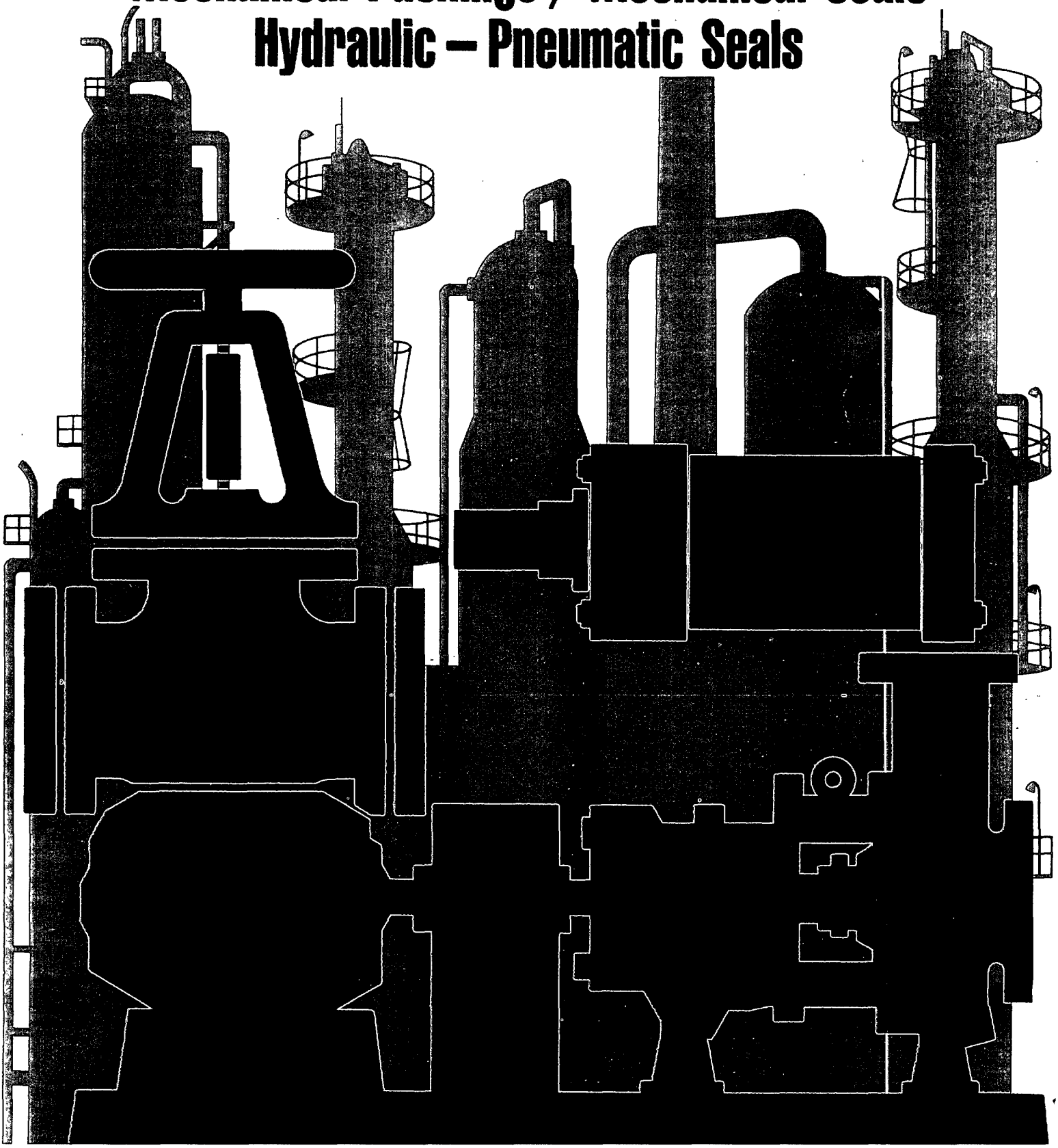
KIEFABERS

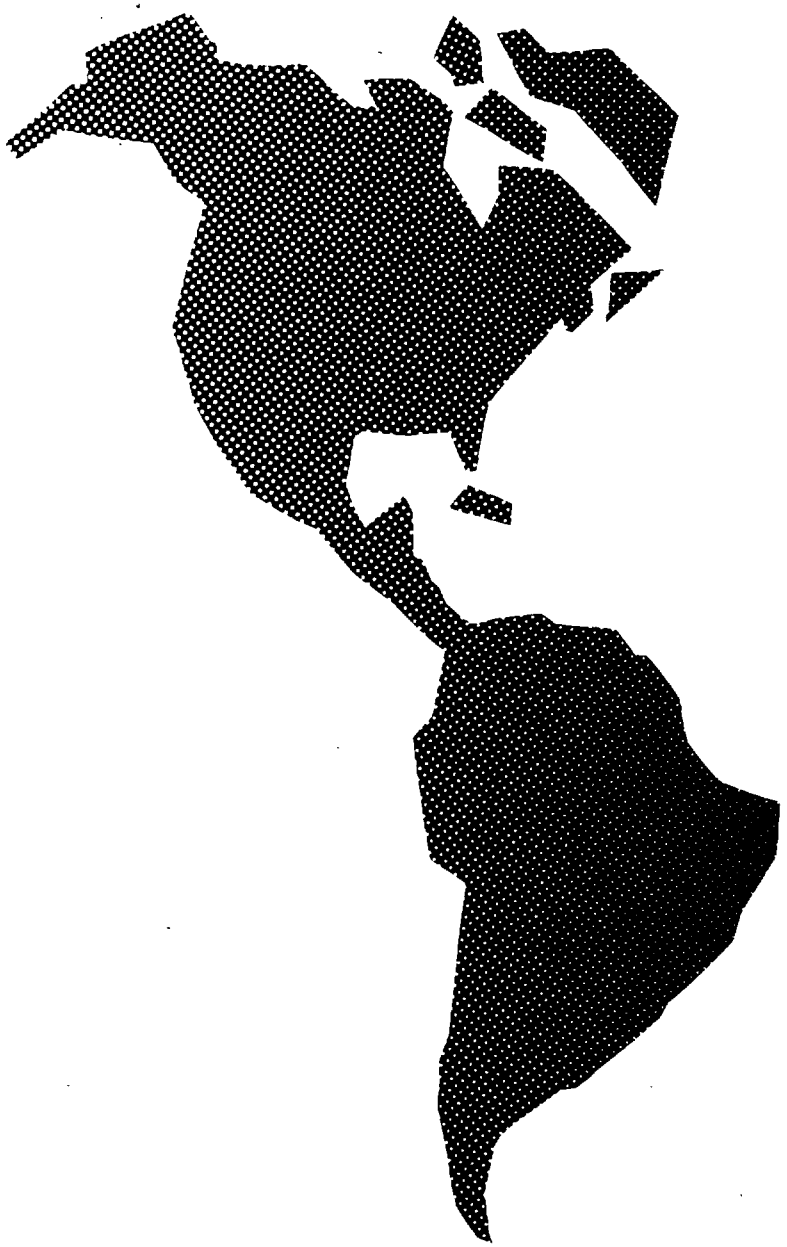
CHESTERTON®

PLAINTIFF'S EXHIBIT
CH-55

Mechanical Packings / Mechanical Seals
Hydraulic – Pneumatic Seals



KEFADERS



CHESTERTON®

A. W. CHESTERTON COMPANY
Manufacturer of Mechanical Packings, Mechanical Seals, Hydraulic/Pneumatic Seals.
Brings to your plant, world-wide experience and service through a network of factory trained distributors and specialists.
America's Oldest – World's Finest

Executive Offices: Middlesex Industrial Park, Stoneham, Massachusetts 02180 U.S.A.
Phone: 617-438-7000 Telex: 94-9417
Cable: Chesterton Stoneham, Mass.

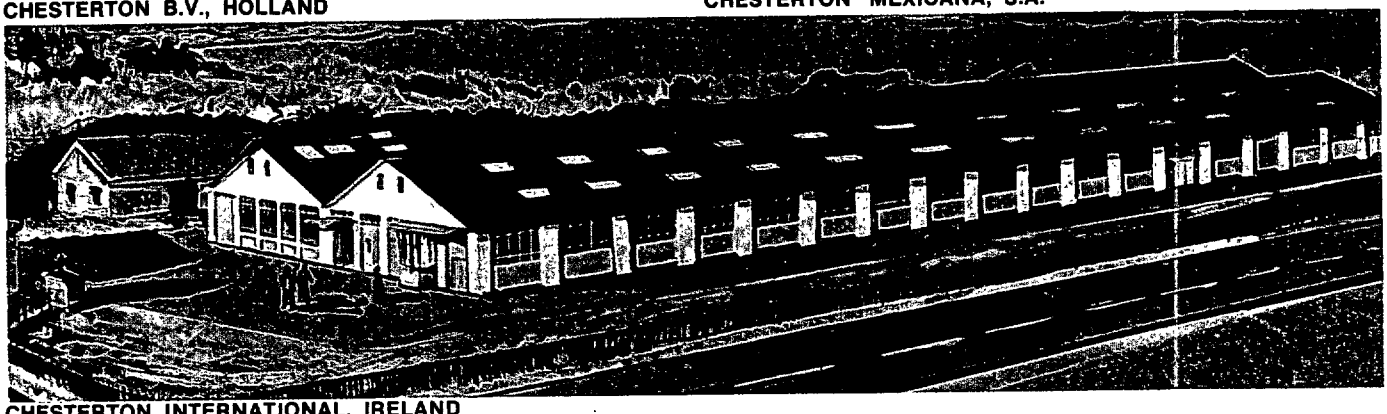
AFFILIATE COMPANIES
CHESCO, INC., Stoneham, Mass., U.S.A.
CHESTERTON INTERNATIONAL, Bantry, Ireland
CHESTERTON B.V., 's-Hertogenbosch, Netherlands
A.W. CHESTERTON, LTD., Burlington, Ontario, Canada
CHESTERTON MEXICANA, S.A., Naucalpan de Juarez, Mexico



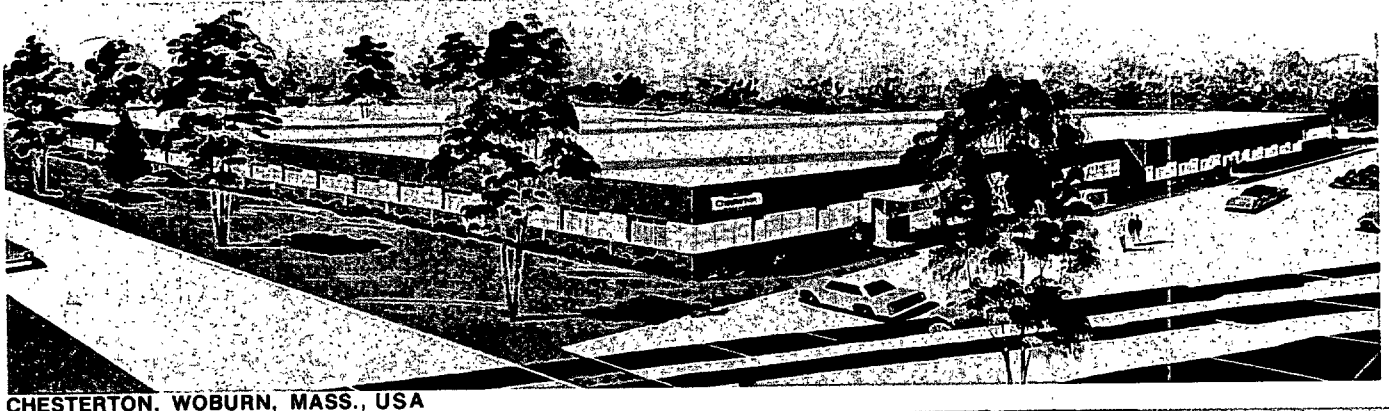
CHESTERTON B.V., HOLLAND



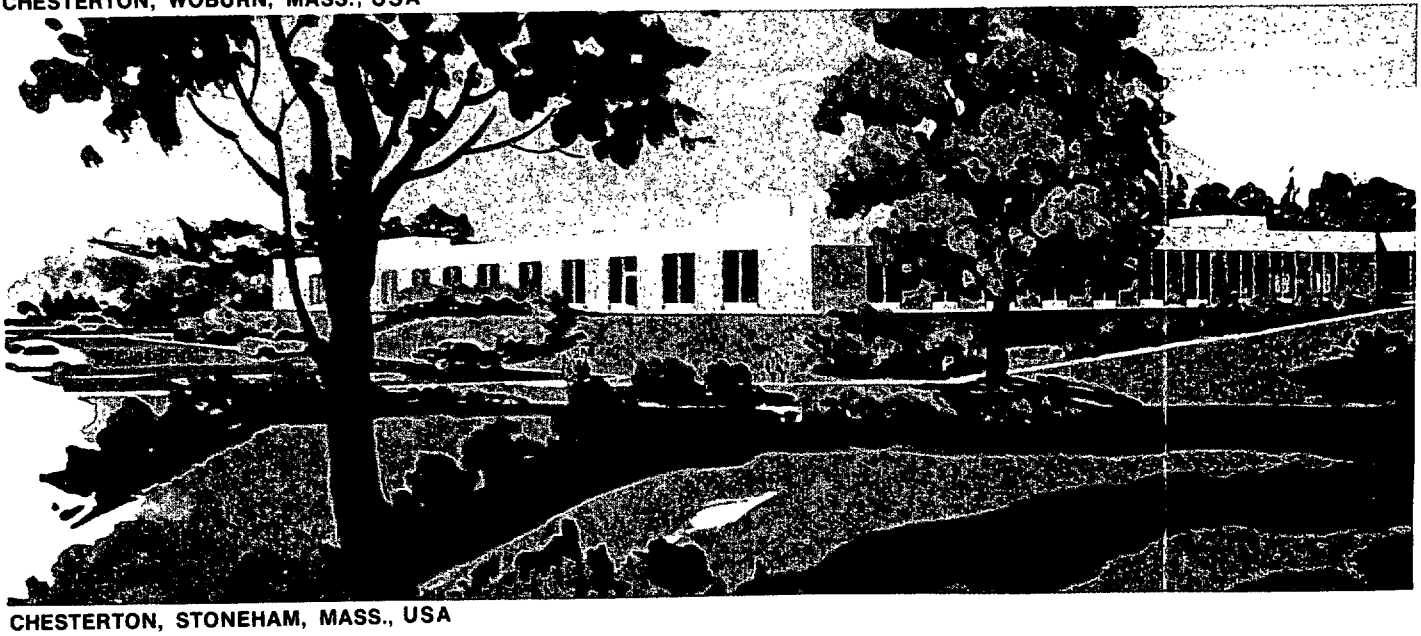
CHESTERTON MEXICANA, S.A.



CHESTERTON INTERNATIONAL, IRELAND



CHESTERTON, WOBURN, MASS., USA



CHESTERTON, STONEHAM, MASS., USA

"It has always seemed uneconomical to us, particularly with today's high labor maintenance costs, to install other than the longest wearing, most serviceable packings and seals."

JOHN RUSKIN, the eminent philosopher, once wrote, "It is unwise to pay too much but worse to pay too little. When you pay too much, you lose a little money. That is all. When you pay too little, you sometimes lose all, because the thing you bought was incapable of doing the thing it was bought to do."

The philosophy of our family company, as it approaches its first one hundred years, is to place quality above price. We are not trying to produce the cheapest packings and seals, nor the most. Only the finest. It has always seemed uneconomical to us, particularly with today's high labor maintenance costs, to install other than the longest wearing, most serviceable packings and seals. For this reason we fabricate from only the longest and costliest of staples, from the most effective alloys; and with proven specialized lubricants developed through research. That is why CHESTERTON® MECHANICAL PACKINGS AND SEALS are universally recognized as the "World's Finest".

If you are not now using CHESTERTON PACKINGS, SEALS, or other of our fine products, we cordially invite you to join the large group of thoughtful users who have found our quality-controlled products outstanding in the field.

CHESTERTON Products are stocked locally by your Industrial Supply Distributor. This Distributor offers you a cheerful source of information on thousands of products he catalogs and carries for your convenience. He thereby reduces your inventory costs and provides a fast means of replenishing your supplies. He is one of the most important institutions in the structure of World Wide marketing. We are honored by our association with him and other recognized Industrial Supply Distributors throughout the world.

CHESTERTON is a participant in the following national and international organizations:

American Society of Lubrication Engineers
National Fluid Power Association
Fluid Sealing Association
International Organization for Standardization
National Coatings and Paint Association
American Supply and Machinery Manufacturers Association
Technical Association of the Pulp and Paper Industry
International Ship Suppliers Association
National Association of Marine Services Inc.



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Sizes — Contents — Availability
All products in this catalog are subject to change without notice.

Critical material shortages and other factors beyond our control may necessitate minor changes in the design of products described herein. Careful records are kept of these changes, and any customer needing critical information regarding a particular product is encouraged to contact CHESTERTON.

Caution as to Recommendations
All statements in this catalog pertaining to pressures, temperatures, speeds, and service ratings are based on general service experience. Because of the wide variety of applications of our products, and the wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of these products by the ultimate user, we do not encourage reliance on them without specific prior service experience.
For the reasons indicated, the A. W. Chesterton Company makes no warranties, expressed or implied, that products described are guaranteed for any length of time, for any measure of service, or for any specific purpose.

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CHESTERTON®

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* DuPont's registered trademark.

CHESTERTON®

CHESTERTON MAINTENANCE PRODUCT PACKAGING CHART

Product Name	Spray Can	Pint	Quart	Gallon	5 Gallon	25 Gallon	30 Gallons	42.5 Gallon	55 Gallon
Acrylic Floor Finish				84005	84006				84007
All Purpose Cleaner	80402	80403		80404	80405		80406		80407
All Purpose Cleaner No. 2					80415		80416		80417
Ammoniated Stripper & Cleaner				83904	83906		83908		83907
Anti-Seize Compound Nickel	82351				82354		82355		
Anti-Seize Compound	82301				82304		82305		
Belt-Flo®		80303	80304	80305	80306		80316		80307
Blue Layout Fluid	83402								
Carbon & Varnish Remover					82901	82911	82916	82912	82902
Chain Drive Pin & Bushing Lubricant	81902			81904	81906		81916		81907
Clear Acrylic Lacquer				86705	86706		86716		86707
Clear Protective Coating	84901				84906		84916		84907
Cold Galvanizing Compound	82601		82603	82604	82606	82607			
Color Coding Enamel — White	88920								
Color Coding Enamel — Purple	88921								
Color Coding Enamel — Blue	88922								
Color Coding Enamel — Green	88923								
Color Coding Enamel — Yellow	88924								
Color Coding Enamel — Orange	88925								
Color Coding Enamel — Red	88926								
Color Coding Enamel — Black	88927								
Concrete Curing Aid				86103	86104		86106		86105
Cutting Oil	80102			80104	80106		80116		80107
Descaler & Chemical Cleaner				88404			88416		88407
Detergent Lubricating Oil	81102	81103	81104	81105	81106		81116		81107
Disinfectant Cleaner #480	84802								
Dry Descaler & Chemical Cleaner									
Dry Lubricant	80708								
Dry Rust Remover									
Electric Motor Cleaner	80502			80515	80516		80518		80517
Electro Contact Cleaner	82501				82505		82506		82507
Freeze Spray	83101								
Furniture Polish	84602								
Gear Reducer Oil		80903	80904	80905	80906		80916		80907
Germicidal Foaming Cleaner #061				89505	89506		89516		89507
Glass Cleaner	84501	84502		84503					
Hand Cleaner		88903		88904	88905		88906		
Hand Scrubber		88913		88914	88915		88916		
Heavy Duty Emulsion Solvent				83505	83506		83516		83507
Heavy Duty Rust Guard	87702			87705	87706		87716		87707
Industrial & Marine Solvent				83203	83204		83206		83205
Industrial & Marine Paint — Light Grey	88928								
Industrial & Marine Paint — Blue Grey	88929								
Industrial & Marine Paint — Grey Primer	88940								
Industrial Solvent Degreaser Cleaner #262				86205	86206	86217	86216	86218	86207
Layout Fluid Remover	83302								
Low Foaming Cleaner & Wax Remover				83805	83806		83816		83807
Metal Cleaner & Corrosion Inhibitor					80206		80216		80207
Moisture Cured Urethane				85005	85006				
Moisture Cured Urethane Thinner				85405	85406				85407
Moisture Shield	82102			82104	82106		82116		82107
Mold Release	81801			81805	81806		81817		81807
Motor Degreaser				80505	80506	80527	80526	80528	80507
Multi-Purpose Industrial Solvent #208				83104	83105		83106		83107

For information on individual products see Industrial and Marine Maintenance Products Catalog '77.

