MECHANICAL PACKING

INNOVATIVE MECHANICAL PACKING AND GASKETING TECHNOLOGY

CHESTERTON®
Global Solutions, Local Service.

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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Other Available Products From Chesterton

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Products by Industry

Flexible Graphite and Carbon Yarn 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.

401

Economical, general service valve stem packing

Wire-reinforced braid over core construction

High-temperature, high-pressure service

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.

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

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 and acid mediums.

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.

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.

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 multi-temperature 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

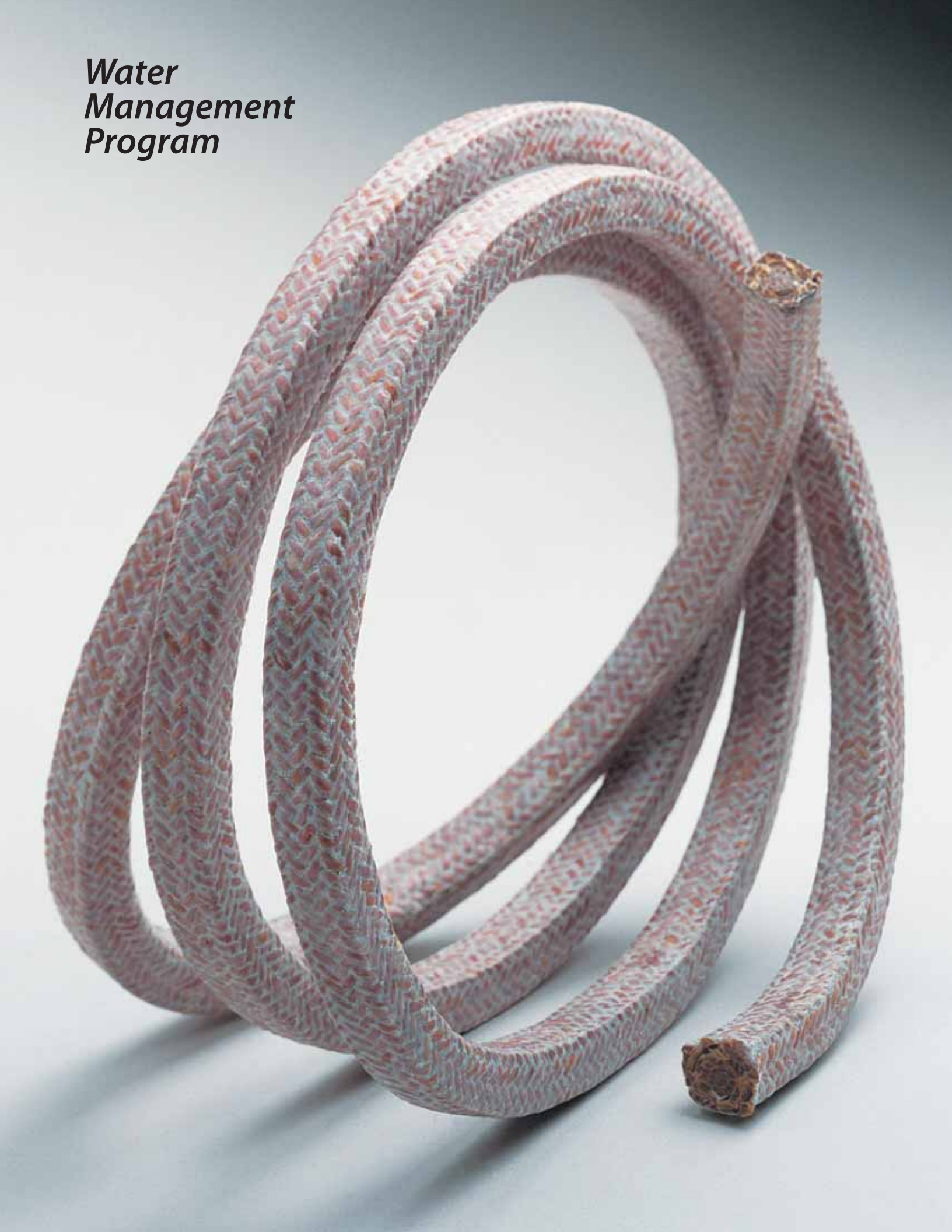
Temperature Limit:
5000°F (2760°C) non-oxidizing
800°F (425°C) oxidizing

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.

Water Management Program



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.

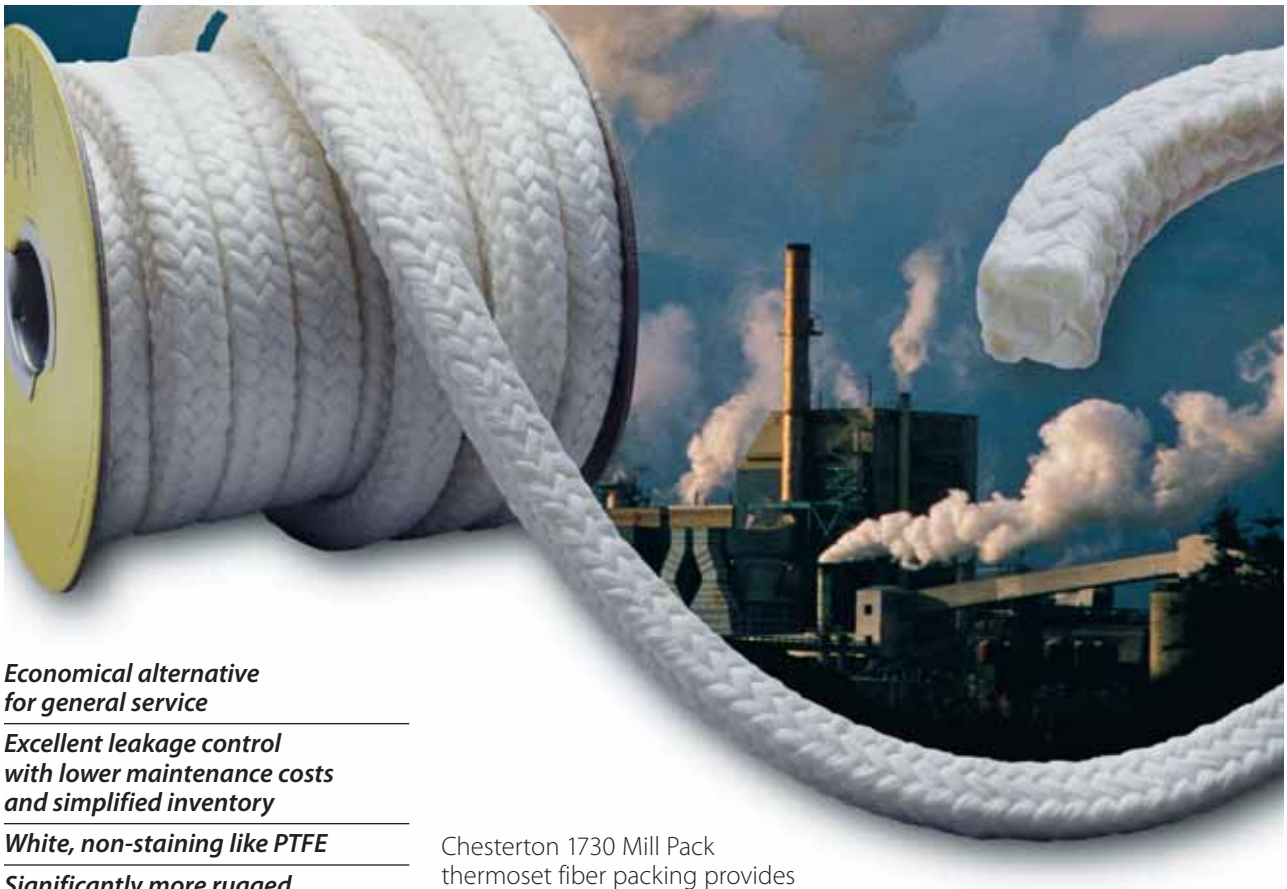
Chesterton's comprehensive approach to stuffing box water management can substantially reduce costs throughout the plant. In packed stuffing boxes, this includes the control or elimination of introduced flush and the minimization of packing lubrication leakage. The net value is a total reduction in consumption,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



