600
Steam	459, 198, 199, 184, 185, ECS-T 459, 199, 457, 455	FURNITURE MFG.	
COAL MINES		Backbenders	600, 8000
Centrifugal pumps	1730, 1727, 555, 1830	Steam chest gasketing	289, 1600
Plunger pumps Strip mine shovels, jacks	600, 8000, 10,000 600, 8000, 10,000	GAS MANUFACTURE	
COLD STORAGE		Ammonia solutions Ammonia valves	1400R/(477-1), 1727, 1730 1400R/(477-1), 324, 1724
Ammonia compressors	pressors 1400R/(477-1), 555 es 1400R/(477-1), 1724	Crude Oil	1400R/(477-1), 1727, 1730
Ammonia valves		Exhauster shafts Fuels and gas oil	1400R/(477-1) 1400R/(477-1), 1727, 1730
CONSTRUCTION		Gas tar, tar water	1400R/(477-1), 1727, 1730
Essex plaster mixer	555	Generator ash and clinker doors Hot valves:	289
CORN PROCESSING	278 1760 1820	generator to carburetor Naphthalene	5300/One-Cl, GTP, 1600, 1400R/(477-1) 1400R/(477-1)
Acid pumps Alkaline pumps	328, 1760, 1830 328, 1727, 1730, 1760, 1830	Oil splash lubricated engines	1400R/(477-1), 1727, 1730
Stock pumps	1727, 1730, 1830	Purifier box cover and door seals Seal, box and scrubber	289 1727, 1730
		scar, non aria scrubber	2.7 1730



EQUIPMENT AND PROCESS	CHESTERTON PACKING
GREENHOUSES (also see Power Generating Plants)	
Humidifier centrifugals	1727, 1730, 1830
GOLD MINES	
Reciprocating sludge pumps Reciprocating slime pumps Centrifugals Acid pumps	328, 1760 328, 1760 328, 1760, 1730, 1727, 1830 328, 1760, 1830
HOSPITALS (also see and include Power Generating Plants recommendations)	
Ammonia compressor Expansion joints Fire pumps — Centrifugals Feed and vacuum pumps Sterilizers, autoclaves (gaskets)	1400R/(477-1) 324, 1724 1400R/(477-1), 1727, 1730, 1760, 1830 1400R/(477-1), 1760, 370, 1830 185, 289
JUNK YARDS	
Hydraulic reciprocating oil pumps Body baling press	600, 8000 600, 6000, 8000, 10,000
LAUNDRY—DRY CLEANING (also see Power Generating Plants)	
Filter cloth gasket Solvent pump Soap pump Air compressor Flat work ironer, mangles, presses	140 328, 1727, 1730, 1760, 1830 328, 1727, 1730, 1760, 1830 1730, 1727, 1760, 1830 1730SC
LOADING PLATFORMS & EQUIPMENT	
Rams	600, 6000, 8000, 10,000
LUMBER OPERATIONS	
Shotguns, feed engines, riggers, winches donkey engines, log turners, loaders Use end rings Balance of set Also recommended	1730SC 600, 8000
MEAT PACKING	,
Crackling press Hydraulic pumps Blood cookers Tree washer pumps Cookers, dryers, blenders Cookers, dryers gasketing Stock liquor pumps Acid pumps Caustic pumps Ammonia compressor Ammonia valves	600, 6000, 8000, 10,000 600, 8000 FDA 1725, 425 1727, 1730, FDA 1725, 425 1727, 1730, FDA 1725, 425 289 328, 1761, 1760 328, 1761, 1760 1400R/(477-1) 324, 1724
METAL CASTING	
Quench – oil pumps Hydraulic pumps Accumulators Hydraulic rams	1727, 1730 1727, 1730, 600, 1760 600, 6000, 8000, 10,000 600, 6000, 8000, 10,000
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 CHESTERTON MECHANICAL SEALS. 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 5-9	1727, 1730, 1760, 1830
Strong acids pH 1-4 valves and reciprocating centrifugals	324, 1724, 1760 328, 1760, 1724, 1830
Strong caustics pH 10-14 valves and reciprocating	324, 328, 1724, 1760

EQUIPMENT AND PROCESS	CHESTERTON PACKING
OIL REFINERIES	
Gasoline, Lubricating Oils, Light Fuel Oils: up to 450°F (230°C) over 450°F (230°C)	1400R/(477-1), 1724 1727, 1730, 1760, 1830 1400R/(477-1), 370