CHESTERTON®

CHESTERTON MAINTENANCE PRODUCT PACKAGING CHART *(continued)*

Product Name	Spray Can	Pint	Quart	Gallon	5 Gallon	25 Gallon	30 Gallon	42.5 Gallon	55 Gallon
Paint Stripper			88704	88705	88706		88716		88707
Paintable Release Agent	81802				81809		81819		81811
Penetrant & Lubricant	82706			82703	82704		82716		82705
Penetrating Oil #620	86200								
Phosphate Free Cleaner #360				83604	83605		83606		83607
Pine Air Refresher	86300								
Pump & Valve Machinery Cleaner	88802			88804	88805	88815	88806	88817	88807
Rustsolvo®		81303	81304	81305	81306		81316		81307
Safety Solvent Cleaner #261	85602			85605	85606	85617	85616	85618	85607
Silicone Lubricant	81502			81504	81505		81515		81506
Silicone Spray Compound	81507								
Solvent Emulsion Degreaser #253				85705	85706		85716		85707
Spot Remover	84702								
Spraflex®	81702			81704	81706		81716		81707
Spragrip®	80308								
Sprasolvo®	81308								
Stainless Steel Cleaner	84302								
Super Rust Remover					85906		85916		85907
Tapping Compound — Aluminum	85201	85203	85204	85205	85206		85216		85207
Tapping Compound	85101	85103	85104	85105	85106		85116		85107
Teflon Coating	82808			82804	82805		82806		82807
Universal Primer **				88505	88507				88508
Urethane Floor Enamel — Clear				87305	87306				87307
Urethane Floor Enamel — Black				87205	97206				87207
Urethane Floor Enamel — Medium Brown				87805	87806				87807
Urethane Floor Enamel — Forest Green				87905	87906				87907
Urethane Floor Enamel — Light Grey				87605	87606				87607
Urethane Floor Enamel — Medium Grey				87505	87506				87507
Urethane Floor Enamel — Tile Red				87405	87406				87407
Urethane Floor Enamel — Raw Sienna				88605	88606				88607
Urethane Floor Enamel — White				87408	87409				87410
Urethane Floor Enamel — Yellow				87808	87809				87810
Vinyl, Leather & Plastic Cleaner	83702								
White Grease **		85302		85303	85304				
Wood Panel Cleaner	84202								

* DuPont's Registered Trademark

Product Name	Container Size	Product Reorder No.
Anti-Seize Compound-Nickel	8 oz. Tube	82356
Anti-Seize Compound Nickel	1 lb. Can	82352
Anti-Seize Compound	8 oz. Tube	82306
Anti-Seize Compound	1 lb. Can	82302
Cold Galvanizing Compound	½ Pint (1½ lb.)	82602
Dry Descaler & Chemical Cleaner	5 lb. Can	84406
Dry Descaler & Chemical Cleaner	50 lb. Drum	84407
Dry Rust Remover	5 lb. Can	84106
Dry Rust Remover	50 lb. Drum	84107
Universal Primer **	2 gal. Can	88506
White Grease **	6 oz. Tube	85306
White Grease **	14½ oz. Cartridge	85301
Equipment Maintenance Kit	Kit	80005
Pump & Valve Maintenance Kit	Kit	80003
Color Coding Enamel Kit	Kit	80004

For information on individual products see Industrial and Marine Maintenance Products Catalog '77.

MAKE THIS SIMPLIFIED CHART YOUR GUIDE

ROTARY OR CENTRIFUGAL SHAFTS

CHESTERTON® MECHANICAL SEALS are available for all shaft services

For single inside seals we suggest styles 500, 770, 880
For outside seals we suggest styles ..... 440 or 500
For double seals we suggest styles ..... 241, 500, or 1210
For proper method of handling each pumped media we suggest you consult AWC Co.

SERVICE	RECOMMENDED PACKINGS
Water up to 212°F. (100°C.)	One, 200, 322, 328, 370, 375, 1722
Water over 212°F. (100°C.)	One, 200, 322, 328, 370, 375, 1722
Ammonia and other refrigerants	200, 320, 555
Oil, gasoline, solvents: —	
Up to 450°F. (230°C.)	One, 200, 322, 328, 370, 375, 555, 1722
Over 450°F. (230°C.)	One, 370, 375, 666
Chemicals: —	
The milder acids and alkalies, pH values 5–9**	One, 200, 322, 328, 370, 375, 1722
Strong acids, pH values 1–4**	One, 200, 328, 370, 375
Strong caustics, pH values 10–14	One, 200, 326, 328, 370, 375
Food Processing	1725

RECIPROCATING RODS/VALVES

SERVICE	RECOMMENDED PACKINGS
Hot or cold water	
Rods, general service	200, 322, 324, 600-W, 1722, 1724, G.T.P.
Pistons, inside packed pumps	90
Plungers and Rams, outside packed	600, 6000, G.T.P.
Steam to 115 P.S.I. (8 Kg/cm²)	64, 200, 324, 350, 600-W, 1724, G.T.P.
Steam over 115 P.S.I. (8 Kg/cm²)	
For either moving rods or stationary valves	ONE, 64, 200, 324, 364-T, 370, 375, 600-S, 1724, 5010, G.T.P.
Stationary valve stems: —	
Up to 300 P.S.I. (21 Kg/cm²) 500°F. (260°C.)	64, 324, 1000, 1500, 1724, G.T.P.
Valves over 500°F. (260°C.)	1000, 1500, G.T.P.
Compressed air and hot gases	ONE, 64, 350, 5010, G.T.P.
Ammonia and other refrigerants	200, 320, 555
Oil, gasoline, solvents: —	
Up to 450°F. (230°C.)	ONE, 200, 322, 324, 370, 375, 555, 1722, 1724, G.T.P.
Over 450°F. (230°C.)	ONE, 370, 375, 666, G.T.P.

Chemicals: — Same recommendations as for Chemicals listed above under Rotary Shafts.

SHEET PACKINGS

SERVICE	RECOMMENDED PACKINGS
Hot or cold water	100
Steam to 115 P.S.I. (8 Kg/cm²)	100
Steam over 115 P.S.I. (8 Kg/cm²) including superheat, compressed air, hot gases	210, 211, 225, 235, 281
Chemicals: —	
Up to 212°F. (100°C.) — Cold oils, greases, gasoline, hydrocarbons, alcohols, ketones, lacquers, distillates.	270, 2000
Over 212°F. (100°C.) — Hot solvents and distillates as listed above; freon	270, 2000
The milder acids and alkalies, pH values 5–9	210, 211, 225, 235
Strong acids, pH values 1–4	260, 2000
Strong caustics, pH values 10–14	210, 211
Teflon* Sheet	2000
Manhole and Handhole boiler plates, doors and covers of vulcanizers, heaters, and kettles	250, 251, 290, 291-N, 382

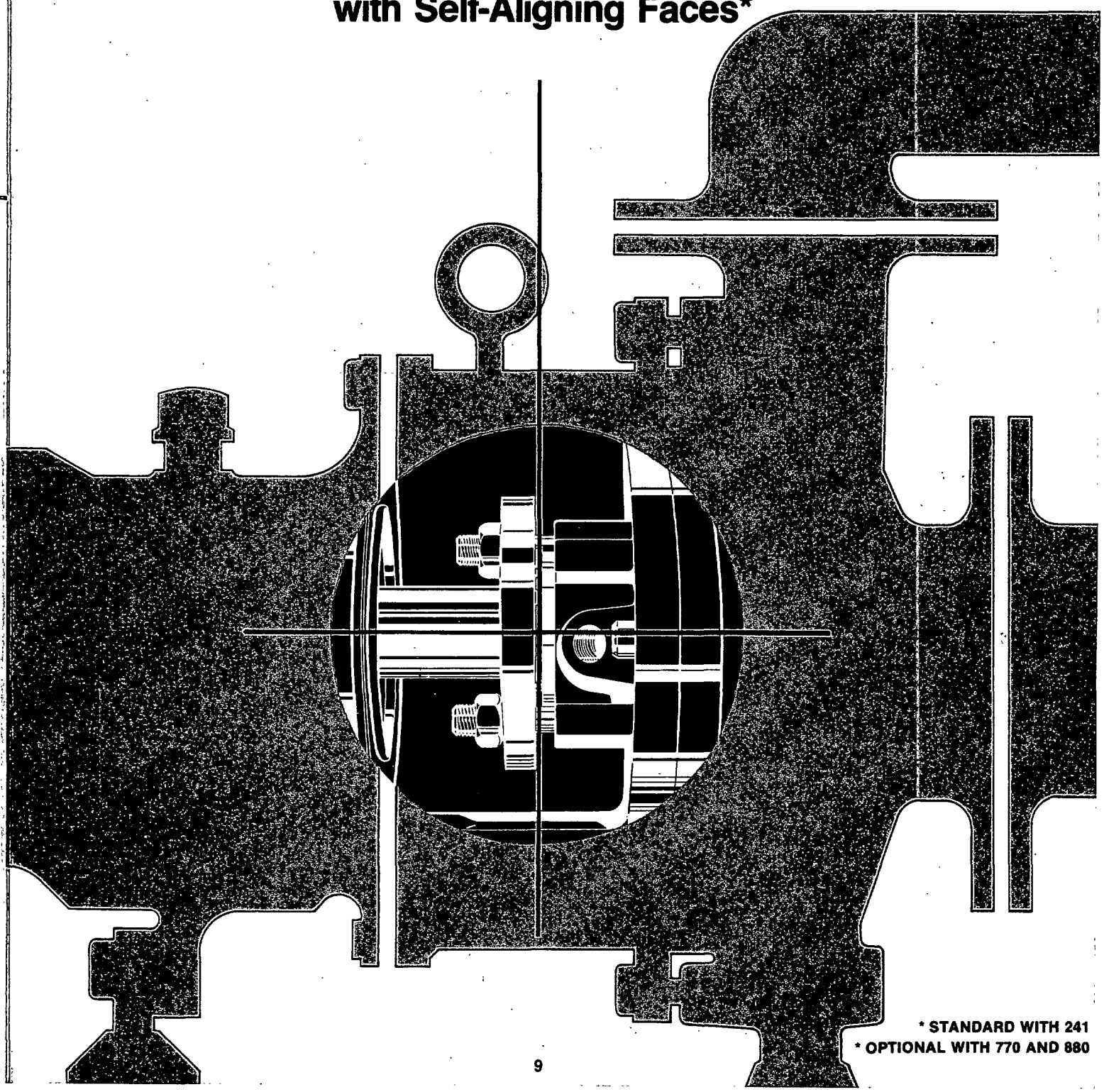
** For Applications Involving Nitric Acid — Consult Factory.

*DuPont registered trademark

CHESTERTON®

OFF-THE-SHELF MECHANICAL SEALS

with Self-Aligning Faces*



* STANDARD WITH 241
* OPTIONAL WITH 770 AND 880

1 MECHANICAL SEALS

CHESTERTON®

880 SEAL

OFF-THE-SHELF

(AVAILABLE WITH PATENTED SELF-ALIGNING STATIONARY UNIT)

ANTI-CLOG, highly-reliable seal for water, fuels, oils, chemicals and slurries.

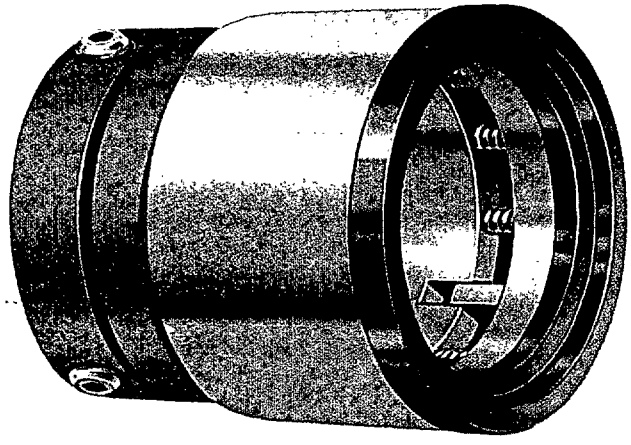
"The Maintenance Man's Seal . . ."

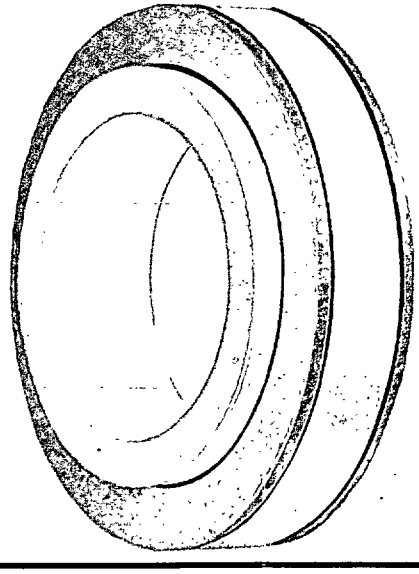
The best ANTI-CLOG, SELF-CLEANING seal on the market. Where conventional seals are partially covered, the 880 Seal is open to continual self-washing by the fluid, all the way to the o-ring. This unique CHESTERTON 880 design minimizes the area where particles in the fluid can hang-up or clog the seal. In addition, to insure that hang-up will not occur, the CHESTERTON 880 is Teflon* coated (green area) where the o-ring must move.

* DuPont's Registered Trademark.

880 Seal—1976 Top Honor John C. Vaaler Award Winner

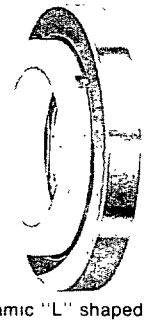
- FITS ALL AVS PUMPS
- Interchangeable with nearly any seal or packing without pump or gland modification to save you costly engineering time.
- Proper installation is assured as all 880 Rotary Units, regardless of the shaft size, are the same length. The back of the 880 Rotary is always positioned 1¾" (44,5 mm) from the stationary face. For maintenance, learning how to install an 880 seal is only a simple matter of installing one seal, then all other 880's will install the same way.
- Will not fret shaft or sleeves — no hidden maintenance expenses for replacement shafts or sleeves.
- Cooler running with longer wearing life is assured with CHESTERTON 880 seal faces because they are balanced within their own component parts. This is the same type of design required by the government, aircraft and the petroleum industry.
- 100% quality control is maintained by inspection of all critical and semi-critical dimensions of 880 seals.
- Highest-quality, protective packaging brings 880 Seals to you in "mint condition."



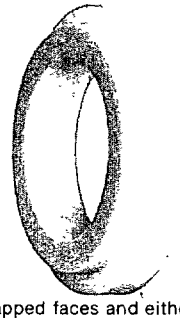


"OFF-THE-SHELF" STATIONARY UNITS FOR 880, 770, 440, SEALS

SELF-ALIGNING "L" SHAPE STATIONARY
Available in Ceramic with 316 Stainless Steel Adapter



"L" SHAPE STATIONARY
Available in Ceramic or Tungsten Carbide Plated 316 Stainless Steel

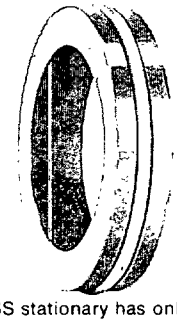


The Ceramic "L" shaped stationary has two lapped faces and either can be used.

BUNA-N SQUARE MOUNT STATIONARY
Available in Ceramic



O-RING MOUNT STATIONARY
Available in Solid or Plated Tungsten Carbide



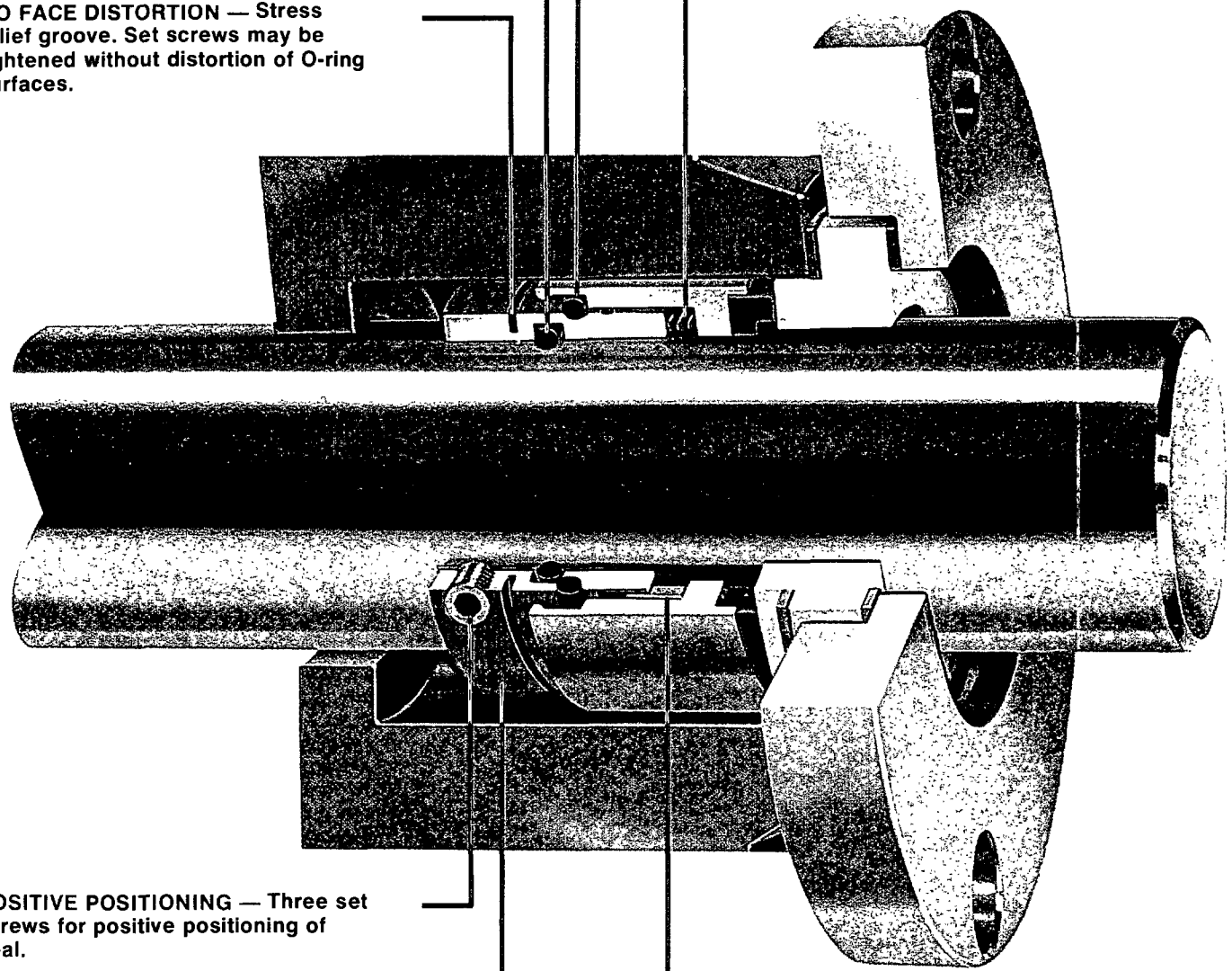
The "L" shaped Tungsten Carbide Plated/316SS stationary has only one lapped face. You must specify either A or B side (A is the smaller face — B is the larger).