Economical alternative for general service

Excellent leakage control with lower maintenance costs and simplified inventory

White, non-staining like PTFE

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

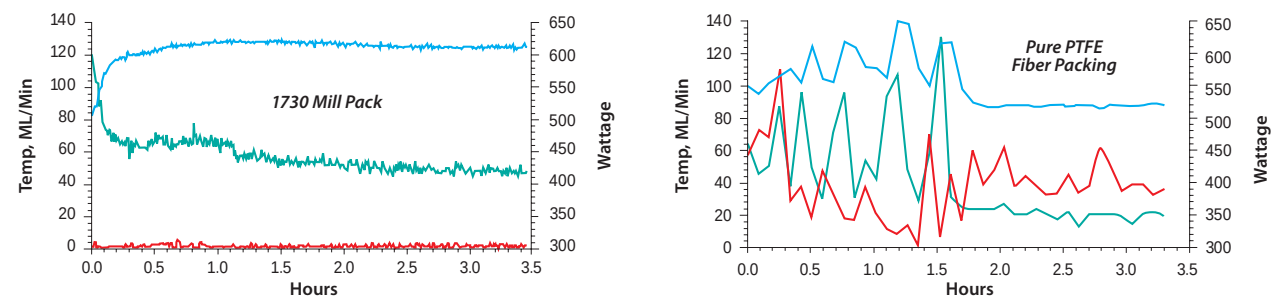
Far less susceptible to adverse treatment at installation or in use

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.

The graphs below illustrate the performance of 1730 Mill Pack and a lubricated pure PTFE fiber packing. The same pump and operating conditions were used for both tests.



CHESTERTON Global Solutions, Local Service.

SuperSet™ *featuring* SpiralTrac™ Environmental Controller

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.

370

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

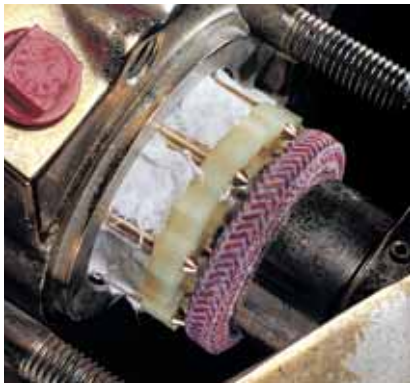
Temperature Limit:
400°F (205°C), Black
400°F (205°C), White
400°F (205°C), 2000-FP

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:
pH 1 – 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.

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.

TECHNICAL DATA

Temperature Limit 1400R:
1200°F (650°C) steam
850°F (455°C) oxidizing atmosphere

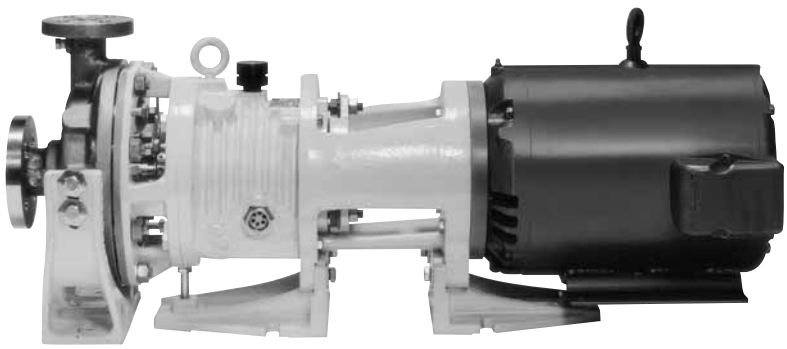
Pressures:
4000 psi (275 bar) valves
200 psi (14 bar) pumps

Shaft Speed:
4000 fpm (20 m/sec)

Chemical Resistance:
pH 0 – 14
except oleum, fuming nitric acid and aqua 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.



PTFE and Synthetic Yarn Packings

Valve Packings

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.

3

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.

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.

1830

Chesterton 1830 is an Advanced 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.

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

TECHNICAL DATA

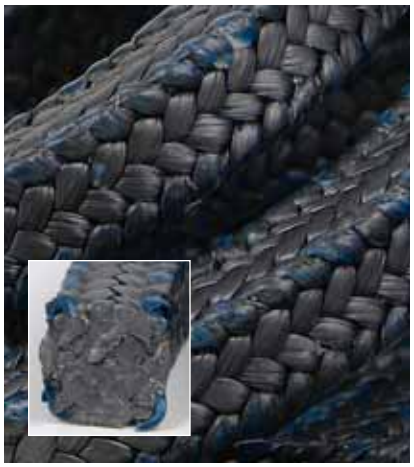
Temperature Limit:
500°F (260°C)

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

1830-SSP Slurry Packing



Chesterton 1830-SSP Slurry Pump Packing is manufactured with a 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.

Developed to meet rigid demands of slurry sealing applications

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

Low leakage and long life

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.

328

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.

3

1730SC

Rugged, easy to use general service packing

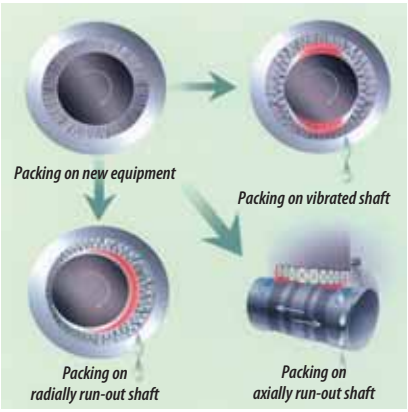
Withstands radial shaft motion and vibration

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.