Hot crude charge pumps and hot oil pumps: over 400°F (200°C) when flushed Note: deep boxes over 6 rings require special bottom bushings	1400R/(477-1), 370
Control valves, chemical valves: to 500°F (260°C) over 500°F (260°C) Steam valves: high temperature Condensate centrifugal pumps Cooling tower acid pumps MEK Unit Filters Asphalt: Reciprocating pump rods, steam end	5800, 5800E, 5800T, 1600, 1400R/(477-1) GTP/ONE, 324, 1724 5800, 5800E, 1600, 1400R/(477-1), GTP/ONE 1400R/(477-1), GTP, 1600 1400R/(477-1), 370, 1830 1727, 1730, 1760, 1830 1400R/(477-1), 324, 1724, 5300
Air compressor Refrigeration Power Plant (see Power Generating Plants Sheet Packings Cold oils	1730, 1727, 1760, 1830 1400R/(477-1), 1760, 370 140, 455,457
Hot solvents Acids Caustics Steam General purpose Gasketing:	184, 185, ECS-T 184, 185, ECS-T 459, 199, 184, 185, ECS-T 459, 199, 457, 455 455, 457
Regular Solvents, chemicals	140, 455, 457 184, 185, ECS-T
PAINT MANUFACTURE	
Paint pumps Solvent pumps	1727, 412-W 1760, 1730, 1727, 1830
PAPER & PULP MILLS	
Control valves to 500°F (260°C) Mild chemicals — pH 5-9 Strong acids — pH 1-4: valves and reciprocating centrifugals (also seals) Strong caustics — pH 10-13: valves and reciprocating	5800, 5800T, 1724, 412-W, InnerLube, 1730, 1727, 1830 1760, 328, 1830 1400R/(477-1), 1724, 1760 1730, 1760, 1727, 1400R/(477-1T), 1830
centrifugals Sheet Packings: Steam and general Caustics Acids Water Stock pumps, Jordans, Claflins	1730, 1760, 1727, 1400R/(477-1T), 1830 455, 459, 457 ECS-T, 459, 185 ECS-T, 459, 185 100, 175 370, 1730, 1760, 1727, 1400R/(477-1T), 1830
Hydropulpers, hydrofiners Refiners, stock chests White water pumps White liquor pumps Black liquor pumps (also seals) Green liquor pumps (also seals) Bleach liquor pumps Chlorine pumps	370, 17305C, 1760, 1727, 1400R/(477-1T), 1830 1730, 1760, 370, 1400/(477-1T), 1830 1730, 1760, 1727, 1400R/(477-1T), 1830 1760, 1727, 1400R/(477-1T), 328 1400R/(477-1T), 1760, 324/DigesterPak/477-1T 1760, 1400R/(477-1T), 370 328, 1761
Evaporators 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, 1400R/(477-1T), 328 1760, 328, 324/DigesterPak/477-1T 1760, 328, 324/DigesterPak/477-1T 1760, 328 1400R, 1760, 324/DigesterPak/477-1T 328, 1761 1724, 1760 1724, 1760 1730, 1727, 1760, 412-W, InnerLube, 1830
Pocket grinder Raw acid pumps Mixers, bleach dept High density stock pump Drying cylinder box Vacuum pumps	412-W, InnerLube, 1730 328, 1761 328, 1761 1730, 1760, 370, 1400R/(477-1T), 1830 InnerLube, 1730 InnerLube, 1730, 370, 1830



PRODUCTS BY INDUSTRY

EQUIPMENT AND PROCESS	CHESTERTON PACKING	EQUIPMENT AND PROCESS	CHESTERTON PACKING
PHARMACEUTICAL		ROLLING MILLS	
Control valves, to 500°F (260°C) Steam valves Pumps: Neutral liquids Liquids subject to discoloration Acids Alkalies Solvents Kettle gasketing: Glass joints	GTP, 1724, 5800 GTP, 1724, 1600, 1400R 1727, 1725, 1761, 1730, 425, 1830 1727, 1725, 1761, 1730, 425 328, 1724, 1760 1760, 328 1724, 1730, 1727, 1760, 1830 184, 185	Propane Plant: Valves Compressor Rotary displacement meter, control valves Sewage Disposal: Sewage Circulating Extrusion: Leveller rams Hydropress	GTP/ONE, 324, 1724, 1400R, 477-1 1760, 1724 GTP/ONE, 324, 1724, 5800 1730, 1760, InnerLube, CMS 2000, 1727, 1830 1730, 1760, InnerLube, CMS 2000, 1727, 1830 600, 6000, 8,000, 10,000 1760,1730, 6000, 10,000