AVOIDS CLOGGING — Dynamic O-ring is located at back of carbon holder, minimizing buildup of particles and possible clogging of seal.

NO SHAFT WEAR — Static O-ring eliminates any grooving or fretting of shaft.

NO FACE DISTORTION — Stress relief groove. Set screws may be tightened without distortion of O-ring surfaces.

MULTIPLE-NONCLOGGING SPRINGS Even face loading eliminates uneven face wear. Springs isolated from gummy or clogging fluids will stay clean and operational.



POSITIVE POSITIONING — Three set screws for positive positioning of seal.

SELF-WASHING ALL THE WAY TO THE O-RING — Inner sleeve coated with Teflon* to prevent pumped fluid particles from sticking and possibly hanging up seal.

LONGER SEAL LIFE — Lug drive for maximum wear resistance due to pump vibration or misalignment.

TECHNICAL DATA

MATERIALS
Sleeve and outer barrel — Type 316 stainless steel
Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton* and EPR supplied with seal (Viton* installed as standard)
Rotating Face — Carbon

TEMPERATURE
−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES
28" (711 mm) Hg vacuum to 500 psig (35 kg/cm²)

SIZES
The 880 seal is available in inch sizes from 1" thru 2⅝" in ⅛" increments and metric sizes of 25, 28, 30, 35, 38, 40, 45, 50, 55 millimeters.

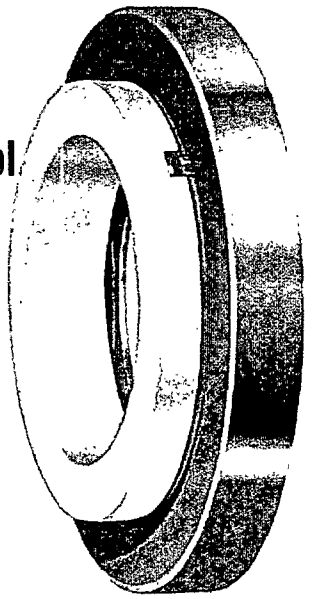
* DuPont's Registered Trademark.

CHESTERTON®

SEALS with SELF-ALIGNING STATIONARIES

hold sealing faces in contact/provide superior leakage control

PATENT NO. 3,972,536



Automatically corrects for misaligned pump shaft or stuffing box:

Controls leakage at start-ups due to:

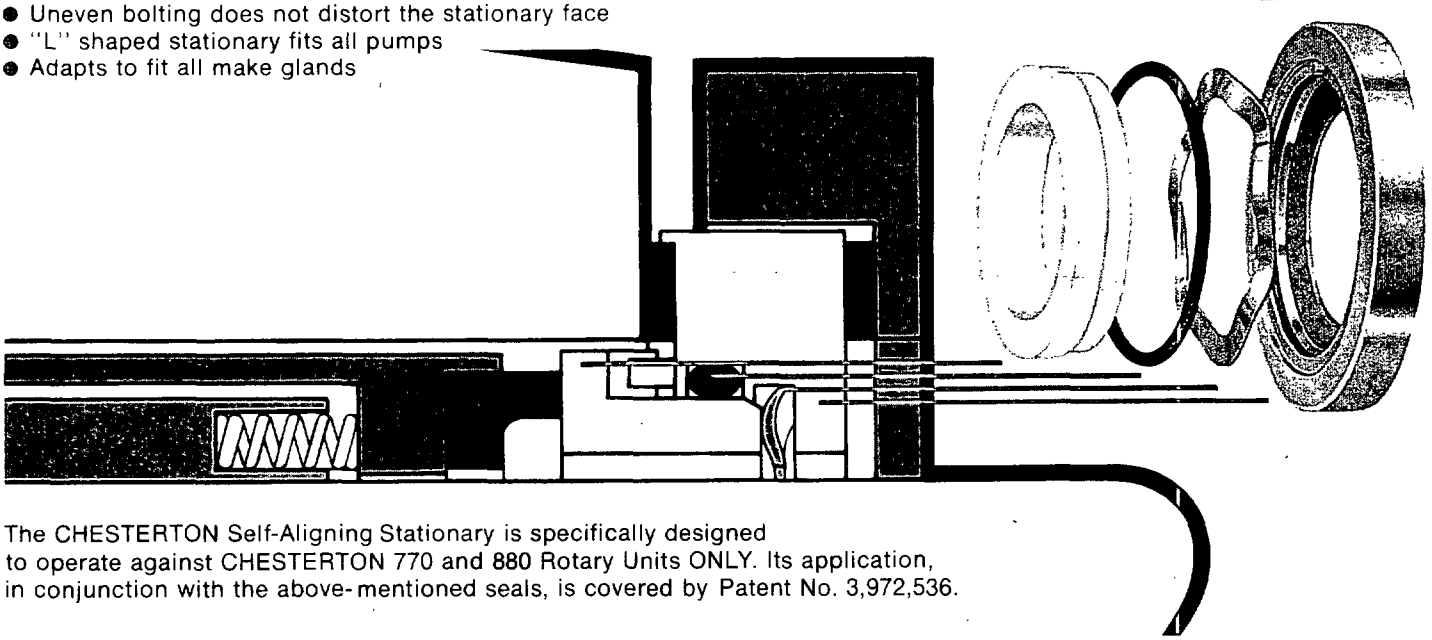
- Shaft misalignment
- Uneven bolting of stationary unit
- Misalignment of stuffing box face

Reduces face wear due to:

- Abrasive particles (slurries) getting between faces

Makes seal installations easier:

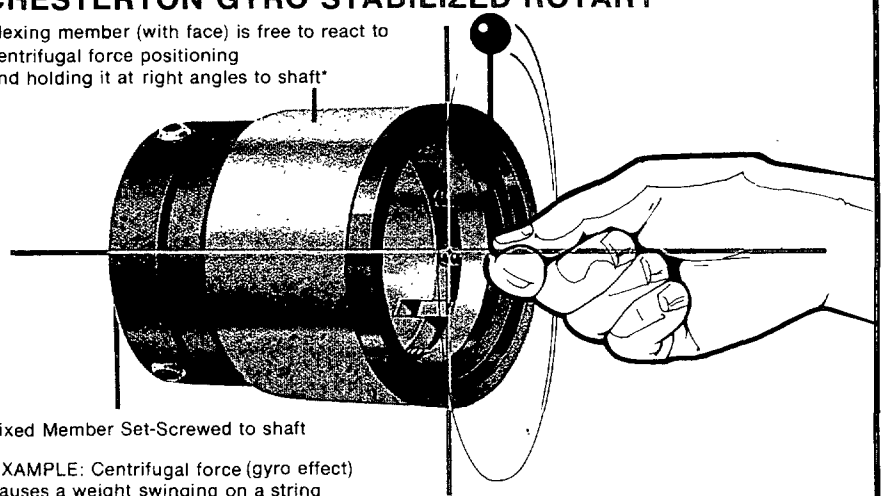
- Makes alignment automatic. Eliminates trial and error methods
- Uneven bolting does not distort the stationary face
- "L" shaped stationary fits all pumps
- Adapts to fit all make glands



The CHESTERTON Self-Aligning Stationary is specifically designed to operate against CHESTERTON 770 and 880 Rotary Units ONLY. Its application, in conjunction with the above-mentioned seals, is covered by Patent No. 3,972,536.

CHESTERTON GYRO STABILIZED ROTARY

Flexing member (with face) is free to react to centrifugal force positioning and holding it at right angles to shaft*

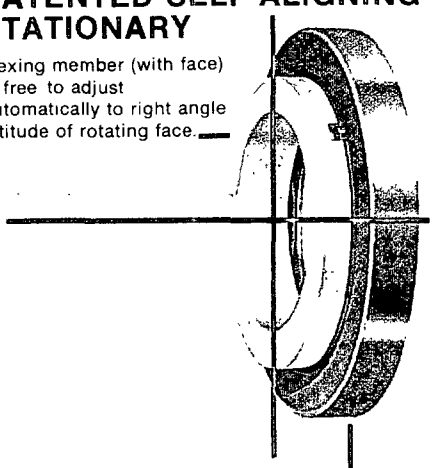


Fixed Member Set-Screwed to shaft

*EXAMPLE: Centrifugal force (gyro effect) causes a weight swinging on a string to rotate at right angles to the hand holding it.

CHESTERTON PATENTED SELF-ALIGNING STATIONARY

Flexing member (with face) is free to adjust automatically to right angle attitude of rotating face.



Fixed member bolted to stuffing box

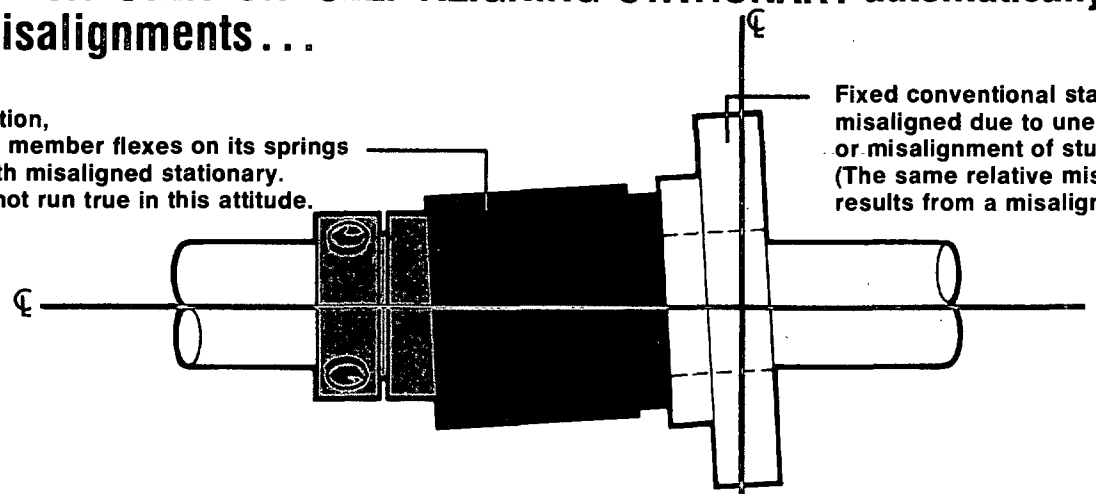
Start up leakage from a mechanical seal is usually caused by excessive misalignment between the pump stuffing box face and the shaft.

(Above .010 inches (0,25 mm) T.I.R. causes leakage for most mechanical seals at normal pump speeds.) CHESTERTON® SELF-ALIGNING STATIONARY overcomes this problem.

How the CHESTERTON® SELF-ALIGNING STATIONARY automatically corrects face misalignments . . .

FIG. 1

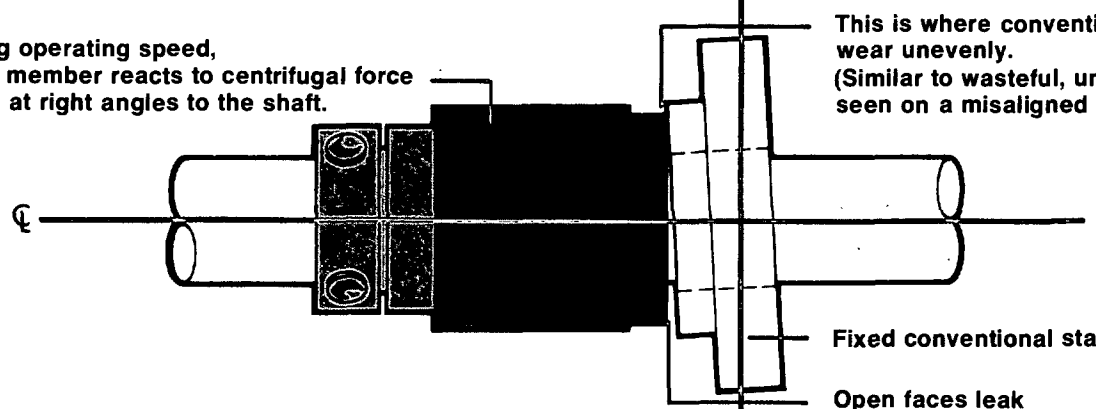
On installation,
rotary face member flexes on its springs
to mate with misaligned stationary.
But could not run true in this attitude.



Fixed conventional stationary misaligned due to uneven bolting or misalignment of stuffing box face. (The same relative misalignment results from a misaligned shaft.)

FIG. 2

At start up,
on reaching operating speed,
rotary face member reacts to centrifugal force
and is held at right angles to the shaft.



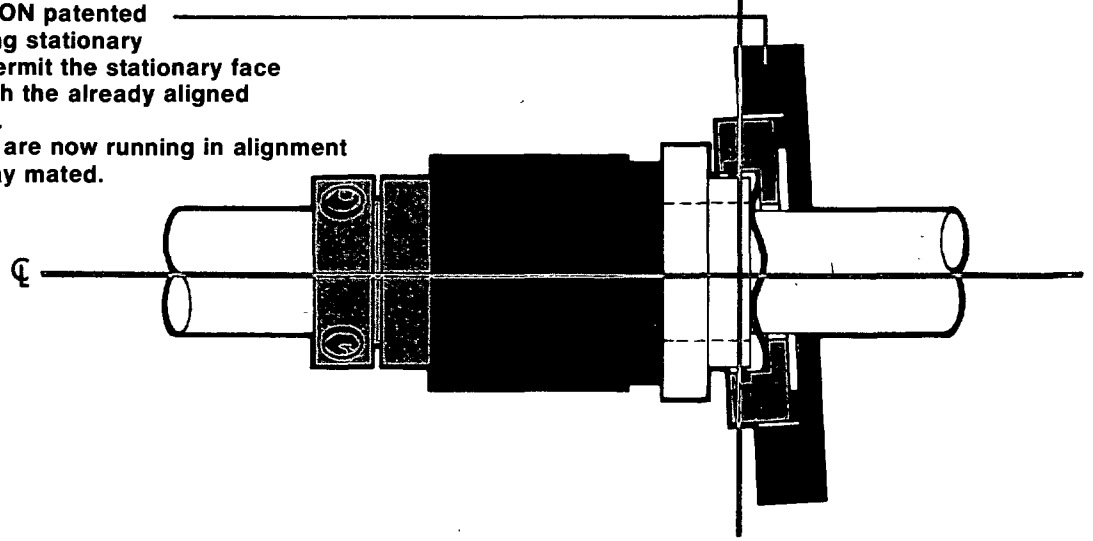
This is where conventional seals wear unevenly.
(Similar to wasteful, uneven wear seen on a misaligned auto tire)

Fixed conventional stationary

Open faces leak

FIG. 3

CHESTERTON patented
Self-Aligning stationary
flexes to permit the stationary face
to mate with the already aligned
rotary face.
Both faces are now running in alignment
and will stay mated.



Any CHESTERTON seal equipped with self-aligning stationary eliminates time consuming critical adjustments for alignment . . . Decreases face wear . . . Increase seal life . . . Provides superior leakage control

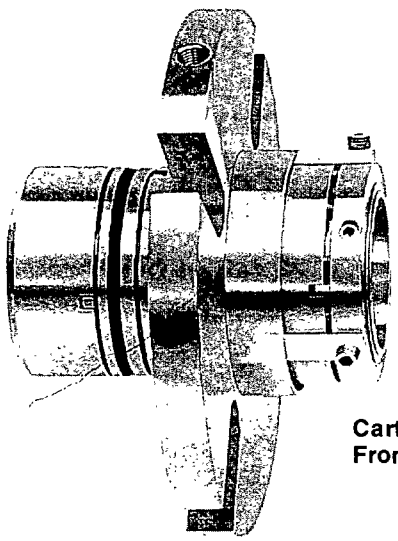
1 MECHANICAL SEALS

CHESTERTON®

241 DOUBLE SEAL

OFF-THE-SHELF / SELF-ALIGNING

DOUBLE SEALING MADE EASY
for pumps, mixers or agitators handling regular, dangerous or costly fluids or gases



Cartridge Unit — Self-Contained From Shelf to Shaft

OPERATING ADVANTAGES OF CHESTERTON 241 SEALS over conventional double seals:

Fits all AVS pumps and most others without equipment alteration.

Off-the-shelf availability eliminates waiting time, reduces inventory requirements.

Double balanced inboard seal automatically adjusts and hydraulically balances whether barrier fluid pressure is higher or lower than pumped fluid pressure.

Cooler running — longer lasting with both the inboard and outboard seals balanced to reduce friction, heat and wear.

Excellent slurry seal with the inboard seal open to continual washing by the product, centrifugal force retarding any build-up and the location of the springs out of the fluid protecting them from clogging or corrosion.

INSTALLATION ADVANTAGES OF CHESTERTON 241 SEALS over conventional double seals:

Cartridge mounted for easy installation saves time, avoids installation mistakes and gets equipment back into operation quickly.

Self-aligning exclusive design permits less critical installation. Can take three to four times the misalignment of ordinary double seals. Allow for greater shaft misalignment and end play.

No expensive circulating system required to pressurize, cool or warm. Pumped fluid may be utilized in many applications.

How to apply the CHESTERTON 241 DOUBLE SEAL in the pulp, paper, petroleum, chemical and other industries:

DOUBLE SEAL ARRANGEMENT



BARRIER FLUID PRESSURE HIGHER THAN PRODUCT PRESSURE

- Normally prevents leakage of hazardous, toxic, costly and other pumped fluids (vinyl chloride, etc.) into atmosphere.
- Provides lubrication when product is a nonlubricating fluid below .6 specific gravity (light hydrocarbons, etc.).
- Provides lubrication when product does not stay in contact with seal (top entering agitators, mixers, etc.).