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

3

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.

Sealing Systems

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.

4

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.

4

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 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.

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

4

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-CI is a low friction, high density graphite packing manufactured from a pure, high quality yarn without any fillers or binders.
It functions as a combination wiper and anti-extrusion ring. One-CI disperses heat and withstands temperatures to 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 anti-extrusion properties to the five ring set. The 5150 Live Loading Assemblies are used to maintain constant gland load while compensating for in-service consolidation of the packing. The split bronze bushing is used to reduce stuffing box depth while acting as a bearing to maintain lance tube concentricity to the stuffing box in blowers that require more than a conventional 5-ring set of packing.

TECHNICAL DATA

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

Applications:
For use in sootblower applications to 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

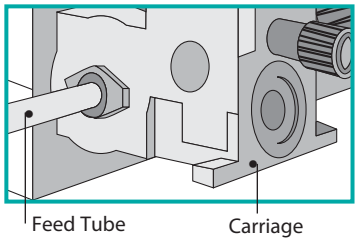
Chesterton 3000 Soot Blower Sets are molded from an exclusive mixture containing graphite and PTFE along with other materials. 3000 sets are designed with a thicker than usual top ring to act as a bearing for the set and to resist extrusion. All rings are split to go over the rod without being deformed. 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.



5500

Automatically maintains uniform clamping force

Compensates for thermal expansion and contraction

Absorbs vibrational shock

Dampens effects of common pressure surges, preventing gasketing blowouts

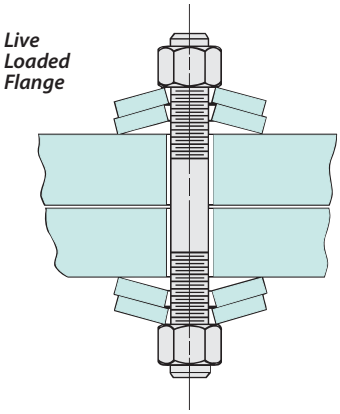
Chesterton 5500 Flange Bolt Disc Springs are manufactured from a specialized stainless steel alloy. This material was chosen because it exhibits the best characteristics against stress corrosion cracking. Bolted, gasketed joints that are subjected to mechanical shock, pressure surges or thermal expansion 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.

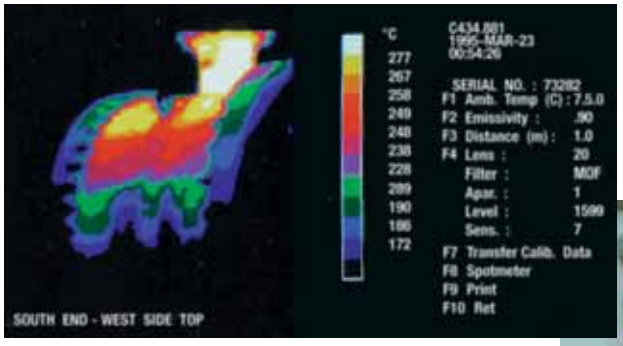
NOTE:
Materials are available for higher temperatures and pressures, as well as severe chemical services.

TECHNICAL DATA

Temperature Limit:
575°F (300°C)

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





4

5505H

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

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

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

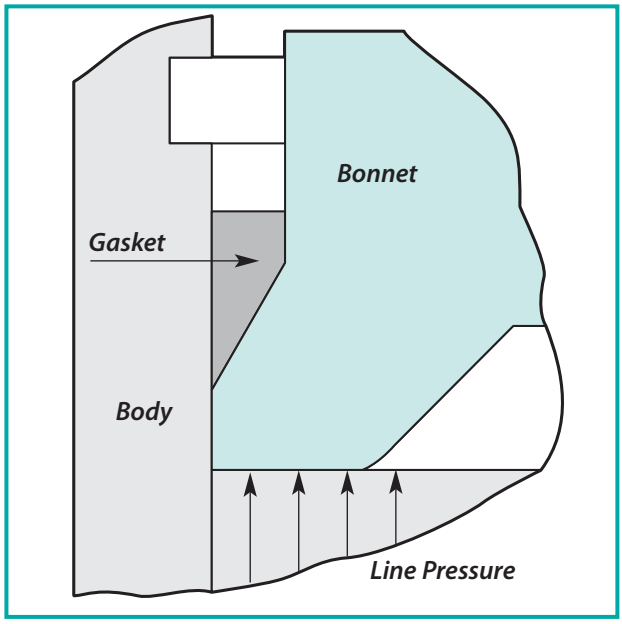
Temperature Limit:
1200°F (650°C)
Pressure Limit:
4200 psi (290 bar)

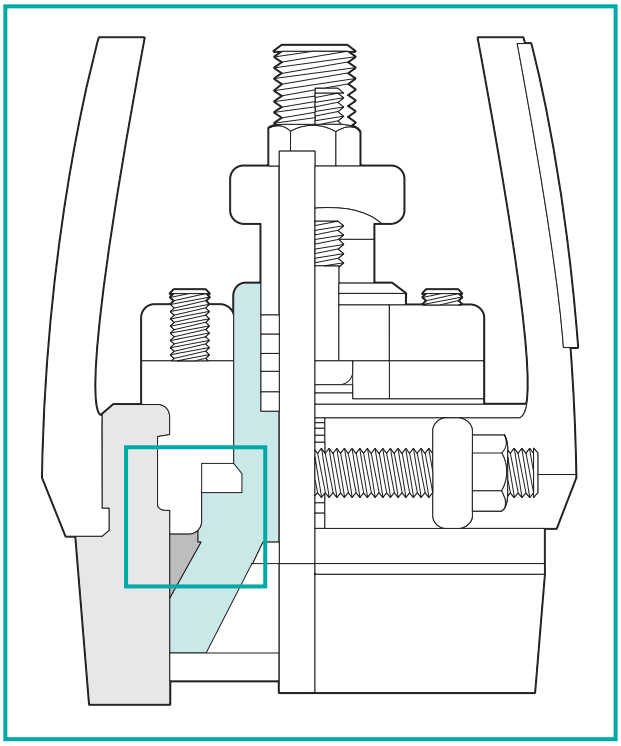
Conform easily to the valve's body and bonnet

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





Gaskets

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
P x T = 1,600,000 (°F x psi)
P x T = 60,000 (°C x 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
Maximum Service Pressure:
2000 psi (140 bar),
Compressibility (ASTM-F36)
40%
Creep Relaxation (ASTM-F38)
<5%
Recovery (ASTM-F36)
12 – 17%
P x T = 1,600,000 (°F x psi)
P x T = 58,000 (°C x 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)
40%
Creep Relaxation (ASTM-F38)
<5%
Recovery (ASTM-F36)
12-17%
P x T = 1,600,000 (°F x psi)
P x T = 58,000 (°C x bar)
Color: Grey

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 x T = 125,000 (°F x psi)
P x T = 4,375 (°C x bar)
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 x T = 350,000 (°F x psi)
P x T = 12,810 (°C x 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 grain (ASTM-F152)
1500 psi (100 bar)
P x T = 600,000 (°F x psi)
P x T = 21,800 (°C x 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 x T = 400,000 (°F x psi)
P x T = 14,400 (°C x 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

5

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.