Teflon tape for chemicals	185	Tube Dept.: Embosser, bridal assembly jacks	6000, 10,000
PHOSPHATE MINES Phosphate centrifugal pumps Acid pumps	1730, 1727, CMS 2000 1724, 328, 1760	Draw bench, tube pointer pumps Slitter pumps Hot Mill, Tandem Mill jacks	1760 1760,1730 6000,8000
PIANO MANUFACTURE		RUBBER MANUFACTURE	
Platen press rams Hydraulic pump and accumulator PLASTIC MOULDING Rams of press Hydraulic pump and accumulator	1760, 477-1, 477-1T 1760, 477-1, 477-1T 1760, 477-1, 477-1T 1760, 477-1, 477-1T, 1830	Rams of platen presses Press pullbacks Hydraulic pumps and accumulators Solvent pumps	600, 6000, 8000, 10,000 600, 6000, 8000, 10,000 600, 8000, 10,000 477-1, 1400R, 1760, 1830 1730, 1740, 1760
PLYWOOD MANUFACTURE Curing press Lathes Hydraulic pump and accumulator POTTERIES	1760, 477-1, 477-1T 1760, 477-1, 477-1T 1760, 477-1, 477-1T, 1830	Steam end Water end Calenders: Steam end Water end Air compressors	1600 1760, 1727, 1730, InnerLube 1724, 477-1 1760, 1727, 1730, InnerLube, 1830 1730, 1727, 1760, 1400R, 1830
Glaze pumps, pottery slip Soup pumps (plunger) POWER GENERATING PLANTS (For All Industries)	328, 1724, 1730, 1727 1760, 477-1, 477-1T	Steam valves: High temperatures under 500°F (260°C) Regulator valves De-vulcanizers	GTP/ONE, 1600, 477-1, 1400R GTP/ONE, 324, 1600, 1724, 477-1, 1400R 5800, GTP/ONE, 324, 1724, 1600 1600
High temperatures under 500°F (260°C) Isolating valves Soot blower Stokers Ash sluice pumps: Bottom ring Balance Condensate pumps Circulating and cooling pumps: Boiler feed pumps Fuel oil service Transfer pumps Milton-Roy or Proportioneers Chemical Injectors Acid Alkalines Sheet gasket services	GTP/ONE, 1600, 1400R, 477-1 GTP/ONE, 324, 1724, 1600, 1400R, 477-1 GTP/ONE, 1600, 1400R, 477-1 5700B 1600,1400R/(477-1) 1740, 477-1 1730, 1727, 1760, 1400R 1760, 1400R/(477-1), 370, 1830 1760, 477-1, 1730, 1727, InnerLube, 412-W, 1830 370, TWO, 1400R/(477-1), 1830 1400R/(477-1), 1760, 1730, 1830 1400R/(477-1), 1760, 1730, 1830	Centrifugal pumps Sludge pump (plunger type) Mudhog pump Sump pumps: Acid Alkalines Water valves SHIPS & SHIPYARDS Condenser pumps Condensate pumps Chemical transfer pumps Pure water pumps Pure water pumps Chemical injection pump Boiler feed pumps Stern tube	1730, 1760, 1727, CMS 2000, InnerLube, 1830 600, 1760, 1727, 1730 1727, 1730, InnerLube 328, 1724, 1760, 1830 1724, 328, 1760, 1830 477-1, 1400R, 1724 1760, 1760, 1400R/(477-1), 1830 170, 1760, 1400R/(477-1), 1830 1760, 477-1, 1730, 1727, InnerLube, 1400R, 1830 1760, 477-1, 1730, 1727, InnerLube, 1400R, 1830 1760, 477-1, 1730, 1400R, 1830 1730, 328, 1724, 1760 1830 328, 1724, 1760 1830 329, 412-W
Heat exchanger gasketing ROLLING MILLS Cooling systems: Centrifugal pumps — coolant, booster, balance, filter: Oil Water Geared pumps Valves: Oil Water Heat exchanger: Head gaskets Oil gaskets Remelt Dept. — casting pit rams Pumps — furnace, casting pit, balester, cut-off saw Sump pump, boring machining pump Valves Pump House: Fire pump	252, 459, 199 324, 1724, 1760, 1830 1730,1727, InnerLube, 412-W, CMS 2000, 1830 1760, 1400R/(477-1), 1830 GTP/ONE, 1600, 477-1 GTP/ONE, 1600, 477-1 252, 459, 199 252, 459, 199 600, 6000, 10,000 1760, 477-1, 1730 1760, 1730 GTP/ONE, 1600, 1400R, 477-1 1730, 477-1, 1760, 1400R, 1727, 1830	Salt water pumps 17:60, 1730 Hydraulic pumps (cent.) 