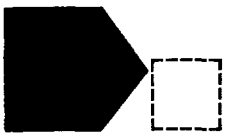
TANDEM SEAL ARRANGEMENT



BARRIER FLUID PRESSURE LOWER THAN PRODUCT PRESSURE

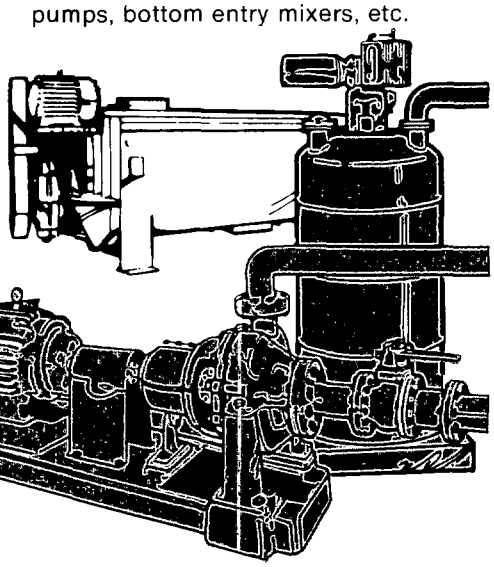
- Effective method of reducing pressure differential across seal faces. Reduced face wear extends seal life.

SPARE SEAL ARRANGEMENT



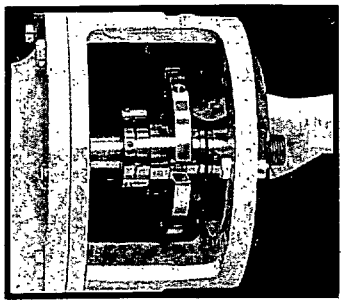
VERY LOW BARRIER FLUID PRESSURE

- Outboard seal "idles" at low pressure as an installed spare with face wear minimized by use of a clean, lubricating barrier fluid. Spare automatically becomes operational when inboard seal wears out. Avoids unscheduled shut-downs of batch processing. Complete seal can be replaced at scheduled maintenance time.
- Reduces shut down time of valuable or hard-to-tear down double ended pumps, bottom entry mixers, etc.

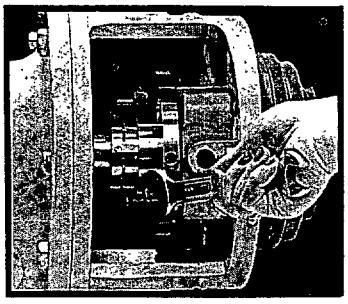


DOUBLE SEALING MADE EASY

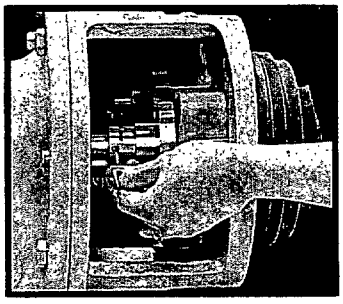
● No engineering ● No measurements ● No adjustments for alignment



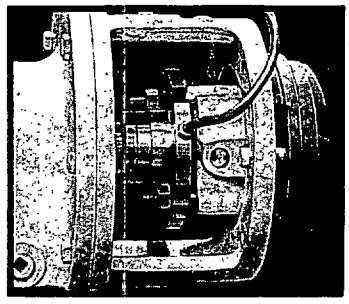
Slide on



Bolt down gland



Tighten 3 set screws and remove centering devices



Pressurize and start up!

Inboard stationary unit.

Inboard rotary.

SPRINGS — All four faces are spring loaded. Springs are not in contact with pumped fluid.

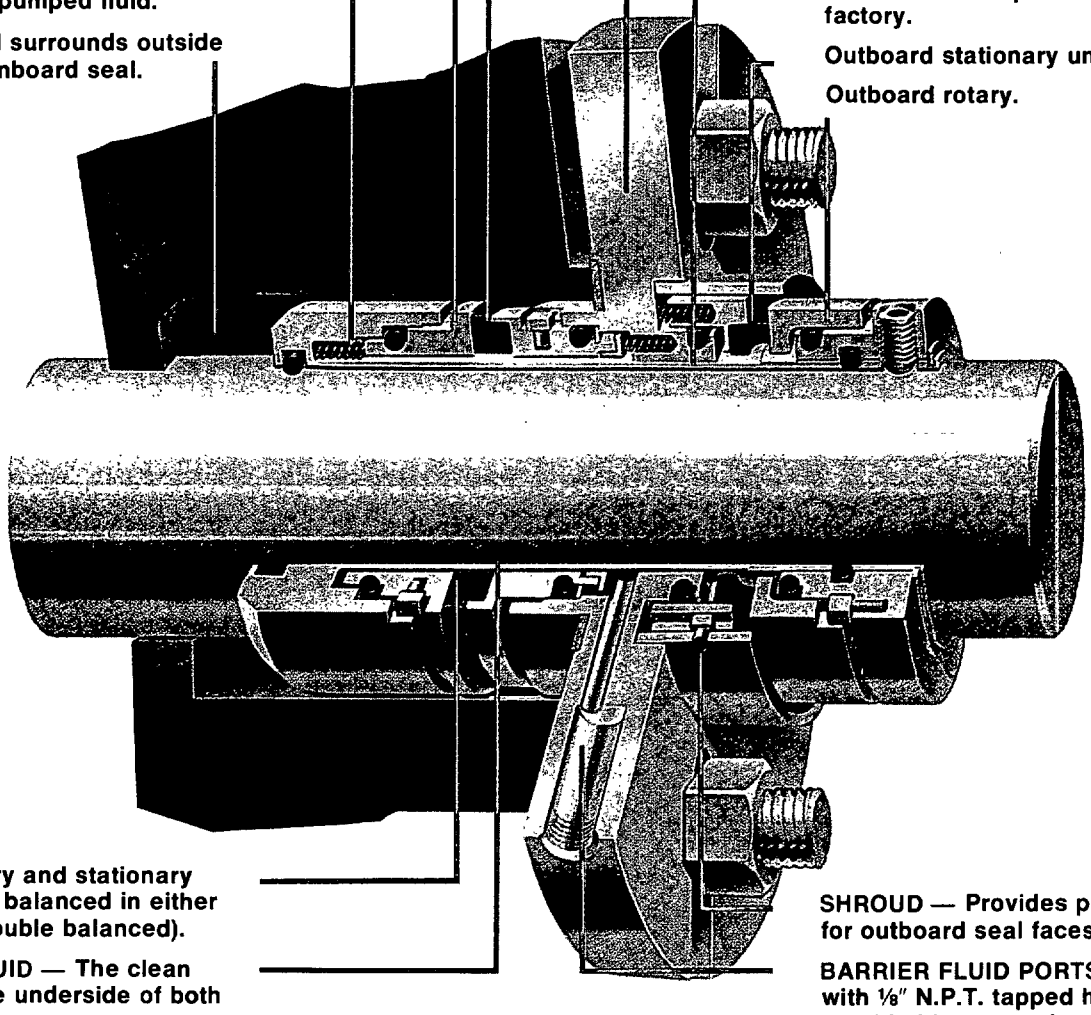
Pumped fluid surrounds outside diameter of inboard seal.

GLAND — Provided with 4 bolt slots at 90° to fit a wide variety of pumps.

SLEEVE — Seal is cartridge assembled and pre-set at the factory.

Outboard stationary unit.

Outboard rotary.



Inboard rotary and stationary hydraulically balanced in either direction. (Double balanced).

BARRIER FLUID — The clean fluid is on the underside of both seals.

SHROUD — Provides protection for outboard seal faces.

BARRIER FLUID PORTS — 3 Ports with ⅛" N.P.T. tapped holes are provided in every gland.

TECHNICAL DATA

MATERIALS

All metal parts — Type 316 stainless steel.
Set screws — 316 stainless steel.
Springs — Hastelloy C.
O-rings — Viton* and Ethylene Propylene (EPR) supplied with seal.
Rotating Face — Plated tungsten carbide.
Stationary Face — Carbon

TEMPERATURE

−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES

To 400 psig (28 kg/cm²) depending upon shaft size and RPM.

* DuPont's Registered Trademark.

MECHANICAL SEALS

CHESTERTON®

770 SEAL

OFF-THE-SHELF / FITS ALL AVS PUMPS

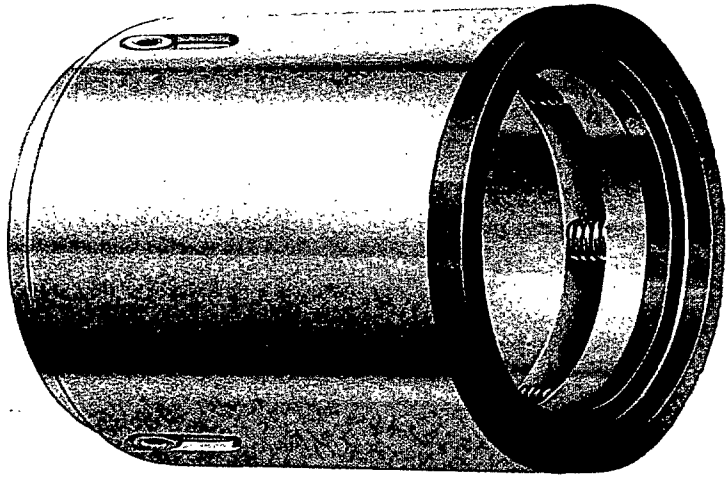
AVAILABLE WITH PATENTED SELF-ALIGNING STATIONARY UNIT)

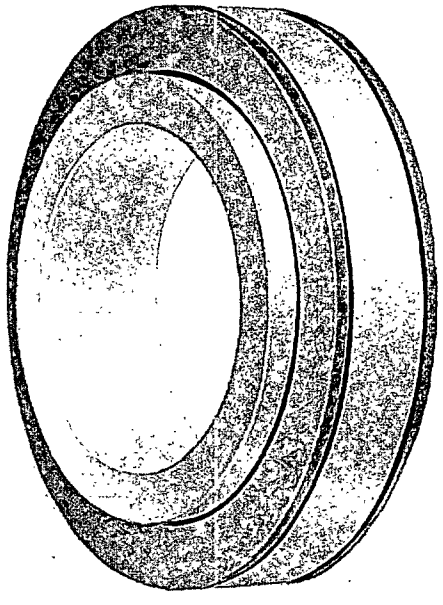
Off-the-shelf GENERAL SERVICE seal covers 90% of all pump applications.

- Interchangeable with nearly any seal or packing used in your equipment without pump or gland modification — saves costly engineering charges.
- Engineered seal advantages without incurring their cost — already done for you.
- Proper installation assured by complete packaging and standardization. All seals, regardless of size, are the same length requiring only one, simple installation dimension. Seals are self-positioning and self-adjusting.
- Internally balanced within its own parts, therefore, reducing face wear, increasing seal life, reducing pump maintenace costs.
- Will not fret shafts or sleeves — saving hidden, spare-parts maintenance costs.
- Maximum versatility of design and parts reduces inventory requirements. Decreases risk of misapplication. Saves time and money!

CHESTERTON 770 SEAL design permits maximum utilization, plant-wide. It is used for water, oils, solvents and most chemicals. It is internally balanced permitting use at pressures up to 500 psig (35 kg/cm²). This wide service range reduces your inventory requirements and decreases the risk of misapplication.

770 Seal —1972 Top Honor John C. Vaaler Award Winner

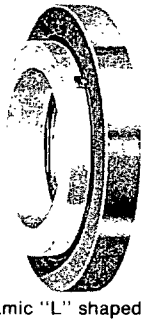




"OFF-THE-SHELF" STATIONARY UNITS FOR 880, 770, 440, SEALS

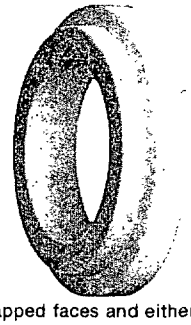
SELF-ALIGNING "L" SHAPE STATIONARY

Available in Ceramic with 316 Stainless Steel Adapter



"L" SHAPE STATIONARY

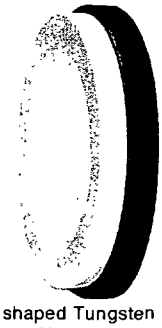
Available in Ceramic or Tungsten Carbide Plated 316 Stainless Steel



The Ceramic "L" shaped stationary has two lapped faces and either can be used.

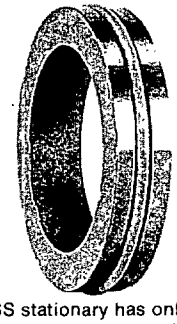
BUNA-N SQUARE MOUNT STATIONARY

Available in Ceramic



O-RING MOUNT STATIONARY

Available in Solid or Plated Tungsten Carbide

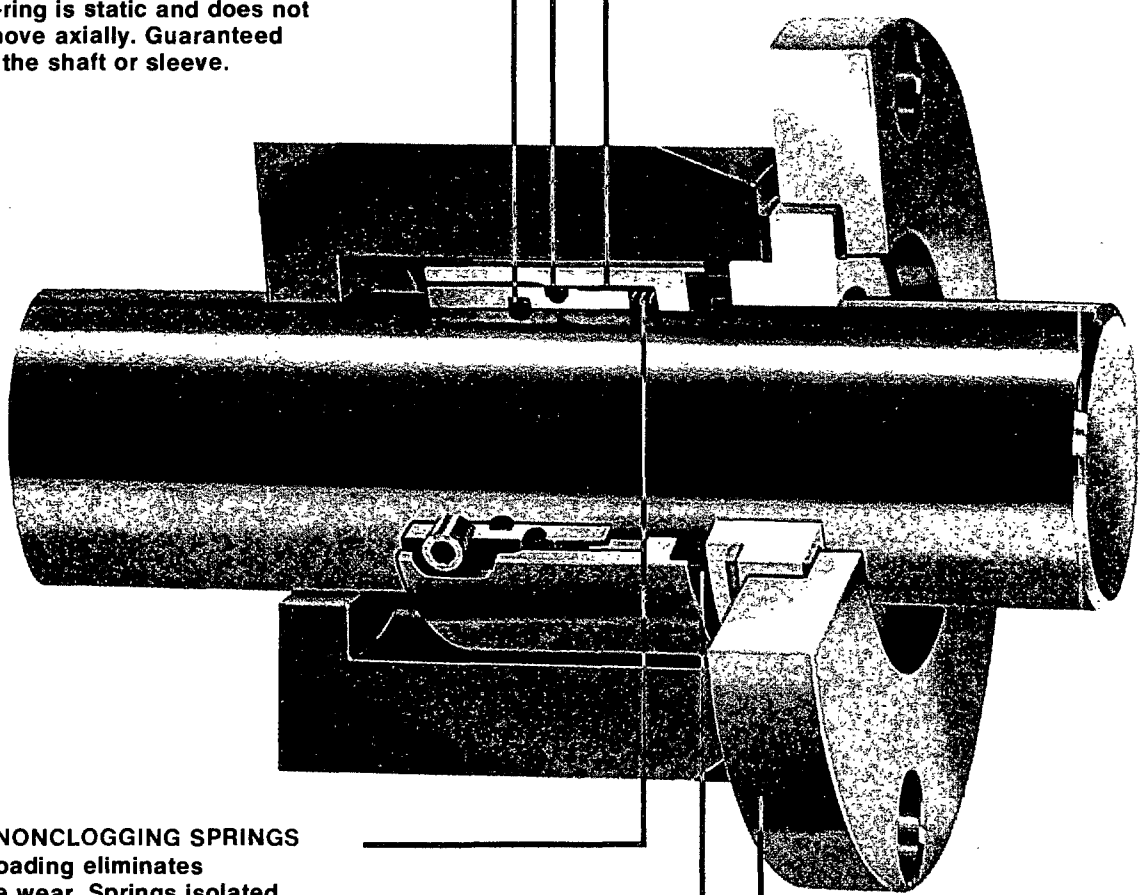


The "L" shaped Tungsten Carbide Plated/316SS stationary has only one lapped face. You must specify either A or B side (A is the smaller face — B is the larger).

PREVENTS COMMON HANG-UPS — The factory set, controlled compression on the dynamic o-ring assures optimum squeeze.

CANNOT FRET or SCORE SHAFT — The shaft o-ring is static and does not vibrate or move axially. Guaranteed not to wear the shaft or sleeve.

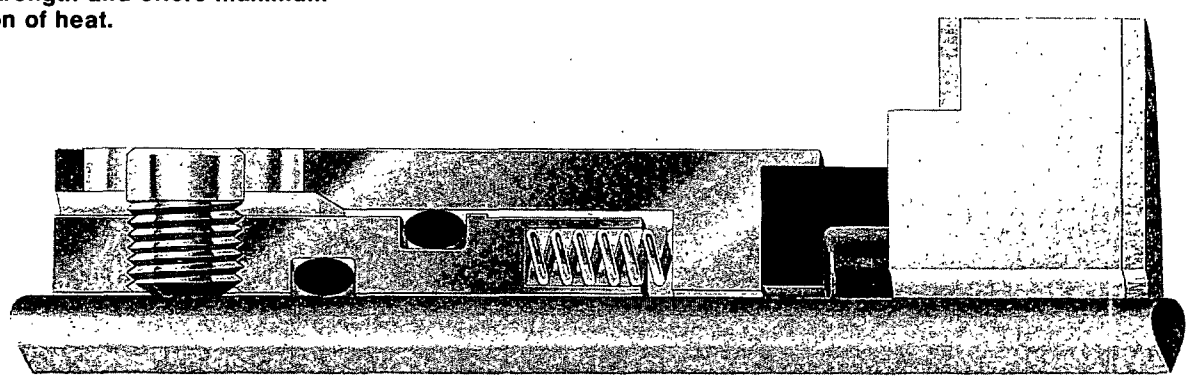
BALANCED — Seal is hydraulically balanced within its own component parts for pressures from 28″ Hg (711 mm) vacuum to 500 psig (35 kg/cm²).



MULTIPLE-NONCLOGGING SPRINGS Even face loading eliminates uneven face wear. Springs isolated from gummy or clogging fluids will stay clean and operational.

STRONGER CARBON FACE — Carbon inserted in metal holder has greater strength and offers maximum dissipation of heat.

NO SPECIAL GLAND — Use your old gland. A new gland is usually not required when converting from packings or conventional seals.



TECHNICAL DATA

MATERIALS

Sleeve and outer barrel — Type 316 stainless steel
(Some sizes available in Alloy 20)
Set screws — 316 stainless steel
Springs — Hastelloy C
O-rings — Viton* and Ethylene Propylene (EPR) Supplied with seal
Rotating Face — Carbon

TEMPERATURE

−20°F (−30°C) to 400°F (250°C) with Viton*
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES

28″ (711 mm) Hg vacuum to 500 psig (35 kg/cm²)

SIZES

The 770 seal is available in inch sizes of 5/8″, 3/4″, 7/8″, 15/16″ thru 3″ in 1/16″ increments, 3 1/8″ thru 3 3/4″ in 1/8″ increments, 4″ and 4 3/8″; and metric sizes of 20, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50 thru 100 in 5 millimeter increments, and 110 millimeters.