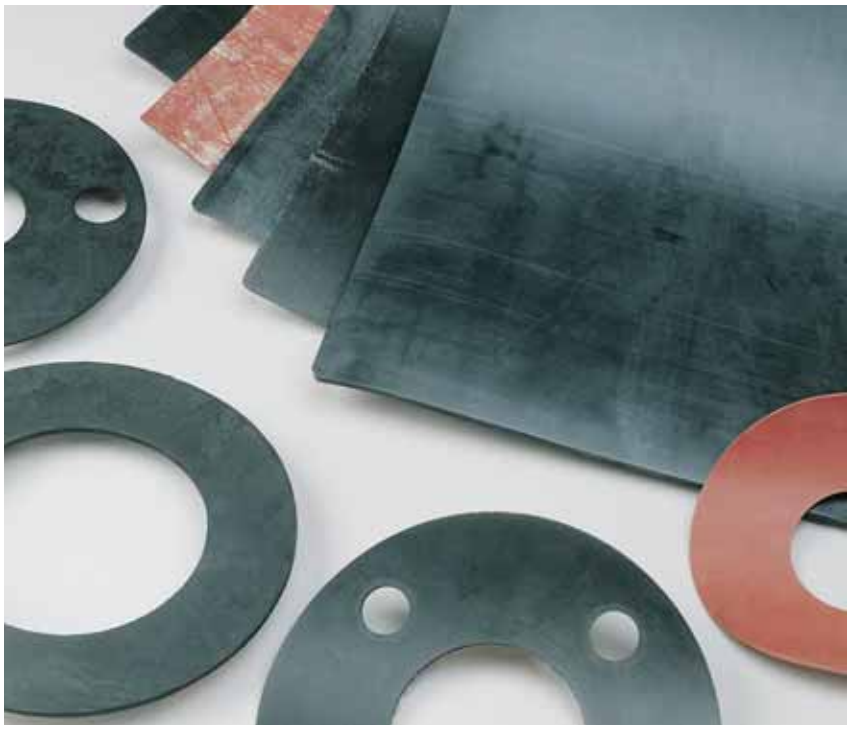
ECS-T is a PTFE Sheet Gasket Material suitable for high pressure and temperature services, especially in chemical and hydrocarbon plants in strong acids.

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 cm^3/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

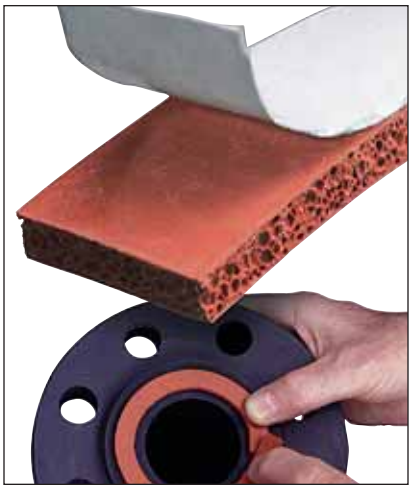
Chesterton **165** Ultraseal features advanced materials for tight jointed connections. This exclusive joint sealant is constructed using graphite reinforced with an Inconel* wire mesh covering on a self-adhesive backing. 165 provides the high temperature, high pressure performance of a graphite sheet 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

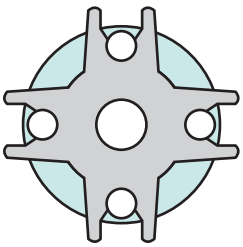
Chesterton **Steel Trap** Metal/ Graphite Gasket is manufactured with concentric, isolated convolutions in sheet stainless steel that trap pure graphite against the flange face. As the flange is tightened, the convolutions are progressively flattened, thus trapping the graphite sealing media.
Not only 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

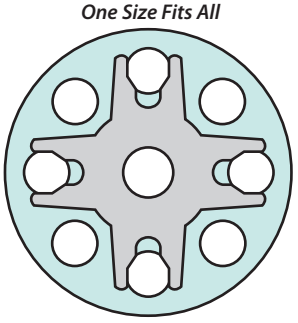
Temperature Limit:
–328°F (–200°C)
to 932°F (500°C)
atmosphere
–328°F (–200°C)
to 1200°F (650°C)
steam
–328°F (–200°C)
to 1650°F (900°C)
inert media

Pressure Limit:
vacuum to
6000 psi (415 bar)

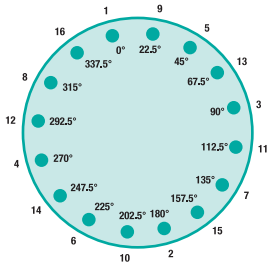
Chemical Resistance:
pH 0 – 14

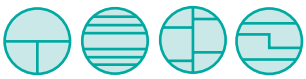


One Size Fits All

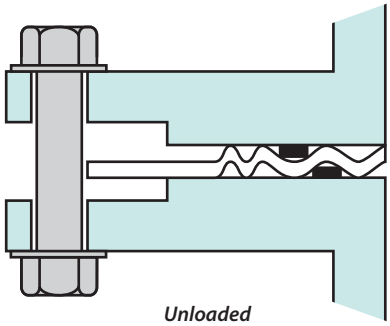


16 Bolt Torque Sequence





Gasket Configurations



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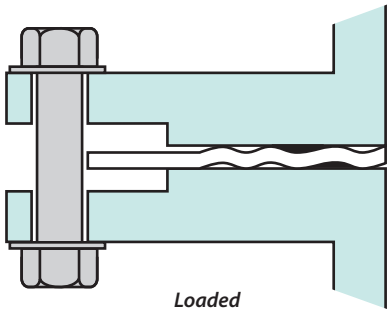


Loaded

Profile of Steel Trap Carrier and Sealing Strips

5

Technical Data

100

THICKNESS		WEIGHTS ±10%		APPROXIMATE WEIGHTS PER ROLL		YDS. PER ROLL ±10%	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

SIZE		PACKAGED ±10%		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

THICKNESS		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

THICKNESS		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

THICKNESS		APPROXIMATE WEIGHTS PER ROLL		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

SIZES		LENGTH PER ROLL			REORDER NUMBER
Inches	mm	Feet	M	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		PACKAGED ±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

THICKNESS		WIDTH		LENGTH PER ROLL		REORDER NUMBER
Inches	mm	Inches	Meters	Yards	Meters	
1/16	1,6	40	1,02	50	45,7	016201