1760, 477- Ballast and bilge pumps 17:60, 477- Fire pumps 17:30, 17:60 Fire pumps 17:30, 17:60 Fire pumps 17:30, 17:60 Steam: High temperature valves to 12:00°F (650°C) GTP/ONE, 1 Medium temperature valves to 5:00°F (260°C) GTP/ONE, 1 Low temperature valves GTP/ONE, 3 Reciprocating pumps 17:60, 17:24 Gasketing: Fuel, chemical hatches 184, 185, E Steam 459, 199, 2 Water 100, 450	329, 412-W 1760, 1730, 1727, InnerLube, 412-W, 1830 1760, 477-1, 1730, 1830 1760, 1730, 1727, InnerLube, 412-W, 1830 1730, 1760, 1400R/(477-1), 1727, 1830 1730, 1760, 1400R/(477-1), 1727, 1830 GTP/ONE, 1600, 1400R GTP/ONE, 1600, 1400R, 477-1 GTP/ONE, 324, 1724, 477-1, 1600, 1400R 1760, 1724 184, 185, ECS-T, 459, 199 459, 199, 252, 455, 457 100, 450 140, 455, 457



EQUIPMENT AND PROCESS	CHESTERTON PACKING	EQUIPMENT AND PROCESS	CHESTERTON PACKING
SOAP MAKING (Generally follow the same recommendations as for Chemical Plants)		TEXTILE MILLS (also see and include Power Generating Plant)	
Other suggestions: Toothpaste, shampoos, deodorants, hair conditioners (slow speed pumps) Agitator shafts Highly acid Highly caustic	324, 1724, 1725, 425 328, 1724 328, 1760, 1724, 1830	Steam valves Control valves Air compressor Dry cans, slasher Pumps: Humidifier	GTP/ONE, 1600, 1400R, 477-1 GTP/ONE, 5800, 1600, 1400R, 477-1, 172 1730, 1760, 1830 1730, 1727, 1760 1727, 1730, 1760, 1400R/(477-1), 1830
Neutral SOLDER MANUFACTURE	1730, 1760, InnerLube, 1727, 1830	Circulating Screen	1727, 1730, 1760, 1400R/(477-1), 1830 1727, 1730, 1760, 1400R/(477-1), 1830 1727, 1730, 1760, 1400R/(477-1), 1830
	(00, (000, 0000, 10,000	Filtrate	1727, 1730, 1760, 1400R/(477-1), 1830
lams extruding presses	600, 6000, 8000, 10,000	Size — starch Size — acrylic	1400R/(477-1), 1760, 1830 1724, 1727, 1730, 328
OY BEAN OIL	1760, 1740, 1724	Dye	1724, 328, 1760
Rams of compressors Hydraulic pumps Hexane pumps Dil pumps Rotary driers	1700, 1740, 1747 600, 6000, 8000, 10,000 1400R/(477-1), 1760, 1830 1400R/(477-1), 1760, 1730, 1727, 1830 1730, 1727, 1830	Bleach TEXTILE FINISHING & DYEING Service and Metering Pumps: Sulphuric acid	328, 1724, 1760 1724, 328
Chandler drilling machine	1730, 1727	Hydrochloric acid	1724, 328, 1760
STONE, CRUSHED		Acetic acid	1724, 328, 1760, 1400R 1724, 328
Air compressor Asphalt pump Centrifugal sludge pumps: Clear water pump Euel oil pump	1730, 1760, 1830 1400R/(477-1), 1760, 1830 1730, 1727, 1760, CMS 2000, 1830 412-W, InnerLube, 1730, 1830 1400/(477-1), 1730, 1760, 1830	Hydrogen Peroxide (90%) Sodium Hydroxide (caustic soda) Cloth heat treating (formaldehyde – textile resins) Bleaching – sodium hypochlorite Sizing – sodium sillcate	1724, 326 1760, 1400R/(477-1), 328, 1830 1724, 328 1724, 328 1730, 1727, 1760, 1830
RAW SUGAR MILL***(Cane) (also see and include Power Generating Plant)		Steam valves on continuous service Drying cylinders — end of journals Diaphragm motor valves	GTP/ONE, 1600, 1400R, 477-1 459, 455, 457 122-NN
Cleaning Plant: Mud pumps	1730, 1727, 1400R/(477-1)	Bailing presses	600, 6000, 8000, 10,000
Water pumps	1730, 1760, 1727, 1400R/(477-1), 1830	THERMO PLASTICS (see Plastic Moulding)	
Lime slurry pumps crushing Plant:	1760, 1400R/(477-1)	UTILITIES (see Power Generating)	
Raw juice pumps Water pumps Condensate pumps	1730, 1400R/(477-1), 1760, 1727, 1830 1730, 1400R/(477-1), 1760, 1727, 412-W, 1830 1730, 1400R/(477-1), 1760, 1727, 1830	VENEER (see Plywood) WATER WORKS	