* DuPont's Registered Trademark

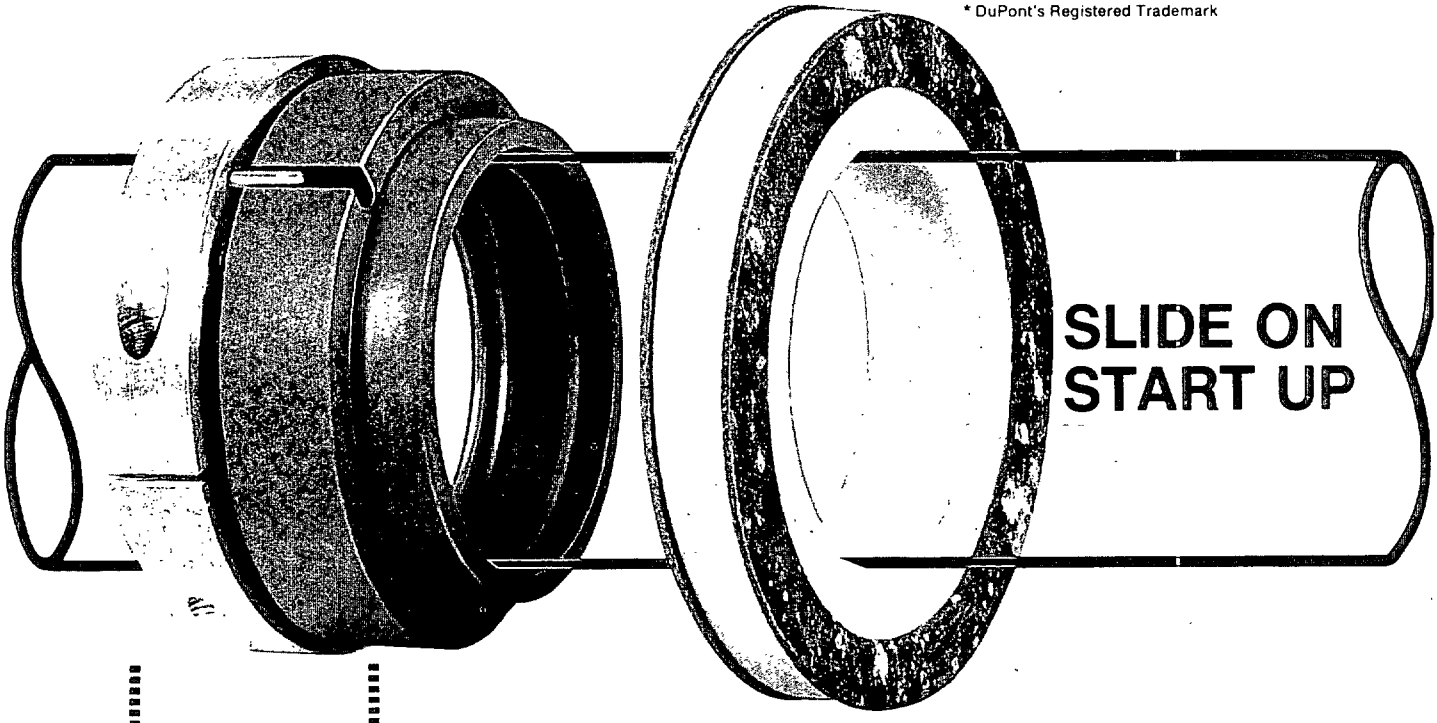


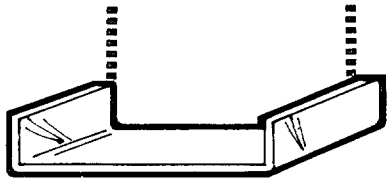
- The 440 Seal is designed for use in plastic, Teflon*, carbon, glass-lined, or exotic metal pumps where corrosive fluids readily attack the wetted parts of conventional mechanical seals. With the 440 Seal, no metal parts touch the pumped fluid. This means the seal can be manufactured less expensively than exotic seals, saving you the extra cost.
- Visual inspection of seal face wear is permitted allowing accurate judgments as to when replacement will be necessary. Helps eliminate unscheduled maintenance overhauls.
- Internally balanced within its own component parts and requires no expensive sleeves or shaft steps. Operates at stuffing box pressures up to 150 psig (11 kg/cm²) and in temperatures to 400°F (205°C).
- Will not fret shafts or sleeves — saves hidden sleeve replacement costs.

* DuPont's Registered Trademark

Use 440 Seals:

- As a low-cost replacement for seals made from exotic, expensive metals.
- To prevent damage to glass-lined pumps.
- Where an "outside" seal is required or desired.

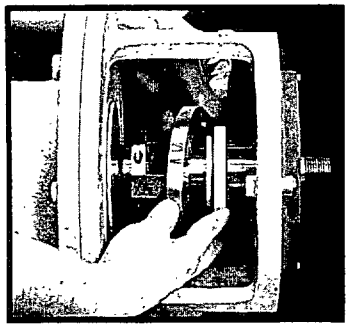




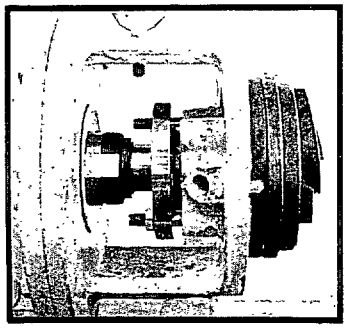
PREASSEMBLED WITH PROPER SPRING COMPRESSIONS

Just slide the preassembled CHESTERTON 440 rotary on the shaft until it mates with the stationary face; tighten the drive ring; remove the retaining clips; and the seal is ready to operate.

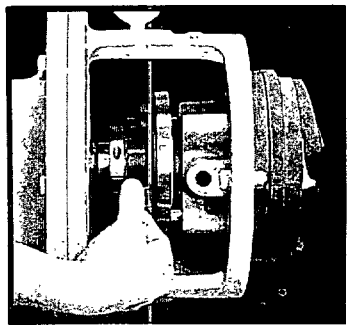
As easy to install as 1 • 2 • 3



1 Slide rotary, gland, and stationary over shaft



2 Position stationary and gland against stuffing box face. Tighten bolts finger tight, then make additional half turn with a wrench



3 Slide rotary so that it mates with the stationary, tighten the clamp, remove the clips and you're ready to start the pump (Add pump shroud over seal area)

NONSCORING — NONFRETTING — Exclusive VANWAY® O-ring combines the resilience of rubber with the chemical resistance of Teflon*. Will not wear the shaft.

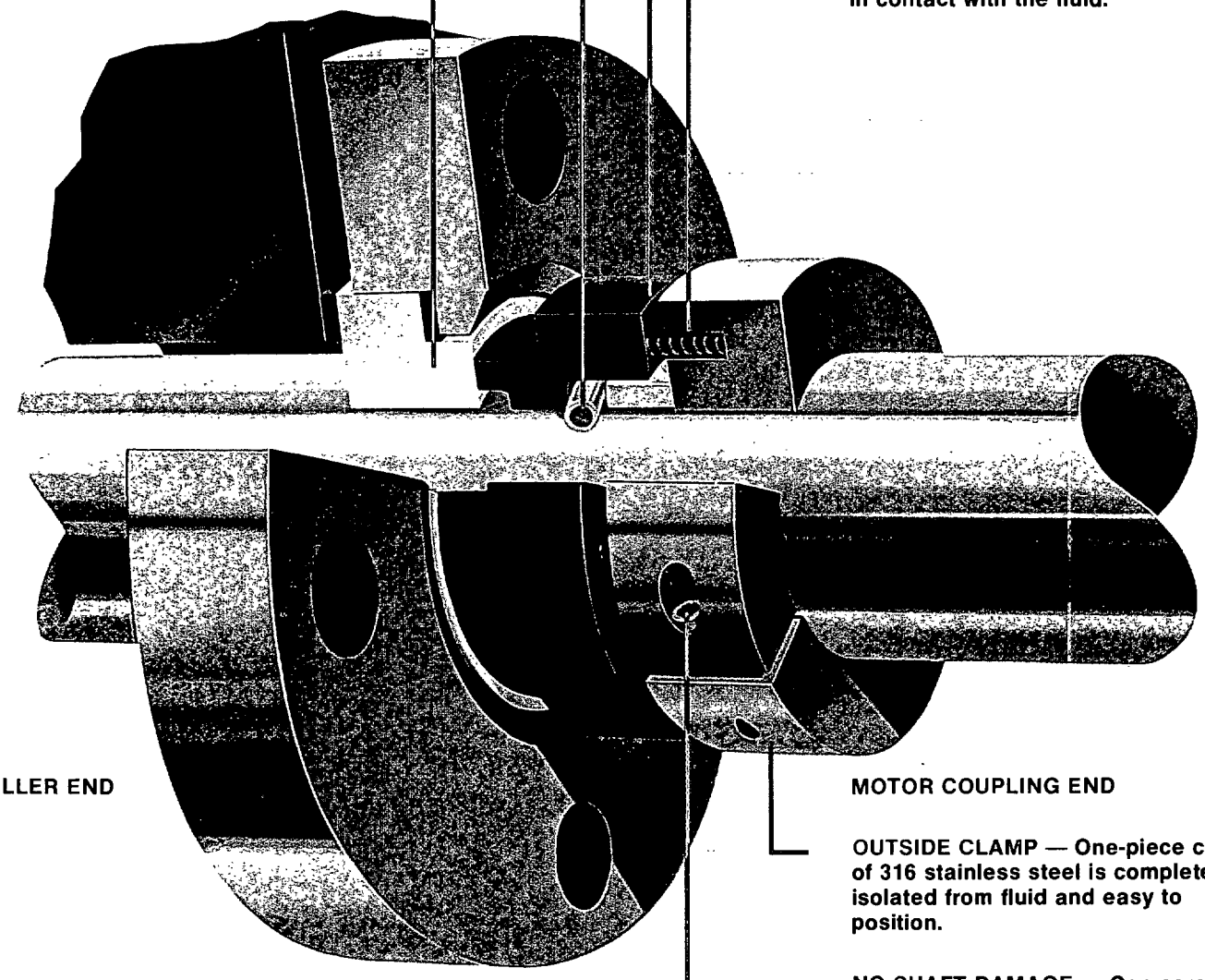
NO NEW GLAND NEEDED — Ceramic stationary is lapped on both sides so it can be reversed for installation either way. "L" shape eliminates need for special glands. Allows you to use your present gland in most cases. Either add shroud or use existing shroud over seal.

VISUAL EXAMINATION — Easily visible 1/16" (1,6 mm) spring gap assures proper installation dimension for all size seals. Permits visual examination of carbon wear.

ISOLATED SPRINGS — Multiple springs are out of fluid providing longer life and even face loading.

BALANCED DESIGN — Hydraulically balanced seal design will take pressures to 150 psig (11 kg/cm²) — temperatures to 400°F (205°C).

ISOLATED METAL — No metal comes in contact with the fluid.



IMPELLER END

MOTOR COUPLING END

OUTSIDE CLAMP — One-piece clamp of 316 stainless steel is completely isolated from fluid and easy to position.

NO SHAFT DAMAGE — Cap screw does not engage shaft. Seal can be safely used on ceramic, glass-lined or plastic pumps.

TECHNICAL DATA

MATERIALS
Drive ring — Type 316 stainless steel
Capscrew — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton*and Vanway supplied with seal
Rotating Face — Carbon

TEMPERATURE
To 400°F (205°C)

PRESSURES
28" (711 mm) Hg vacuum to 150 psig (11 kg/cm²)

SIZES
The 440 seal is available in inch sizes from 1" thru 2⅝" in ⅛" increments and metric sizes of 25, 28, 30, 32, 35, thru 65 millimeters in 5 millimeter increments.

* DuPont's Registered Trademark

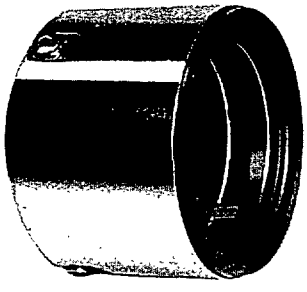
1 MECHANICAL SEALS

CHESTERTON®

1210 ENVIRONMENTAL SEAL

OFF-THE-SHELF

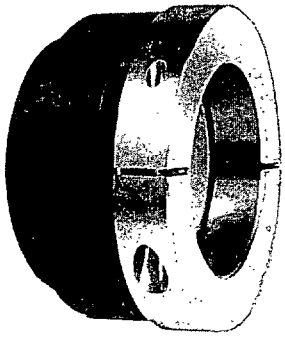
VERSATILE UNITIZED DESIGN combines CHESTERTON Environmental Stationary Unit with Rotary Units of CHESTERTON 770/ 880 and 440 Seals. Controls leakage pollution, shields product from environment or lubricates dry seal faces.



770 Rotary Unit



1210 Stationary



440 Rotary Unit

- Easier to install and lower cost than conventional double seals.
- In many cases, permits compliance with anti-pollution and safety regulations without involved conventional double sealing.
- Replaces 5/16" (8 mm) or larger packing permitting easy conversion of pumps packed or sealed to the double protection of 1210 sealing.
- Normally no expensive circulating system required to pressurize, cool or warm unit.
- Operates with barrier pressure either higher or lower than stuffing box pressure.
- Requires only one installation dimension for inboard rotary unit. Just slide on and tighten the outboard rotary unit. Remove clips. Add shroud. Start up.
- Off-the-shelf availability from your CHESTERTON distributor. No waiting for engineered conventional double seals.

*NOTE: If the pumped pressure must be prevented from escaping to atmosphere, raise the barrier fluid pressure above the stuffing box pressure by a maximum of 50 psig (3 kg/cm²).

Almost unlimited versatility at minimum cost . . .

BARRIER FLUID PRESSURE HIGHER THAN PRODUCT PRESSURE

CONTROLS HAZARDOUS FLUIDS

The CHESTERTON 1210 Design is an easily installed replacement for many conventional double seals. Without complicated gland or engineering requirements, it provides the fluid and emission control required for most applications.*

LUBRICATES DRY SEAL FACES

Where the product is nonlubricating, a lubricant can be introduced into the barrier system greatly increasing seal life.

BARRIER FLUID PRESSURE LOWER THAN PRODUCT PRESSURE

PREVENTS PRODUCT HARDENING

The simple introduction of barrier fluids, such as water or solvents, through the 1210 stationary unit prevents the intrusion of air that can cause hardening or congealing of such products as paints, adhesives, etc. at the sealing faces during shutdowns.

PREVENTS PRODUCT COOLING

Heavy fuel oil, or other products that become viscous during shut-downs, may be kept warm and thin by the simple introduction of low pressure steam into the barrier system.

OPERATES AS A STAND-BY PREINSTALLED SEAL

With the barrier pressure lower than the operating fluid pressure the primary (inboard) seal is operational and the secondary (outboard) seal "idles" in the controlled environment of the barrier fluid.

In the event of primary seal wearout, the secondary seal begins to seal the pumped fluid. Raised barrier pressure alerts the user to the changeover.

The entire unit should be replaced at the next scheduled shut-down.

TECHNICAL DATA

MATERIAL 770-880 ROTARY UNIT

Sleeve and outer barrel — Type 316 stainless steel (Some sizes available in Alloy 20)

Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton* and Ethylene Propylene (EPR)
Rotating Face — Carbon

MATERIAL 440 ROTARY UNIT

Drive ring — Type 316 stainless steel
Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton and Vanway
Rotating Face — Carbon

TEMPERATURE 770-880 ROTARY UNIT

−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

TEMPERATURE 440 ROTARY UNIT

To 400°F (250°C)

PRESSURES 440-770-880 ROTARY UNIT

Maximum stuffing box pressure not to exceed 300 psig (21 kg/cm²)
Maximum barrier fluid pressure not to exceed 150 psig (10,5 kg/cm²)

SIZES

The 1210 seal assembly is available in inch sizes from 1" thru 2⅝" in ⅛" increments, and metric sizes of 25, 28, 30, 32, 35, 40, 45, 50, 55, 60, 65 millimeters.

* DuPont's Registered Trademark

1 MECHANICAL SEALS

CHESTERTON®

500 SEAL

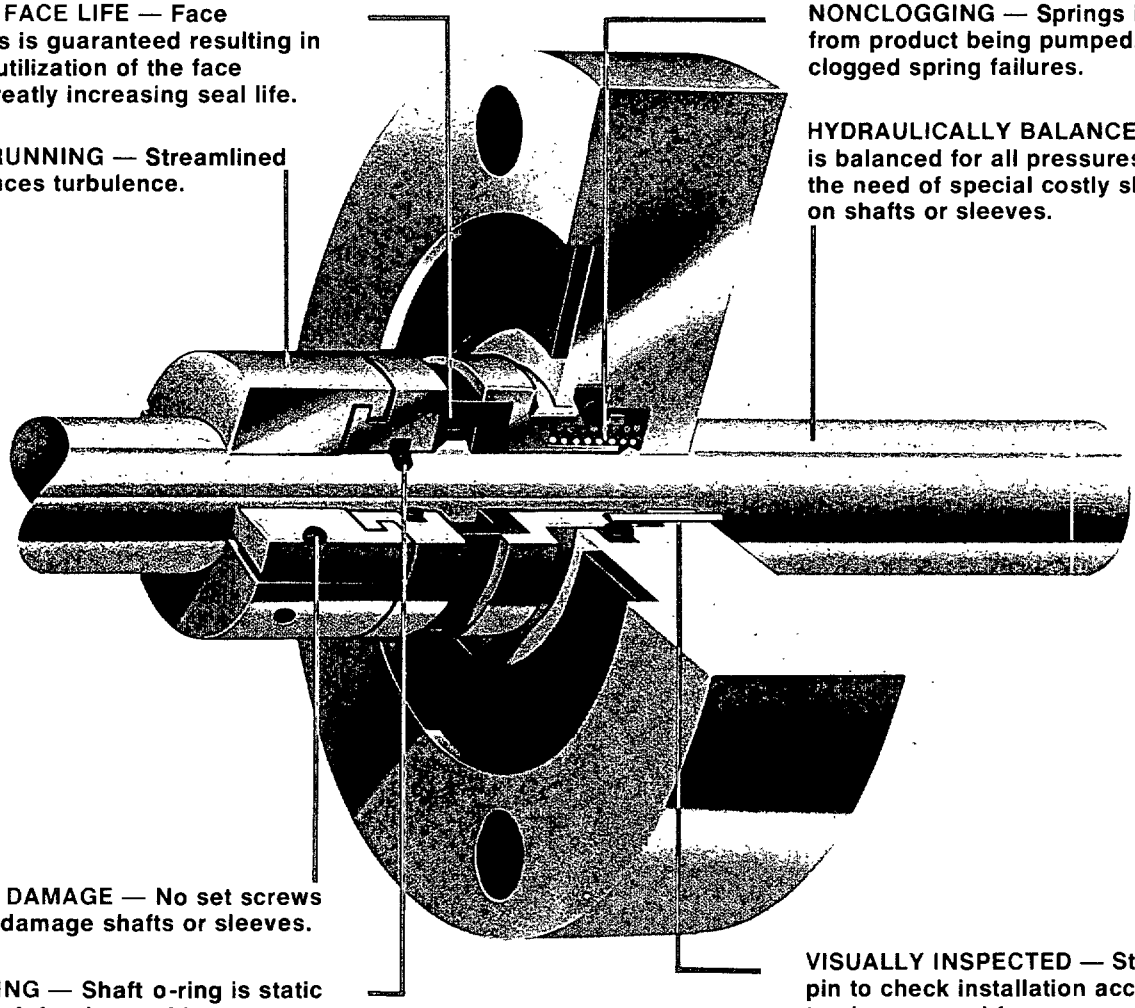
The 500 SEAL'S universal design is factory customized to suit your application on water, slurries, congealing fluids, corrosive liquids, etc. at a wide range of pressures and temperatures.