6

165

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

175

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

184

SIZE		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
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™

SIZE		PACKAGED ±10%		REORDER NUMBER
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

SIZE WIDTH		SIZE LENGTH		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

195

THICKNESS		DIMENSIONS		PACKAGED ±10%		REORDER NUMBER
Inches	mm	Inches.	M	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

THICKNESS ±5%		DIMENSIONS ±1/16		REORDER NUMBER	REORDER NUMBER	REORDER NUMBER
Inches	mm	Inches	M	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
			FDA 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

198

THICKNESS		DIMENSIONS LENGTH x WIDTH		APPROXIMATE WEIGHTS		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

199

THICKNESS		DIMENSIONS LENGTH x WIDTH		APPROXIMATE WEIGHTS		REORDER NUMBER
Inches	mm	Inches.	M	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

324

SIZE		PACKAGED ±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

SIZE		PACKAGED ±10%		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

329

SIZE		PACKAGED ±10%		REORDER NUMBER
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

SIZE		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

THICKNESS		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
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

370

SIZE		PACKAGED ±10%		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

412-W

SIZE		PACKAGED ±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

SIZE		PACKAGED ±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		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
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

THICKNESS		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
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

459

THICKNESS		DIMENSIONS		REORDER NUMBER
Inches	mm	Inches	M	
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

477-1

SIZE		PACKAGED ±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

477-1T

SIZE		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

SIZE		PACKAGED ±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

1600

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

1601

SIZE		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

1724

SIZE		PACKAGED ±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	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

1725

SIZE		PACKAGED ±10%		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®

SIZE		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
Inches	mm	Feet	M	
–	6,0	20 52	6 16	000798 000799
1/4	6,5	20 52 72	6 16 22	000816 000819 000827
5/16	8,0	20 52 72	6 16 22	000828 000829 000837
3/8	9,5	20 52 72	6 16 22	000838 000839 000842
–	10,0	20 52	6 16	000843 000844
7/16	11,0	20 52	6 16	000845 000846
–	12,0	20 52 72	6 16 22	000847 000848 000849
1/2	12,5	20 52 72	6 16 22	000850 000895 000896
9/16	14,0	33	10	000897
5/8	16,0	33	10	000898
11/16	17,5	26	8	000899
3/4	19,0	26	8	000961
13/16	20,5	16	5	000962
7/8	22,0	16	5	000796
1	25,5	16	5	000964

1740

SIZE		PACKAGED ±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

1830

SIZE		PACKAGED ±10%		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		PACKAGED ±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™

SIZE		PACKAGED ±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

1760

SIZE		PACKAGED ±10%		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

SIZE		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

DESCRIPTION	REORDER NUMBER
1 Gallon Pail	127533
1 Quart Pail	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
18	8	600#	148056
19	8	600#	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

Braided Packing Sizes ft./lb. ±10%

SIZE	324	328	329	370	412-W	425	477-1	477-1T	1400R	1600	1601
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	–	–	–	–	–	–	–	–

SIZE	1724	1725	1727	1730	1730SC	1740	1760	1761	1830	1900	Innerlube
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	–	–	–	–	–	–	–	–	–	–	–

Braided Packing Sizes M/kg. ±10%

SIZE	324	328	329	370	412-W	425	477-1	477-1T	1400R	1600	1601
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	–	–	–	–	–	–	–	–	–	–	–

SIZE	1724	1725	1727	1730	1730SC	1740	1760	1761	1830	1900	Innerlube
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	–	–	–	–	–	–	–	–	–	–	–

Other Available Products from Chesterton

242

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

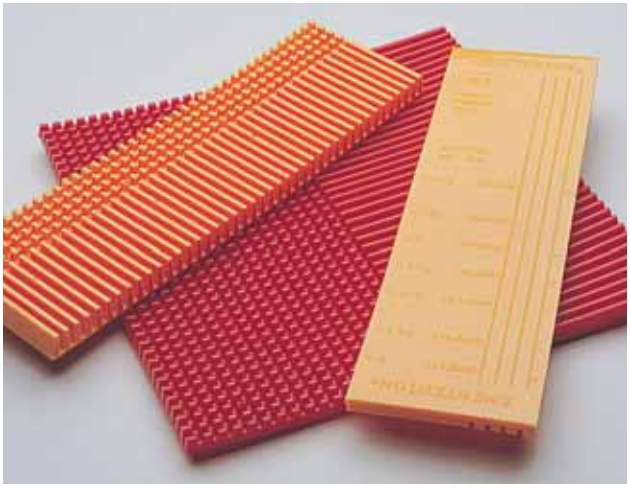
174

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 No.	Packing Size	Pump Item No.	Packing 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"		

In Alphabetical Order

EQUIPMENT AND PROCESS	CHESTERTON PACKING
ASPHALT PLANTS	
Asphalt Pumps 600 F.P.M.	1760, 1400R/(477-1), 1830
Asphalt Pumps 1200 F.P.M.	1760, 1400R/(477-1), 1830
Bituminous Tank Agitators	1730SC, 1400R/(477-1)
Asphalt Loading Pumps	1760, 1400R/(477-1), 1830
Emulsified Asphalt Pumps	1760, 1400R/(477-1), 1830
Solvent Pumps	1760, 1400R/(477-1), 1830
Light Flux Pumps	328
AUTO ASSEMBLY	
Bonderite pumps	328
Paint pumps	1727, 412-W, InnerLube
BATTERY MANUFACTURE	
Acid pumps	1760, 328
Hydraulic platen presses	600, 6000, 8000, 10,000
BOTTLING COMPANIES	
Bottle washer	1730, 1727, 1760, 328, 1830
BREWERIES	
Air compressor	1730, 1400R, 1727, 1760, 1830
Ammonia compressor	1400R/(477-1)
Ammonia valves	1400R, 477-1, 1724
Liquid ammonia pumps	1400R, 477-1,1730, 412-W
Corn syrup pumps	1730, 412-W
Brine pumps	1730, 412-W
Beer pumps	1730, 412-W, 425, 1725
Stock pumps	1760, 1730, 412-W, 1830
Rinse pumps	1760, 1730, 412-W, 328, 1830
Slurry pumps	1760, 1730, 412-W, 1830
Caustic rinse pumps	1760, 1730, 1830
Storage tanks	185, 289
Feed water treatment tanks	185, 289
Cookers and kettles	184, 185, 1724, 425
BRICK MANUFACTURING	
Oven door gaskets	345, 289,160, 161, 162
Steam pumps - rods	1400R/(477-1), 1724, 1760
Tunnel kiln pushers	600, 8000, 10,000
CEMENT PLANTS	
Sludge pumps	555,1730,1727, 555 or combination sets
CHEMICAL PLANTS	
Mild chemicals pH 5-9	1760, 1730, 1727, 1830
Strong acids pH 1-4	
valves & reciprocating	1724, 328
centrifugals	1760, 328, 1724, 324, 1830
Strong caustics pH 10-14	
valves & reciprocating	324, 1724, 328
centrifugals	328, 1760, 1724, 324, 1830
Solvent pumps	328, 1727, 1730, 1760, 1830
Sheet Packings:	
Tank and door gasketing:	
Regular	185, 289
Solvents	184, 185
Cold oils	124, 140
Acids	459, 198, 199, 184, 185, ECS-T
Alkalies	459, 198, 199, 184, 185, ECS-T
Hot solvents	459, 198, 199, 184, 185, ECS-T
Steam	459, 199, 457, 455
COAL MINES	
Centrifugal pumps	1730, 1727, 555, 1830
Plunger pumps	600, 8000, 10,000
Strip mine shovels, jacks	600, 8000, 10,000
COLD STORAGE	
Ammonia compressors	1400R/(477-1), 555
Ammonia valves	1400R/(477-1), 1724
CONSTRUCTION	
Essex plaster mixer	555
CORN PROCESSING	
Acid pumps	328, 1760, 1830
Alkaline pumps	328, 1727, 1730, 1760, 1830
Stock pumps	1727, 1730, 1830