Accumulator Boiling House: Clarified juice pumps	477-1, 1760 1400R, 1725, 1730, 425, 412-W, 1760	Water Works: Plunger pumps Centrifugal pumps	1730, 1760, 600 1730, 1760, 1400R/(477-1), 1830 InnerLube, 412-W
Sweet water pumps Molasses pumps Massecuite pumps Salt water Caustic soda	1400R, 1725, 425, 1760 1400R, 1725, 425, 1760 1730, 1727, 1760 1760, 1727, 1730, InnerLube, 412-W, 1830 1760, 1400R/(477-1), 1830	Water treating pumps Chlorine Caustic Acids Water valves	1724, 328, 1761 1724, 328, 1760 1724, 328 1724, 1400R/(477-1), 1600
Limed juice Hot syrup	425, 1725, 1760, 1730 425	WHISKEY MANUFACTURING (see Distillerie	
Remelt sugar	1725, 425	WINES (see Distilleries)	-,
VHITE SUGAR REFINING		WIRE MANUFACTURING	
Melter House:	1735 435 14000	Continuous vulcanizers	1724, 324, 1600, 477-1
Mingler glands Centrifugal mixer glands Aflination syrup Melter liquor pumps ilter House:	1725, 425, 1400R 1725, 425, 1400R 1725, 425, 1400R 1725, 425, 1400R	WOOD PRODUCTION (see Lumber Operations) NOTE: 1400R/(477-1) — Combination sets of 1400R with 477-1 as anti-extrusion rings. 324/DigesterPak/477-1T — See DigesterPak Application Guide (Form No. 088146) All statements in this catalog pertaining to pressure, chemical compatibility temperature, and service ratings are based on general service experience. Because of the wide variety of applications of our products, the broad rang products available, and the wide range of equipment conditions encounte together with the unpredictable human factors involved in the installation these products by the ultimate user, you should not follow recommendatic shown without specific prior service experience or consultation with an au-	
Clarifier liquor pumps (treated)	1724, 328, 1760, 1400R		
Carbonation liquor pumps Filter press, rotary and sluicing pumps Press cake slurry pump	1760, 1727, 1730,1400R, 328 1760, 1727, 1730, 1400R 1724, 1760, 328		
Lime slurry pump Activated carbon slurry pump Filter medium slurry (diatomaceaous earth Acid pump — dilute Acid pump — concentrated Pan House:	1760, 1400R/(477-1) 1730, 1727, 1760, 477-1, 1400R) 1760, 370, 1730, 1400R 1760, 328, 1730 1724, 328, 1760		
Vacuum pan circulator glands Evaporator pumps Crystallizer glands	1730, 1727, 1760 1730, 1727, 1760 1730, 1727, 1761, 1760	rized Chesterton representative.	
Centrifugal mixer glands Liquor, syrup and remelt pumps Magma pumps	1730, 1727, 1760 1725, 425, 1760, 1730 1760, 1724	Specific data on materials, construction ing procedures are subject to change	without notice.
Scale treatment pumps (caustic) Scale treatment pumps (acid) Condensate water pumps Commercial liquor pumps	1760, 328, 1724, 1400R 328, 1724, 1730, 1760 1730, 1727, 1400R/(477-1), 370 1760, 1725, 425 370, 1400R/(477-1), 1760	Performance is closely associated with equipment conditions. Technical data is intended to indicate general charact COMPANY DISCLAIMS ALL WARRANTII WARRANTIES OF MERCHANTABILITY A	reflects results of laboratory tests an teristics only. A.W. CHESTERTON ES EXPRESSED, OR IMPLIED, INCLUD
CO2 pumps Salt water pumps	1760, 1730, 1727, InnerLube, 412-W, 1830	OR USE. LIABILITY, IF ANY, IS LIMITED T	O PRODUCT REPLACEMENT ONLY.





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