U.S. Pat. numbers 3068012, 3188095, 3184244

- Simple to install. Requires only one, non-critical measurement for rotary unit. Stationary unit mounts in gland and fastens to pump as one piece. No tinkering — no adjustments required saving maintenance time.
- Face squareness (lack of which causes fretting or grooving of the shaft) is guaranteed, eliminating the most common cause of premature seal failure.
- Repairable many times over — fits virtually all pumps.

MAXIMUM FACE LIFE — Face squareness is guaranteed resulting in maximum utilization of the face material greatly increasing seal life.

SMOOTH RUNNING — Streamlined rotary reduces turbulence.



NONCLOGGING — Springs isolated from product being pumped. Ends clogged spring failures.

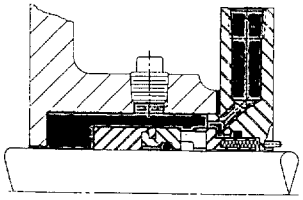
HYDRAULICALLY BALANCED — Seal is balanced for all pressures without the need of special costly shoulders on shafts or sleeves.

NO SHAFT DAMAGE — No set screws to dig and damage shafts or sleeves.

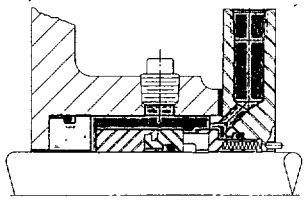
NO FRETTING — Shaft o-ring is static — ends shaft fretting problems.

VISUALLY INSPECTED — Stationary pin to check installation accuracy and to observe seal face wear.

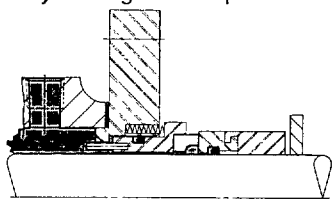
TYPICAL APPLICATIONS: Processing plants, refineries, paper mills, boiler feed water, heat transfer fluids, strong acids, and caustics, pharmaceuticals, solvents, paints, sea water, sewage, etc. No application is too complex. These diagrams represent just a few of the many arrangements possible.



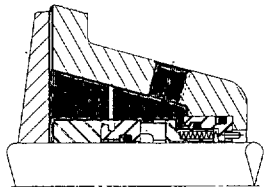
Standard inside seal



Standard inside seal with restriction bushing and independent clean liquid flush

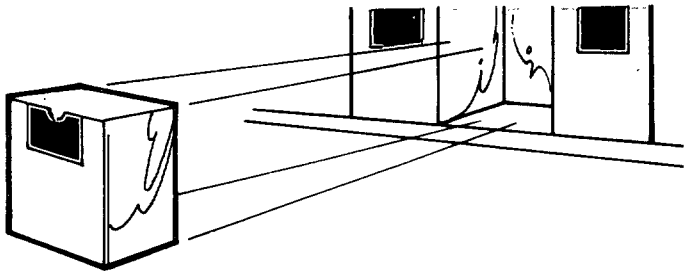


Standard outside seal (Requires Shroud)



Seal only pump

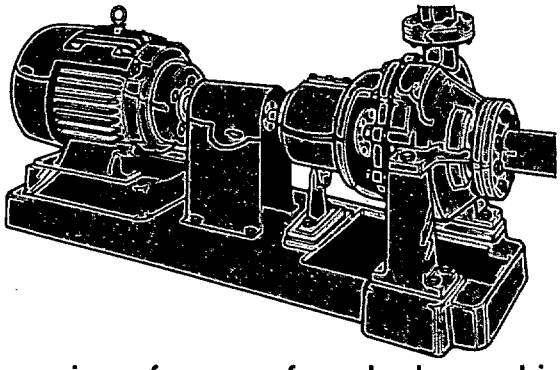
How converting to CHESTERTON® OFF-THE-SHELF 241, 440, 770, 880, or 1210 SEALS simplifies pump maintenance and reduces operating costs





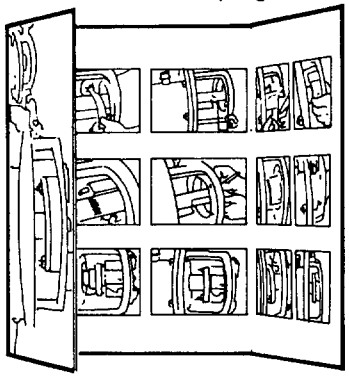
Off-the-shelf, world-wide availability eliminates waiting time . . . reduces your own inventory requirements.

CHESTERTON Distributors in over 90 countries at hundreds of locations have the CHESTERTON OFF-THE-SHELF SEALS you need, in stock. No drawings are required. No engineering is needed. Design standardization and universal materials make them fully interchangeable. CHESTERTON distributors will also exchange your used CHESTERTON OFF-THE-SHELF SEALS*for Factory Rebuilt Exchange Seals at a fraction of the cost of a new one. The exclusive CHESTERTON FACTORY EXCHANGE PROGRAM eliminates your need for spare parts or complicated, slow-performance repair facilities. LET YOUR LOCAL CHESTERTON DISTRIBUTOR CARRY YOUR SEAL INVENTORY.



Conversion of pumps from leaky packings to CHESTERTON OFF-THE-SHELF SEALS easily accomplished without pump modification or new gland.

Without engineering and using standard maintenance know-how, you can replace nearly any pump packing (or seal) with a CHESTERTON OFF-THE-SHELF SEAL and get improved performance. You will eliminate the continual leakage required for packing lubrication and the consequent product loss, pollution and housekeeping problems. You will also do away with bearing failures caused by product contamination and end those continual maintenance costs of adjusting leaky packings. As seals outlast packing many times over, you will greatly reduce maintenance costs and machinery down-time. A CHESTERTON Seal Conversion Guide, with step-by-step illustrations, makes installation easy.



No installation problems with CHESTERTON SEALS

CHESTERTON OFF-THE-SHELF SEALS are designed for the maintenance man. Each seal type has only one installation dimension throughout its entire range of sizes. No complicated prints are required. The CHESTERTON "L"-shape stationary and other CHESTERTON stationaries can usually be installed using your present gland. No step on the shaft is required for high pressures, because all CHESTERTON SEALS are internally balanced at no extra cost to you. This means their faces will run cooler and last longer than unbalanced, competitive seals. In CHESTERTON SEALS, the springs are out of the fluid, eliminating the problems of clogging, hang-up or corrosion that cause failures in conventional seals. With problem-free installations and long service life, CHESTERTON SEALS can greatly reduce your operating costs.

316SS VITON**
HIGH GRADE CARBON
99.5% AL. CERAMIC
HASTELLOY-C

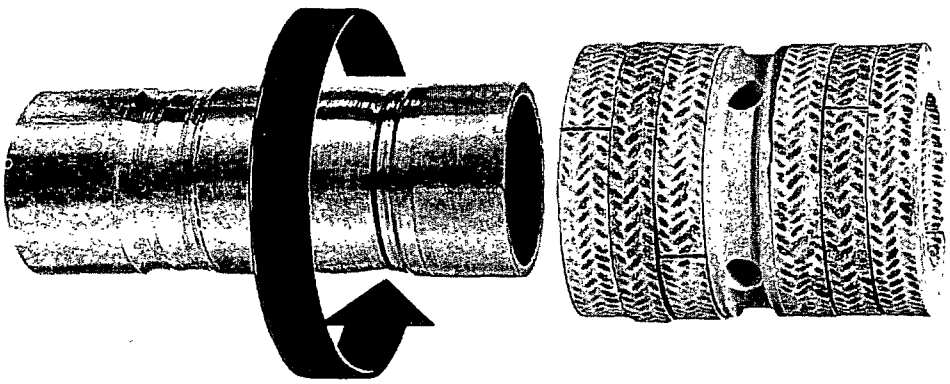
High quality, universal materials permit maximum, plant-wide utilization. . . reducing your inventory requirements.

Only 316 stainless steel or Alloy 20 metals, Viton and/or ethylene propylene o-rings, Hastelloy C springs, high-grade carbon rotary faces and 99.5% Alumina ceramic or tungsten carbide stationary faces are used in the manufacture of CHESTERTON SEALS. You can increase the flexibility of your inventory and reduce risk of mis-applications.

*Applicable to CHESTERTON TYPE 241, 440, 770, 880, and 1210 Seals.
** DuPont's Registered Trademark

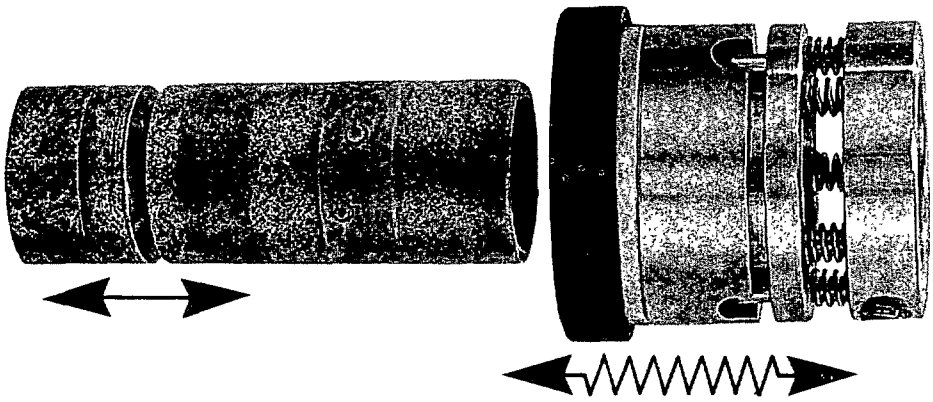
Why replace worn shafts or sleeves?

CHESTERTON® SEALS are guaranteed NOT to wear shafts or sleeves.



NO ROTATIONAL WEAR
(Scoring by Packings)

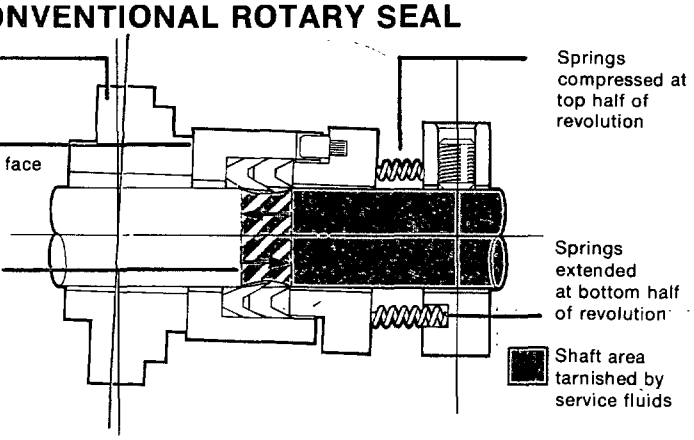
Pump packings must squeeze the shaft or sleeve to control leakage. Each time the gland nuts are tightened lubricants are forced out of the packing leaving materials like raw asbestos to cause rapid wear and galling of pump shafts. Unlike packings, the portions of CHESTERTON SEALS in contact with the shaft, rotate with the shaft. There is no frictional wear. Shafts or sleeve may be used over and over again, drastically reducing replacement maintenance costs.



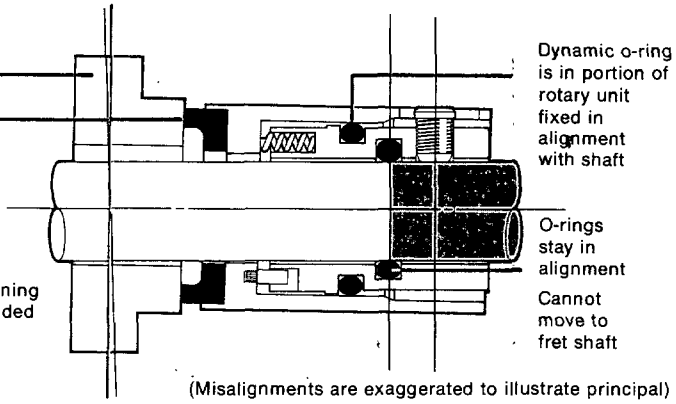
NO VIBRATIONAL WEAR
(Fretting by Conventional Seals)

Conventional seals control leakage along the shaft or sleeve with a secondary sealing device (v-ring, o-ring, u-cup or wedge). These materials vibrate and wear a groove into the shaft or sleeve. CHESTERTON SEALS control leakage along the shaft with a non-moving, static o-ring guaranteed not to groove the shaft or sleeve. The reasons for wearing vs. nonwearing seals are explained in the two simplified diagrams shown below.

TYPICAL CONVENTIONAL ROTARY SEAL



TYPICAL CHESTERTON (770) SEAL



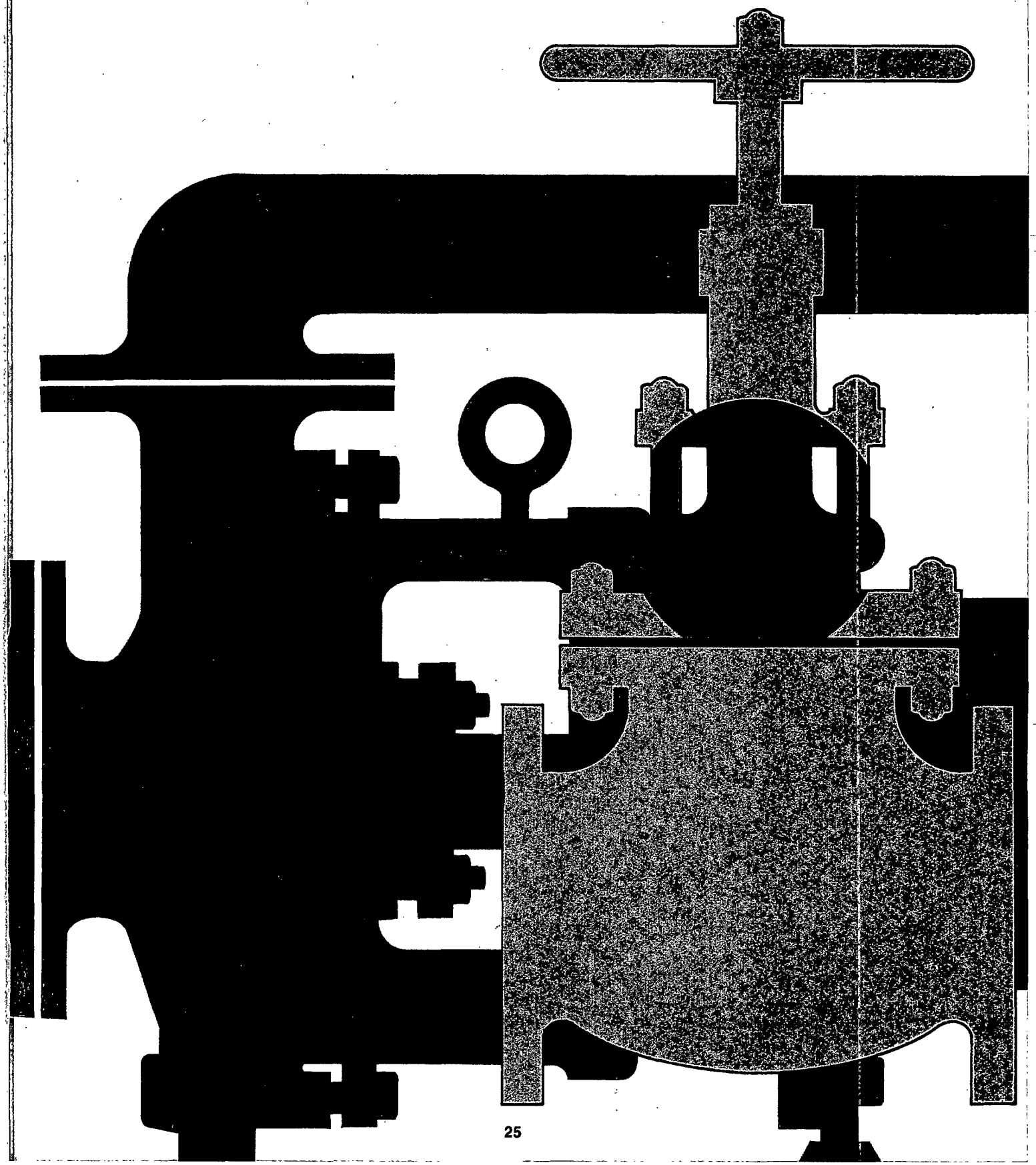
(Misalignments are exaggerated to illustrate principal)

WHY CONVENTIONAL SEALS FRET SHAFTS

In most seals, vibration, shaft end play, and/or misalignment of the seal faces cause the dynamic shaft secondary sealing devices to slide back or forth over the shaft with each half revolution. This wearing motion causes grooves to be worn into the shaft or sleeve. As this area of the shaft is exposed to the service fluid, any metal, including stainless steel, will oxidize and become tarnished. The movement of the secondary sealing device over this area wears off the protective oxide coating and exposes more bare metal to the fluid. The repeated action continually removes metal in the fretted area as the tarnish acts as an abrasive between the secondary sealing device and the shaft. (The effect is similar to polishing silverplate tablewear until it is worn through.) With CHESTERTON SEALS, this does not occur. No damage will be done to the shaft or sleeve. This is guaranteed!

CHESTERTON®

MECHANICAL PACKINGS



HOW TO START UP

1 The purpose of a jam packing is to control leakage, not to prevent it. Packings must leak to perform properly, otherwise they will burn up. "Teflon*" Packings are especially sensitive in this respect.

2 Permit *generous* initial leakage. Gradually take up gland nuts 1/12 turn (1/2 flat in hex nuts) at a time. WATCH temperature. Never permit heat to develop, back off gland if it does. As leakage levels off, tighten follower at 15 minute intervals until leakage is controlled, provided no excess heat is developed. Most packing on a 1" (25,4 mm) shaft can control leakage in a range of from 5 to 20 drops per minute. A 2"(50,8 mm) shaft should be allowed to leak twice as much. "Teflon" fiber packings (Styles 324, 328, 1724) must be permitted to leak at least 30 drops per minute, on a 1" (25,4 mm) shaft, and to observe recommended peripheral speed limitations as outlined elsewhere in the catalog.

3 Provide for lubrication, particularly when pumping non-lubricating liquids and gases (ammonia, freon, light hydrocarbons, solvents, creosote, very hot water). Whenever flushing through the lantern ring, a clean liquid having lubricating value should be used.

PACKING ABRASIVE LIQUIDS

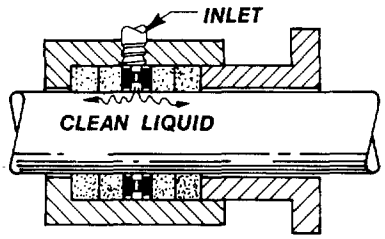
As used here "abrasives" is a broad term intended to cover the problem of packing against slurries, congealing liquids, crystallizing salts and the like. They cause the greatest damage to equipment, and present difficulties for packings. In general, the cure involves flushes, purges, and temperature controls. It also calls for hardened steel shafts, or hard facings such as Stellite, Colmonoy, Chrome, Ceramic, and Tungsten Carbide.

In ordinary conditions where a lantern is used, internal lubrication is usually supplied from the pump discharge pressure by means of a by-pass line; but when pumping slurries and "abrasives" an *external* source of clear or otherwise suitable liquid must be force fed at a pressure higher than that existing in the stuffing box. This differential pressure is in the area of 10–25 psi (1–2 kg/cm²). The problem takes various forms:

Suspended Solids

Solids which are suspended in liquids and which are an inherent part of their structure would include starch, contaminated or muddy water, sand, and other slurries. This is best handled by an external flush of clear liquid through a lantern as shown in fig. 4.