EQUIPMENT AND PROCESS	CHESTERTON PACKING
COTTON GINNING	
Presses, hydraulic pumps	800, 8000, 10,000
COTTON SEED OIL	
Oil pumps	1727, 1730, 1830
Hexane pumps	1760, 477-1, 1400R/(477-1)
Compress, rams	600, 6000, 8000, 10,000
CREOSOTE TREATING	
Pressure pumps: Centrifugal	
Reciprocating	1400R/(477-1), 555, 1760
Liquid rods	1760, 1724
Steam rods	1760, 1724
Pressure tank door gasketing	1727, 1730, 1724
DAIRIES	
Food or milk	1725, 425
Homogenizers, viscolizers	
Bottle and can washer pumps	1725, 425
DISTILLERIES (also see Breweries)	
Whiskey pumps	1725, 425
Rinse pumps	1725, 425
Slop, mash pumps:	
Centrifugal	1725, 425
Reciprocating	1725, 425
Evaporating drum driers	324, 1724, 1730SC
ELEVATOR REPAIR & MFG	
Hydraulic jack (ram)	600, 6000, 8000, 10,000
FARM MACHINERY (repairs, earthmoving)	
Hydraulic rams and rods	600, 6000, 8000, 10,000
FERTILIZER PLANTS (also see and include recommendations for Fish Oil & Meal)	
Acid pumps	328, 1760, 1830
FISH OIL & MEAL	
Acid pumps	328, 1760, 1830
Caustic wash pumps	328, 1727, 1730, 1830
Fish pumps:	
Centrifugal	1727, 1730
Reciprocating	1727, 1730
Cooker, retort gaskets	289, 184, 185
FOOD PROCESSING (also see Meat Packing)	
Blood cookers	328, 1725, 425
Food pumps:	
Centrifugals	1725, 425
Reciprocating	1725, 425
Cooker or retort gasketing	289, 184, 185
Ammonia compressors	1400R/(477-1)
Ammonia valves	324, 1724, 1400R/(477-1)
Mixers	1725, 425
Gasketing	184, 185
FORGING PLANTS	
Steam hammer rods:	
end rings	1724, 477-1
balance	600
FURNITURE MFG.	
Backbenders	600, 8000
Steam chest gasketing	289, 1600
GAS MANUFACTURE	
Ammonia solutions	1400R/(477-1), 1727, 1730
Ammonia valves	1400R/(477-1), 324, 1724
Crude Oil	1400R/(477-1), 1727, 1730
Exhauster shafts	1400R/(477-1)
Fuels and gas oil	1400R/(477-1), 1727, 1730
Gas tar, tar water	1400R/(477-1), 1727, 1730
Generator ash and clinker doors	289
Hot valves:	
generator to carburetor	5300/One-CI, GTP, 1600, 1400R/(477-1)
Naphthalene	1400R/(477-1)
Oil splash lubricated engines	1400R/(477-1), 1727, 1730
Purifier box cover and door seals	289
Seal, box and scrubber	1727, 1730

EQUIPMENT AND PROCESS	CHESTERTON PACKING
GREENHOUSES (also see Power Generating Plants)	
Humidifier centrifugals	1727, 1730, 1830
GOLD MINES	
Reciprocating sludge pumps	328, 1760
Reciprocating slime pumps	328, 1760
Centrifugals	328, 1760, 1730, 1727, 1830
Acid pumps	328, 1760, 1830
HOSPITALS (also see and include Power Generating Plants recommendations)	
Ammonia compressor	1400R/(477-1)
Expansion joints	324, 1724
Fire pumps – Centrifugals	1400R/(477-1), 1727, 1730, 1760, 1830
Feed and vacuum pumps	1400R/(477-1), 1760, 370, 1830
Sterilizers, autoclaves (gaskets)	185, 289
JUNK YARDS	
Hydraulic reciprocating oil pumps	600, 8000
Body baling press	600, 6000, 8000, 10,000
LAUNDRY–DRY CLEANING (also see Power Generating Plants)	
Filter cloth gasket	140
Solvent pump	328, 1727, 1730, 1760, 1830
Soap pump	328, 1727, 1730, 1760, 1830
Air compressor	1730, 1727, 1760, 1830
Flat work ironer, mangles, presses	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	1730SC
Also recommended	600, 8000
MEAT PACKING	
Crackling press	600, 6000, 8000, 10,000
Hydraulic pumps	600, 8000
Blood cookers	FDA 1725, 425
Tree washer pumps	1727, 1730, FDA 1725, 425
Cookers, dryers, blenders	1727, 1730, FDA 1725, 425
Cookers, dryers gasketing	289
Stock liquor pumps	328, 1760
Acid pumps	328, 1761, 1760
Caustic pumps	328, 1761, 1760
Ammonia compressor	1400R/(477-1)
Ammonia valves	324, 1724
METAL CASTING	
Quench – oil pumps	1727, 1730
Hydraulic pumps	1727, 1730, 600, 1760
Accumulators	600, 6000, 8000, 10,000
Hydraulic rams	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	324, 1724, 1760
centrifugals	328, 1760, 1724, 1830
Strong caustics pH 10-14	
valves and reciprocating	324, 328, 1724, 1760
centrifugals	324, 1724, 1760, 1830