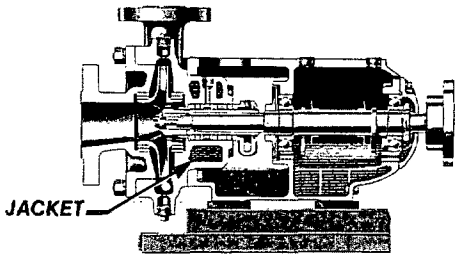
FIG. 4



Precipitating Liquids

Solids which precipitate out of a liquid do so by reason of either an increase in concentration, or because of a lowering (or in some cases a raising) of temperature beyond that at which it is proper to operate. Illustrations are caustic soda and calcium hydroxide. With ammonium nitrate, for example, temperature must be controlled at an optimum level in relation to its concentration. If the temperature rises above the optimum, it will boil and form crystals, and conversely if temperature drops, it will become saturated and salt out.

FIG. 5



Evaporating Liquids

Solids can form as a result of heat which promotes evaporation. Examples include any of the hot chemical salts — the chlorides, chlorates, sulfates, sulfides. Cool by flushing (fig. 4) or by utilizing water jackets (fig. 5).

Congealing Liquids

Generally speaking, these liquids congeal either because of a drop in temperature, or as a result of drying out after exposure to air. Sugar syrups fall into both categories. A good rule is to keep the fluid moving before congealing can take place. Control with heat and/or by flush or purge.

(a) Asphalt is a typical case of a liquid which congeals as it cools, and this can be controlled by heat as in fig. 5. Some sugar syrups come under this category. Be sure to heat thoroughly before starting pump, also during operation, and after shutdown if followed by a purge.

(b) Some products harden to a solid state when exposed to air. Glue, molasses, paint, sugars are examples. An effective flush is a *gland* flush. This will keep out the air. Note that this type of flush does not enter the product, but only mixes with the product leakage. See fig. 6. It may also be desirable to flush through a lantern with a non-hardening liquid from an external source; or with a purge utilizing a solvent of the liquid being pumped.

* DuPont's registered trademark.

CHESTERTON® SEAL OF CONFIDENCE TAKES THE GAMBLE OUT OF RESEALING PUMPS



Exclusive CHESTERTON Warranty Program

If a new CHESTERTON SEAL* fails for any reason within 90 days of installation, a replacement seal* will be provided at half the price of a factory rebuilt seal. Ask your CHESTERTON Distributor for written warranty. If a properly installed CHESTERTON SEAL* scores a shaft or sleeve a replacement seal will be furnished without charge.

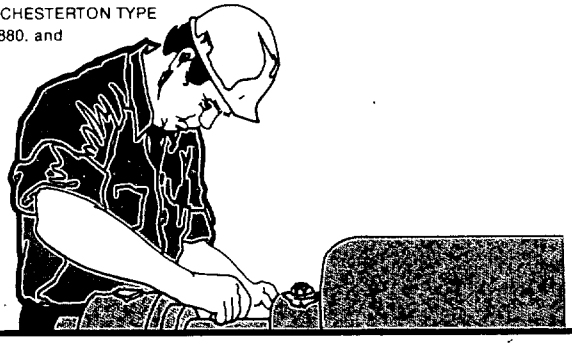
*Applicable to CHESTERTON TYPE 440, 770, 880, and 1210 Seals.

Exclusive CHESTERTON Factory Exchange Program

When it comes time to replace your CHESTERTON SEAL**you can return it to your local CHESTERTON Distributor, who replaces it with a GENUINE FACTORY REBUILT SEAL directly "off-the-shelf." You don't have to wait for repairs. Regardless of the condition of the seal which you return, there is one low replacement charge per seal size. All replacement seals contain the following new parts: (a) rotating face; (b) Vanway®, Viton***,or Ethylene Propylene o-rings; (c) Hastelloy springs, and (d) 316SS or Alloy 20 drive/set screws.

** Applicable to CHESTERTON TYPE 241, 440, 770, 880, and 1210 Seals

***DuPont's Registered Trade Mark



Exclusive CHESTERTON Plant Standardization Program

This program is designed to drastically reduce plant inventories of seals, eliminate seal parts inventories and end waiting for engineered seals. It is exclusive with CHESTERTON only because:

- CHESTERTON SEAL installations are interchangeable with most other seals and packings without pump modification. Installation is simple and prints are not needed.
- CHESTERTON SEALS are **all balanced seals.** Without balancing restrictions such as stepped sleeves or shafts, they can be utilized plant-wide.
- A single size of CHESTERTON SEAL fits all pumps of the same shaft size.
- CHESTERTON SEALS will not fret or damage shafts or sleeves in any application.
- CHESTERTON SEALS are available off-the-shelf, around the world.

Use your local CHESTERTON DISTRIBUTOR'S inventory to save your capital and shelf space. Ask him about a Seal Standardization Program for your plant.

FOLLOW THESE CHESTERTON® PROCEDURES FOR LONGER PACKING SERVICE:

HOW TO PACK A CENTRIFUGAL PUMP

Preliminary

1 For a true evaluation of packing, the equipment must be in first class condition. Sleeve, bearings, and stuffing box should be in good order if true results of packing are to be obtained. A new shaft sleeve can mean the difference between success or failure. Check shaft for rotation — whip or run out in excess of .003 is unacceptable; Use dial indicator to check same. End-play is less important (unless shaft is grooved). Replace bent shafts.

2 Condition of the stuffing box is more important than generally realized. If it is rough, it should be reworked,because it is nearly impossible to seal the O.D.*of the ring where there are rust holes or pitting. Gland take-up would then result in distortion of the rings and over compression of the packing on the shaft with resultant burn out. If gland and/or box is bevelled, it is recommended that they be faced off and bevels removed. One further point: — a throat bushing corrects for excess clearance in the bottom of box (fig. 1). Packing must not extrude in this area.

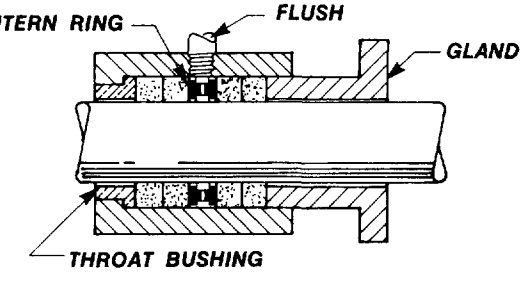


FIG. 1

3 Check to see if lantern ring is required (fig. 1). After allowing for movement of the packing as a result of gland take-up, lantern must be located directly in line with flush connection, otherwise flush may fail. Lanterns are used where the suction pressure is below atmospheric pressure and are supplied through a piping arrangement from the pump discharge pressure. Where slurries or congealing liquids are involved an independent clean liquid flush should be employed. Clean liquid flush pressure should be 10–25 psi (1–2 kg/cm²) greater than maximum stuffing box pressure.

4 Be sure to check packing for correct *size* and for proper *type* for the application. Improper selection will result in poor service life. Check front of catalog, or with CHESTERTON, or with your CHESTERTON Distributor for proper packing selection.

HOW TO CUT RINGS

1 Make butt joint rings. The preferred way is to wind the desired number of rings on a mandrel the same diameter as the shaft (fig. 2) and cut rings by making a straight cut along the mandrel as shown.

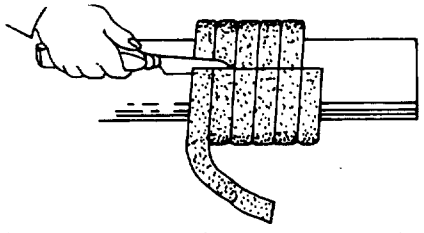


FIG. 2

2 When removing rings from mandrel slip them off *without* opening the rings. This is especially important for metallic types such as STYLES 555 and 666. Do not open with a hinge-like action. Just slip them off unopened.

HOW TO PACK

1 Remove old rings. Coat rings to be installed with CHESTERTON PACKING LUBRICANT to assist installation and to help establish a proper initial break-in and seal. Check position of lantern. Fig. 1 shows properly packed box with lantern and throat bushing.

2 Install rings over the shaft by twisting open as in fig. 3. This is especially important for metallic rings such as STYLES 555 or 666. *Never* open rings with hinge-like action.

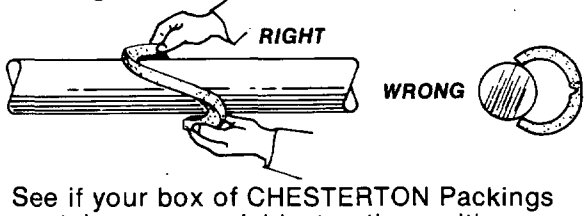


FIG. 3

3 See if your box of CHESTERTON Packings contains any special instructions with respect to that Style. Insert rings one at a time lubricated with CHESTERTON PACKING LUBRICANT with joints staggered 90° apart. Seat each ring individually, compressing in place with a tamping tool or by using a split hollow cylinder. Turn shaft occasionally to assist seating. Unless bottom rings are each properly seated, the gland follower will not be able to tighten the packing set, as it will leave the front rings (gland end) too tight in the box. CHESTERTON PACKING LUBRICANT helps eliminate this problem. Bear in mind that, except for abrasives, 70% of the wear normally takes place on the front two packing rings nearest the gland. Furthermore, proper seating and lubrication with CHESTERTON PACKING LUBRICANT tends to spread the wear more evenly over the entire set of rings. Adjust gland finger tight only. Especially STYLES ONE, 200, 320, 322, 326, 328, 329, 375, 1722.

* O.D. = Outside Diameter

FOLLOW THESE CHESTERTON® PROCEDURES FOR LONGER PACKING SERVICE:

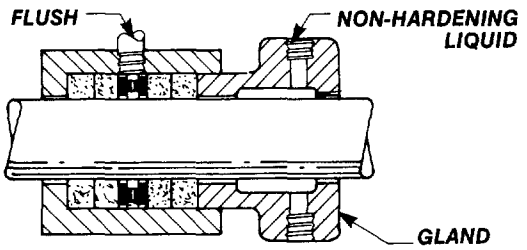


FIG. 6

WHAT PACKINGS TO USE

For slurries and abrasive liquids, the mechanical design situation may or may not be in accordance with our recommendations as described above.

(a) **Favorable** Design and Layout: —
It is assumed that lantern, flush, etc. are available, and that shaft is hardened. Install two rings of STYLE 555 in the bottom of box below lantern (except where a ring of greater chemical resistance is required). These serve as restrictive bushings which limit product dilution, build flush pressure, minimize absorption of product, and keep lantern in proper alignment with flush hole. Balance of Packing should be of the soft variety, having lubricity, and chosen with an eye toward non-absorption and/or chemical resistance (if required). Consider especially STYLES ONE, 200, 320, 322, 326, 328, 370, 375, 1722.

(b) **Unfavorable** Layout: —
Here we have a situation handling slurries and abrasive liquids, and there is no lantern or proper flush. The shaft may be soft. Whether to use only "soft packings" in the styles suggested in (a) or whether to use these soft packings in combination with STYLE 555 will possibly be subject to your own tests and evaluations. Conditions and results can vary. Reports from the field, however, continue to find supporting evidence that STYLE 555 can and should be used as bottom or alternating rings on abrasive materials (cement, asphalt and slurries) without lantern ring, and it should be noted that these rings are invariably "die-formed". Note that maximum service can only be obtained, however, where the mechanical design is favorable in all respects. There are definite limits to what can be expected of Packings where auxiliary implementation is absent.

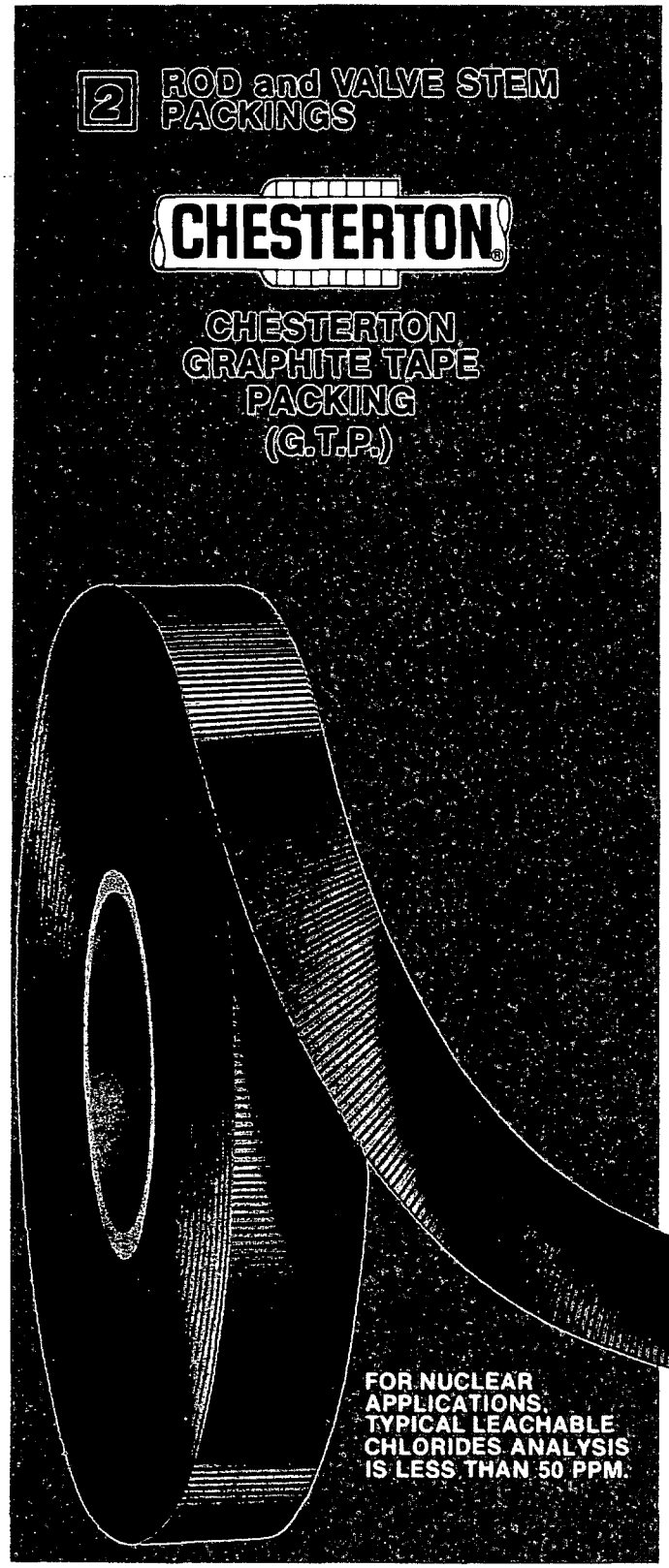
MECHANICAL SEALS

CHESTERTON MECHANICAL SEALS are being used with outstanding success on thousands of varied applications including all the difficult categories outlined above. Write us or consult your CHESTERTON DISTRIBUTOR for information.

HERE ARE SOME CAUSES OF SHAFT PACKING FAILURES

A used or worn set of packing can be of value as it often indicates cause of premature packing failure. Examine same carefully. The following tabulation should be helpful in tracking down packing troubles.

INDICATION	SUGGESTION
No leakage at start up.	Back off gland to encourage generous leakage. If negative suction, install lantern and connect to discharge.
Excessive leakage at start up.	Check for correct packing size. Were rings installed correctly in accordance with instructions given in this section of catalog? Check pump for run-out.
Packing rings flattened out on I.D. under the rod or shaft.	Check bearings. Packing probably supporting the shaft weight.
Packing rings flattened out above rod or shaft, or on either side of same.	Check alignment of shaft. Worn bearings may be causing whip or run-out.
Distinct bulge on side of ring.	Probably too wide a gap on adjacent ring — rings cut too short.
Sides of rings shiny or worn.	Rings may be too loose and are rotating with the shaft.
Rings extruding past gland follower.	Too much clearance between O.D. of shaft and I.D. of follower. Apply bushing. May also be excessive gland pressure.
Top or gland end rings in poor condition, bottom rings O.K.	Set improperly installed. See instructions in catalog.
Rings disappear in set.	Packing entering the system. Install bottom bushing.
Packing is torn.	Check sleeve for burrs. Are there any abrasives? See instructions in catalog for corrective measures.
Rings are burned, faces dried and charred.	Check for proper size packing. Is packing the correct selection with respect to heat limitations and/or peripheral speed? Check lubrication. Are there any abrasives?
Packing hardens.	See "burned rings" above. Are there congealing liquids involved?
Packing softens.	Check for poper style selection, also for lubrication.
Excessive loss of lubricant.	Excessive gland pressure. Check for packing selection, temperature, whip in shaft.
Unexplained leakage.	Shaft sleeve may be leaking. Replace sleeve seal under sleeve.
Packing freezes to shaft after shutdown.	Liquid salting out or congealing in packing set. Provide lubrication and heating or cooling to packing before shutdown.



- 100% high-purity graphite — less than 0.2% ash.
- Self-lubricating — no fillers, binders, resins.
- Flexible and resilient — faster break in and fewer adjustments needed.
- High heat conduction — makes shaft run cooler for longer life.
- Withstands temperature from −400°F (−240°C) to +800°F (430°C) in air —Can be used for hot oils, gases, heat exchanger fluids.
- Withstands temperature to +5000°F (2760°C) in non-oxidizing areas. Can be used for superheated steam, high-temperature gases.
- Low friction — for any shaft speed.
- Corrosion resistant — will not break down or deteriorate yielding extra long life.
- Convenient roll package — faster, easier to use.
- Four sizes can fit all stuffing boxes — reduce inventory.
- Chemically resistant* — standardize for all pumps and valves — reduces inventory.
- Meets MIL-P-24503 (Ships)

* Consult Factory



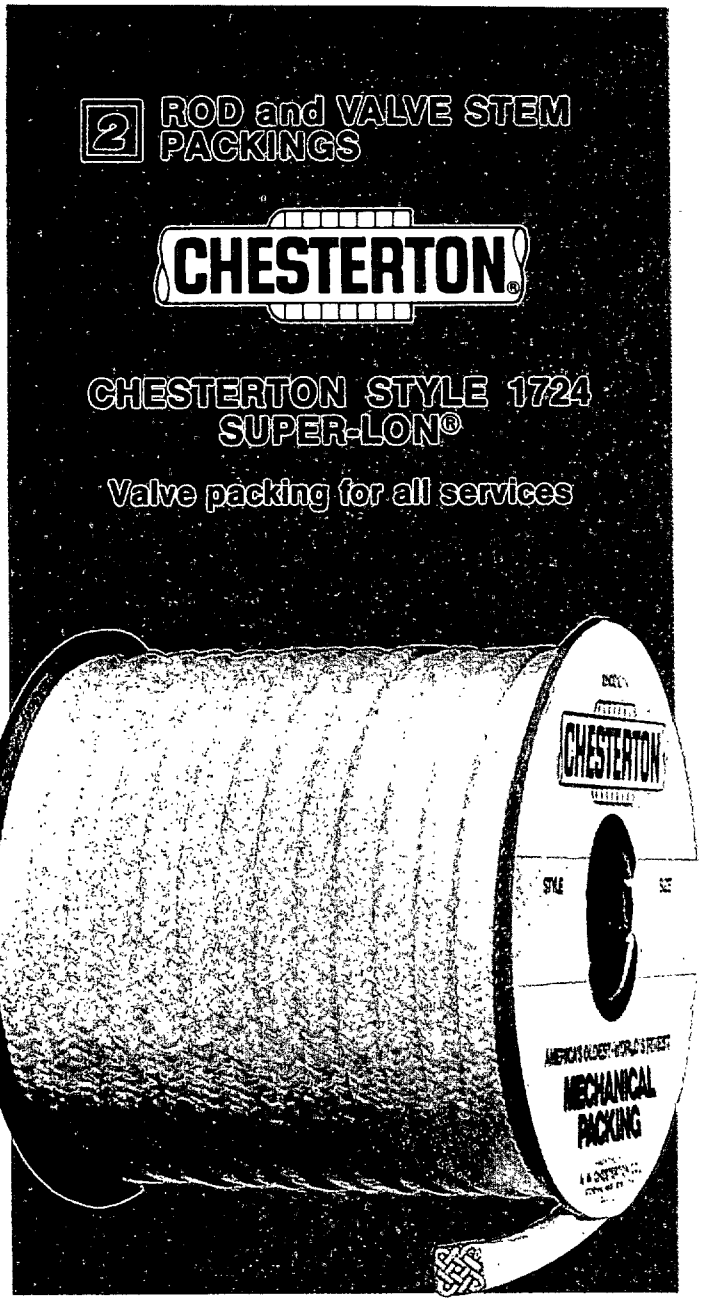
Covers all size installations

6 PACK KIT is your complete packing inventory!

PRODUCT REORDER NO.		QUANTITY
5205	GRAPHITE TAPE PACKING KIT	1 (6 SPOOLS)
	CONTAINS: SPOOL SIZES	
5201	¼" × 25' × .015" 6,4 mm × 7,6 M × 0,4 mm	1
5202	½" × 25' × .015" 13 mm × 7,6 M × 0,4 mm	1
5203	¾" × 50' × .015" 19 mm × 15,2 M × 0,4 mm	1
5204	1" × 50' × .015" 25 mm × 15,2 M × 0,4 mm	3
5206	GRAPHITE TAPE MASTER CARTON	1 (6 KITS)

SERVICE

Pumps and valves for all fluids, chemicals, and gases to 5000°F (2760°C). For H.P. steam valves use die formed G.T.P. valve packing sets.