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

PRODUCTS BY INDUSTRY

In Alphabetical Order

EQUIPMENT AND PROCESS	CHESTERTON PACKING
PHARMACEUTICAL	
Control valves, to 500°F (260°C)	GTP, 1724, 5800
Steam valves	GTP, 1724, 1600, 1400R
Pumps:	
Neutral liquids	1727, 1725, 1761, 1730, 425, 1830
Liquids subject to discoloration	1727, 1725, 1761, 1730, 425
Acids	328, 1724, 1760
Alkalies	1760, 328
Solvents	1724, 1730, 1727, 1760, 1830
Kettle gasketing:	
Glass joints	184, 185
Teflon tape for chemicals	185
PHOSPHATE MINES	
Phosphate centrifugal pumps	1730, 1727, CMS 2000
Acid pumps	1724, 328, 1760
PIANO MANUFACTURE	
Platen press rams	1760, 477-1, 477-1T
Hydraulic pump and accumulator	1760, 477-1, 477-1T
PLASTIC MOULDING	
Rams of press	1760, 477-1, 477-1T
Hydraulic pump and accumulator	1760, 477-1, 477-1T, 1830
PLYWOOD MANUFACTURE	
Curing press	1760, 477-1, 477-1T
Lathes	1760, 477-1, 477-1T
Hydraulic pump and accumulator	1760, 477-1, 477-1T, 1830
POTTERIES	
Glaze pumps, pottery slip	328, 1724, 1730, 1727
Soup pumps (plunger)	1760, 477-1, 477-1T
POWER GENERATING PLANTS (For All Industries)	
Steam valves:	
High temperatures	GTP/ONE, 1600, 1400R, 477-1
under 500°F (260°C)	GTP/ONE, 324, 1724, 1600, 1400R, 477-1
Isolating valves	GTP/ONE, 1600, 1400R, 477-1
Soot blower	5700B
Stokers	1600,1400R/(477-1)
Ash sluice pumps:	
Bottom ring	1740, 477-1
Balance	1730, 1727, 1760, 1400R
Condensate pumps	1760, 1400R/(477-1), 370, 1830
Circulating and cooling pumps:	1760, 477-1, 1730, 1727, InnerLube, 412-W, 1830
Boiler feed pumps	370, TWO, 1400R/(477-1), 1830
Fuel oil service	1400R/(477-1), 1760, 1730, 1830
Transfer pumps	1400R/(477-1), 1760, 1730, 1830
Milton-Roy or Proportioneers	
Chemical Injectors	
Acid	324, 1724, 1760
Alkalines	324, 1724, 1760
Sheet gasket services	455, 457, 459, ECS-T, 199
Heat exchanger gasketing	252, 459, 199
ROLLING MILLS	
Cooling systems: Centrifugal pumps – coolant, booster, balance, filter:	
Oil	324, 1724, 1760, 1830
Water	1730,1727, InnerLube, 412-W, CMS 2000, 1830
Geared pumps	1760, 1400R/(477-1), 1830
Valves:	
Oil	GTP/ONE, 1600, 477-1
Water	GTP/ONE, 1600, 477-1
Heat exchanger:	
Head gaskets	252, 459, 199
Oil gaskets	252, 459, 199
Remelt Dept. – casting pit rams	600, 6000, 10,000
Pumps – furnace, casting pit, balester, cut-off saw	1760, 477-1, 1730
Sump pump, boring machining pump	1760, 1730
Valves	GTP/ONE, 1600, 1400R, 477-1
Pump House:	
Fire pump	1730, 477-1, 1760, 1400R, 1727, 1830
Turbine pumps, condensate, water	1730, 477-1, 1760, 1400R, 1727, 1830

EQUIPMENT AND PROCESS	CHESTERTON PACKING
ROLLING MILLS	
Propane Plant:	
Valves	GTP/ONE, 324, 1724, 1400R, 477-1
Compressor	1760, 1724
Rotary displacement meter, control valves	GTP/ONE, 324, 1724, 5800
Sewage Disposal:	
Sewage	1730, 1760, InnerLube, CMS 2000, 1727, 1830
Circulating	1730, 1760, InnerLube, CMS 2000, 1727, 1830
Extrusion:	
Leveller rams	600, 6000, 8,000, 10,000
Hydropress	1760,1730, 6000, 10,000
Tube Dept.:	
Embosser, bridal assembly jacks	6000, 10,000
Draw bench, tube pointer pumps	1760
Slitter pumps	1760,1730
Hot Mill, Tandem Mill jacks	6000, 8000
RUBBER MANUFACTURE	
Rams of platen presses	600, 6000, 8000, 10,000
Press pullbacks	600, 6000, 8000, 10,000
Hydraulic pumps and accumulators	600, 8000, 10,000
Solvent pumps	477-1, 1400R, 1760, 1830
Solvent cement mixers	1730, 1740, 1760
Mills, crackers:	
Steam end	1600
Water end	1760, 1727, 1730, InnerLube
Calenders:	
Steam end	1724, 477-1
Water end	1760, 1727, 1730, InnerLube, 1830
Air compressors	1730, 1727, 1760, 1400R, 1830
Steam valves:	
High temperatures	GTP/ONE, 1600, 477-1, 1400R
under 500°F (260°C)	GTP/ONE, 324, 1600, 1724, 477-1, 1400R
Regulator valves	5800, GTP/ONE, 324, 1724, 1600
De-vulcanizers	1600
Pipe flange gasketing	252, 459, 199, ECS-T
SEWAGE DISPOSAL	
Centrifugal pumps	1730, 1760, 1727, CMS 2000, InnerLube, 1830
Sludge pump (plunger type)	600, 1760, 1727, 1730
Mudhog pump	1727,1730, InnerLube
Sump pumps:	
Acid	328, 1724, 1760, 1830
Alkalines	1724, 328, 1760, 1830
Water valves	477-1, 1400R, 1724
SHIPS & SHIPYARDS	
Condenser pumps	1760, 1730, 1727, InnerLube, 412-W, 1830
Condensate pumps	370, 1760, 1400R/(477-1), 1830
Chemical transfer pumps	1724, 328, 324, 1760, 1830
Transfer pumps (neutral products)	1760, 477-1, 1730, 1727, InnerLube, 1400R, 1830
Discharge pumps	1760, 477-1, 1730, 1400R, 1830
Pure water pumps	1730, 328, 1724, 1760, 1830
Chemical injection pump	328, 1724, 1760
Boiler feed pumps	370, TWO, 1400R/(477-1), 1830
Stern tube	329, 412-W
Rudder post	329, 412-W
Salt water pumps	1760, 1730, 1727, InnerLube, 412-W, 1830
Hydraulic pumps (cent.)	1760, 477-1, 1730, 1830
Ballast and bilge pumps	1760, 1730, 1727, InnerLube, 412-W, 1830
Fire pumps	1730, 1760, 1400R/(477-1), 1727, 1830
Fuel and lube oil pumps	1730, 1760, 1400R/(477-1), 1727, 1830
Steam:	
High temperature valves to 1200°F (650°C)	GTP/ONE, 1600, 1400R
Medium temperature valves to 500°F (260°C)	GTP/ONE, 1600, 1400R, 477-1
Low temperature valves	GTP/ONE, 324, 1724, 477-1, 1600, 1400R
Reciprocating pumps	1760, 1724
Gasketing:	
Fuel, chemical hatches	184, 185, ECS-T, 459, 199
Steam	459, 199, 252, 455, 457
Water	100, 450
Diesel oil	140, 455, 457

EQUIPMENT AND PROCESS	CHESTERTON PACKING
SOAP MAKING (Generally follow the same recommendations as for Chemical Plants)	
Other suggestions: Toothpaste, shampoos, deodorants, hair conditioners (slow speed pumps)	324, 1724, 1725, 425
Agitator shafts	
Highly acid	328, 1724
Highly caustic	328, 1760, 1724, 1830
Neutral	1730, 1760, InnerLube, 1727, 1830
SOLDER MANUFACTURE	
Rams extruding presses	600, 6000, 8000, 10,000
SOY BEAN OIL	
Rams of compressors	1760, 1740, 1724
Hydraulic pumps	600, 6000, 8000, 10,000
Hexane pumps	1400R/(477-1), 1760, 1830
Oil pumps	1400R/(477-1), 1760, 1730, 1727, 1830
Rotary driers	1730, 1727, 1830
Chandler drilling machine	1730, 1727
STONE, CRUSHED	
Air compressor	1730, 1760, 1830
Asphalt pump	1400R/(477-1), 1760, 1830
Centrifugal sludge pumps:	1730, 1727, 1760, CMS 2000, 1830
Clear water pump	412-W, InnerLube, 1730, 1830
Fuel oil pump	1400/(477-1), 1730, 1760, 1830
RAW SUGAR MILL(Cane) (also see and include Power Generating Plant)***	
Cleaning Plant:	
Mud pumps	1730, 1727, 1400R/(477-1)
Water pumps	1730, 1760, 1727, 1400R/(477-1), 1830
Lime slurry pumps	1760, 1400R/(477-1)
Crushing Plant:	
Raw juice pumps	1730, 1400R/(477-1), 1760, 1727, 1830
Water pumps	1730, 1400R/(477-1), 1760, 1727, 412-W, 1830
Condensate pumps	1730, 1400R/(477-1), 1760, 1727, 1830
Accumulator	477-1, 1760
Boiling House:	
Clarified juice pumps	1400R, 1725, 1730, 425, 412-W, 1760
Sweet water pumps	1400R, 1725, 425, 1760
Molasses pumps	1400R, 1725, 425, 1760
Massecuite pumps	1730, 1727, 1760
Salt water	1760, 1727, 1730, InnerLube, 412-W, 1830
Caustic soda	1760, 1400R/(477-1), 1830
Limed juice	425, 1725, 1760, 1730
Hot syrup	425
Remelt sugar	1725, 425
WHITE SUGAR REFINING	
Melter House:	
Mingler glands	1725, 425, 1400R
Centrifugal mixer glands	1725, 425, 1400R
Aflination syrup	1725, 425, 1400R
Melter liquor pumps	1725, 425, 1400R
Filter House:	
Clarifier liquor pumps (treated)	1724, 328, 1760, 1400R
Carbonation liquor pumps	1760, 1727, 1730,1400R, 328
Filter press, rotary and sluicing pumps	1760, 1727, 1730, 1400R
Press cake slurry pump	1724, 1760, 328
Lime slurry pump	1760, 1400R/(477-1)
Activated carbon slurry pump	1730, 1727, 1760, 477-1, 1400R
Filter medium slurry (diatomaceaous earth)	1760, 370, 1730, 1400R
Acid pump – dilute	1760, 328, 1730
Acid pump – concentrated	1724, 328, 1760
Pan House:	
Vacuum pan circulator glands	1730, 1727, 1760
Evaporator pumps	1730, 1727, 1760
Crystallizer glands	1730, 1727, 1761, 1760
Centrifugal mixer glands	1730, 1727, 1760
Liquor, syrup and remelt pumps	1725, 425, 1760, 1730
Magma pumps	1760, 1724
Scale treatment pumps (caustic)	1760, 328, 1724, 1400R
Scale treatment pumps (acid)	328, 1724, 1730, 1760
Condensate water pumps	1730, 1727, 1400R/(477-1), 370
Commercial liquor pumps	1760, 1725, 425
CO2 pumps	370, 1400R/(477-1), 1760
Salt water pumps	1760, 1730, 1727, InnerLube, 412-W, 1830

EQUIPMENT AND PROCESS	CHESTERTON PACKING
TEXTILE MILLS (also see and include Power Generating Plant)	
Steam valves	GTP/ONE, 1600, 1400R, 477-1
Control valves	GTP/ONE, 5800, 1600, 1400R, 477-1, 1724
Air compressor	1730, 1760, 1830
Dry cans, slasher	1730, 1727, 1760
Pumps:	
Humidifier	1727, 1730, 1760, 1400R/(477-1), 1830
Circulating	1727, 1730, 1760, 1400R/(477-1), 1830
Screen	1727, 1730, 1760, 1400R/(477-1), 1830
Filtrate	1727, 1730, 1760, 1400R/(477-1), 1830
Size – starch	1400R/(477-1), 1760, 1830
Size – acrylic	1724, 1727, 1730, 328
Dye	1724, 328, 1760
Bleach	328, 1724, 1760
TEXTILE FINISHING & DYEING	
Service and Metering Pumps:	
Sulphuric acid	1724, 328
Hydrochloric acid	1724, 328, 1760
Acetic acid	1724, 328, 1760, 1400R
Hydrogen Peroxide (90%)	1724, 328
Sodium Hydroxide (caustic soda)	1760, 1400R/(477-1), 328, 1830
Cloth heat treating (formaldehyde – textile resins)	1724, 328
Bleaching – sodium hypochlorite	1724, 328
Sizing – sodium sillcate	1730, 1727, 1760, 1830
Steam valves on continuous service	GTP/ONE, 1600, 1400R, 477-1
Drying cylinders – end of journals	459, 455, 457
Diaphragm motor valves	122-NN
Bailing presses	600, 6000, 8000, 10,000
THERMO PLASTICS (see Plastic Moulding)	
UTILITIES (see Power Generating)	
VENEER (see Plywood)	
WATER WORKS	
Water Works:	
Plunger pumps	1730, 1760, 600
Centrifugal pumps	1730, 1760, 1400R/(477-1), 1830 InnerLube, 412-W
Water treating pumps	
Chlorine	1724, 328, 1761
Caustic	1724, 328, 1760
Acids	1724, 328
Water valves	1724, 1400R/(477-1), 1600
WHISKEY MANUFACTURING (see Distilleries)	
WINES (see Distilleries)	
WIRE MANUFACTURING	
Continuous vulcanizers	1724, 324, 1600, 477-1
WOOD PRODUCTION (see Lumber Operations)	

NOTE:

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

324/DigesterPak/477-1T – See DigesterPak Application Guide (Form No. 088146)

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