SERVICE

General valves, control valves, reciprocating rods, low-speed centrifugal shafts against the strongest chemicals, steam, and solvents to 500°F. (260°C.).

STYLE 1724 SUPER-LON® is manufactured from pure Teflon* fibers in interbraid construction, resulting in an almost perfectly square packing having increased sealing contact at reduced gland pressures. With our new technology in the continuous lubrication of yarns, the Teflon* suspensoid lubricant is accurately controlled and evenly dispersed so that compressibility and recovery factors, together with density are enhanced. STYLE 1724 will withstand all chemicals and other services to 500°F. (260°C.), because the Teflon fibers and lubricant are immune to chemical attack, and the Teflon lubricant will not migrate or boil out from the packing.

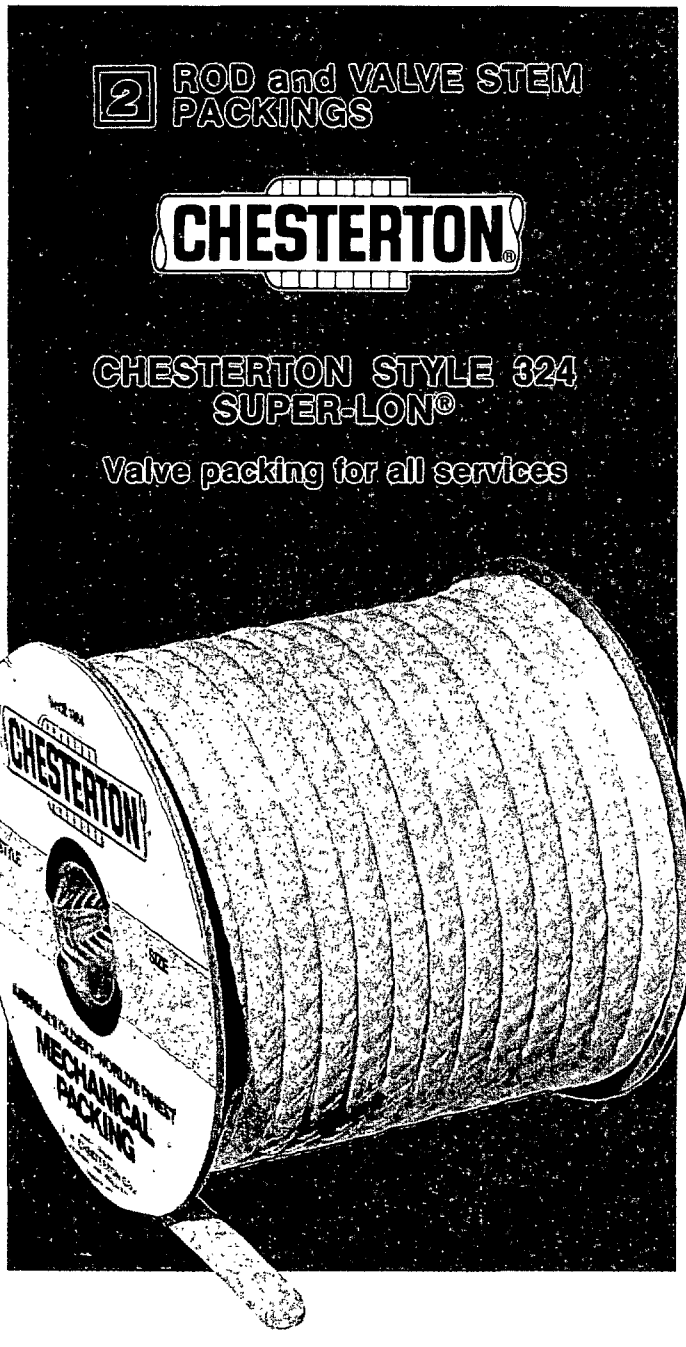
* DuPont's registered trademark.

STYLE 1724 SUPER-LON may be used on all valves, rods, centrifugal shafts, mixers and agitators. Its only limitations are that it should not be used above 600 feet/minute (3M/sec.), or on molten alkali metals. STYLE 1724 possesses unusual toughness in that its tensile strength is 50,000 psi (3,520 kg/cm²). For this reason, it may be used in applications approaching 4,000 psig (285 kg/cm²) in valve service.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8[1]	3,2	2	0,908	3260	72.40	48,64
	4,0[1]	2	0,908	3261	50.50	33,93
3/16[1]	4,8	2	0,908	3262	31.10	20,89
	6,0	2 5	0,908 2,270	3263 3272	21.50 21.50	14,45 14,45
1/4	6,4	2 5	0,908 2,270	3264 3273	18.60 18.60	12,16 12,16
5/16	8,0	2 5	0,908 2,270	3265 3274	11.73 11.73	7,79 7,79
3/8	9,5	2 5 10	0,908 2,270 4,540	3266 3275 3281	8.27 8.27 8.27	5,60 5,60 5,60
	10,0	2 5	0,908 2,270	3267 3276	7.50 7.50	5,04 5,04
7/16	11,1	2 5	0,908 2,270	3268 3277	6.80 6.80	4,50 4,50
	12,0	2 5 10	0,908 2,270 4,540	3269 3278 3282	6.10 6.10 6.10	4,10 4,10 4,10
1/2	12,7	2 5 10	0,908 2,270 4,540	3270 3279 3283	4.91 4.91 4.91	3,29 3,29 3,29
9/16	14,3	5 10	2,270 4,540	3280 3284	4.07 4.07	2,88 2,88
5/8	15,9	10	4,540	3285	2.78	2,15
11/16	17,5	10	4,540	3286	2.90	1,95
3/4	19,1	10	4,540	3287	2.35	1,54
13/16	20,6	10	4,540	3288	2.10	1,41
7/8	22,2	10	4,540	3289	1.83	1,20
15/16	23,8	10	4,540	3293	1.48	0,99
1	25,4	10	4,540	3294	1.40	0,94

[1]Construction differs slightly in these sizes.



grate or boil off, resulting in a packing which may be employed on all chemical services, steam, and solvents up to 500°F. (260°C.), to give longer service life than conventional packings.

STYLE 324 SUPER-LON should be used where a softer, more compressible packing is desired than Style 1724. It may be used on valves, rods, centrifugal shafts, mixers and agitators. Its only limitations are that it should not be used above 600 feet/minute (3 M/sec.), or on molten alkali metals.

STYLE 324 possesses unusual toughness in that its tensile strength is 50,000 psi (3,520 kg/cm²). For this reason, it may be used in applications approaching 4,000 psig (285 kg/cm²) in valve service.

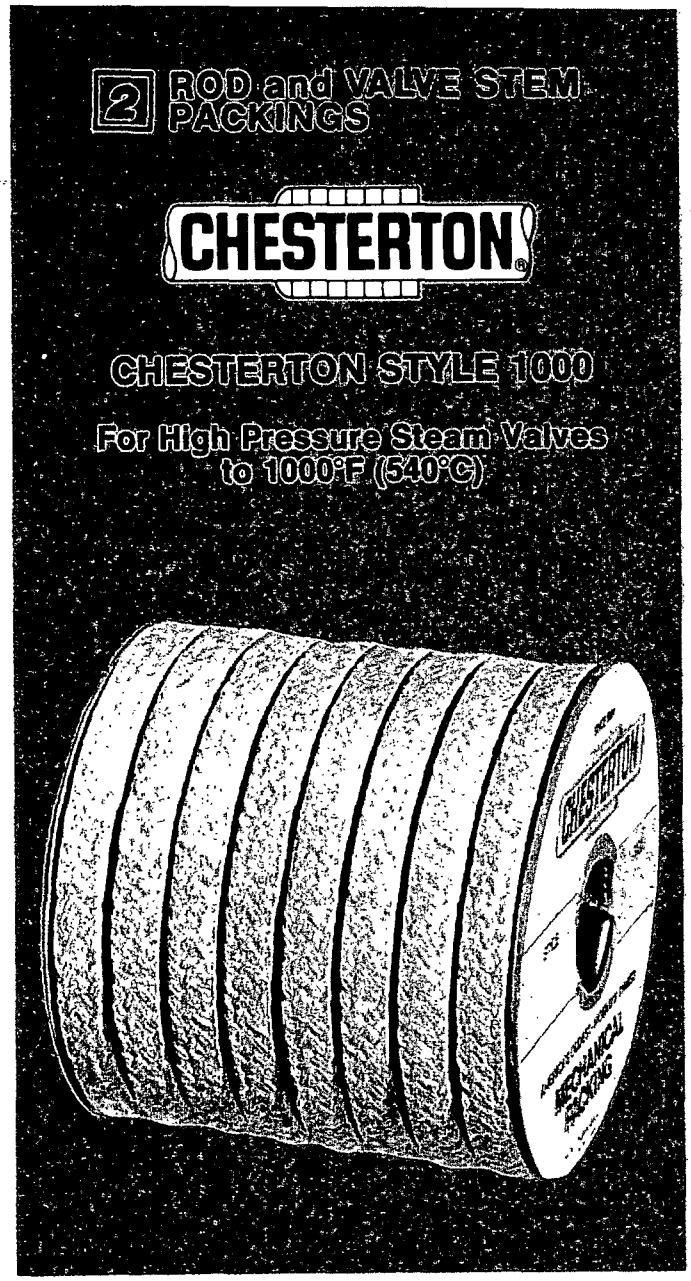
SERVICE

General valves, control valves, reciprocating rods, low-speed centrifugal shafts against the strongest chemicals, solvents and steam to 500°F. (260°C.).

STYLE 324 SUPER-LON® is manufactured from pure Teflon* fibers in square plait construction. It is lubricated with Teflon suspensoid which will not mi-

* DuPont's registered trademark.

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	32460	68.01	43,61
	4,0	2	0,908	32461	50.50	33,93
3/16	4,8	2	0,908	32462	31.54	22,81
	6,0	2 5	0,908 2,270	32463 32472	26.50 26.50	17,81 17,81
1/4	6,4	2 5	0,908 2,270	32464 32473	20.36 20.36	16,10 16,10
5/16	8,0	2 5	0,908 2,270	32465 32474	12.04 12.04	8,86 8,86
3/8	9,5	2 5 10	0,908 2,270 4,540	32466 32475 32481	8.57 8.57 8.57	6,31 6,31 6,31
	10,0	2 5	0,908 2,270	32467 32476	7.20 7.20	4,84 4,84
7/16	11,1	2 5	0,908 2,270	32468 32477	6.35 6.35	4,23 4,23
	12,0	2 5 10	0,908 2,270 4,540	32469 32478 32482	5.70 5.70 5.70	3,83 3.83 3.83
1/2	12,7	2 5 10	0,908 2,270 4,540	32470 32479 32483	4.99 4.99 4.99	3,49 3,49 3,49
9/16	14,3	5 10	2,270 4,540	32480 32484	4.34 4.34	2,82 2,82
5/8	15,9	10	4,540	32485	3.28	2,35
11/16	17,5	10	4,540	32486	2.90	1,95
3/4	19,1	10	4,540	32487	2.38	1,54
13/16	20,6	10	4,540	32488	2.10	1,41
7/8	22,2	10	4,540	32489	1.88	1,21
15/16	23,8	10	4,540	32493	1.60	1,08
1	25,4	10	4,540	32494	1.40	1,00



SERVICE

For steam valves and expansion joints to 1000°F (540°C). Less than 200 ppm chloride content.

CHESTERTON STYLE 1000 is engineered to provide resiliency, great tensile strength and extreme heat resistance.

CHESTERTON STYLE 1000 is made with a braided core of pure Chrysotile asbestos around which is braided a cover of 97% asbestos yarn within the strands of which is inserted Inconel wire for added strength at maximum steam pressures.

STYLE 1000 is gray in color with a specially developed heat-resisting lubricant. This packing lubricant will not pit or damage stainless steel stems as it contains no graphite.

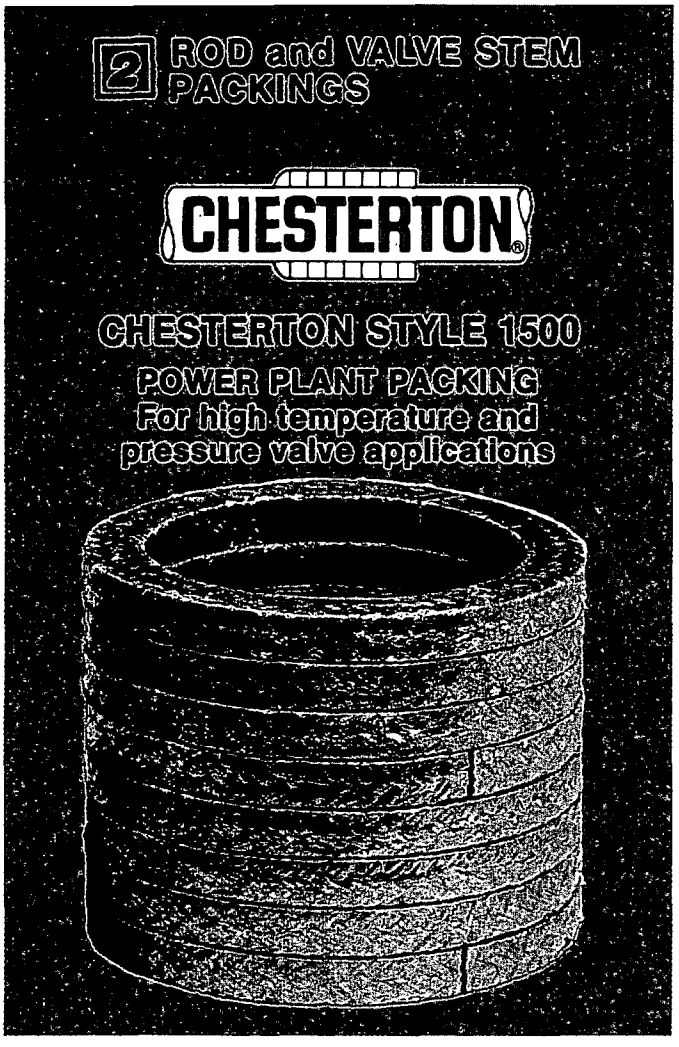
STYLE 1000 is not intended for high-speed rotating shafts. It is very effective, however, on reciprocating, or low-speed centrifugal pumps handling asphalt and congealing or crystallizing liquids and syrups to 600 feet per minute (3 m/sec.).

STYLE 1000C is recommended in nuclear power plant applications where packing must conform to specifications limiting the chloride content to 200 P.P.M. maximum.

STYLE 1000D is recommended when a die formed ring is required. Die formed rings are pre-cut and formed to your specifications and require minimal gland adjustment after installation. Extremely effective in high pressure applications where even ring compression throughout the installed set is important.

APPROXIMATE DATA

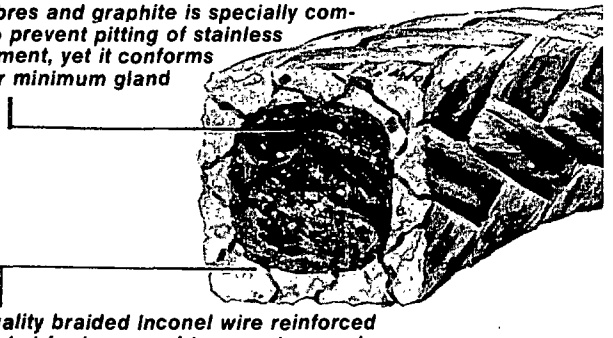
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	1060	108.50	72,80
	4,0	2	0,908	1061	82.60	55,50
3/16	4,8	2	0,908	1062	53.00	35,56
0.236	6,0	2	0,908	1063	38.00	25,53
		5	2,270	1072	38.00	25,53
1/4	6,4	2	0,908	1064	33.00	22,14
		5	2,270	1073	33.00	22,14
5/16	8,0	2	0,908	1065	21.50	14,43
		5	2,270	1074	21.50	14,43
3/8	9,5	2	0,908	1066	13.00	8,93
		5	2,270	1075	13.00	8,93
		10	4,540	1081	13.00	8,93
	10,0	2	0,908	1067	11.06	7,43
		5	2,270	1076	11.06	7,43
7/16	11,1	2	0,908	1068	10.30	6,91
		5	2,270	1077	10.30	6,91
	12,0	2	0,908	1069	9.06	6,09
		5	2,270	1078	9.06	6,09
		10	4,540	1082	9.06	6,09
1/2	12,7	2	0,908	1070	8.00	5,36
		5	2,270	1079	8.00	5,36
		10	4,540	1083	8.00	5,36
9/16	14,3	5	2,270	1080	7.30	4,89
		10	4,540	1084	7.30	4,89
5/8	15,9	10	4,540	1085	4.90	3,29
11/16	17,5	10	4,540	1086	4.70	3,16
3/4	19,1	10	4,540	1087	4.50	3,01
13/16	20,6	10	4,540	1088	3.60	2,42
7/8	22,2	10	4,540	1089	2.60	1,75
15/16	23,8	10	4,540	1093	2.55	1,71
1	25,4	10	4,540	1094	2.50	1,67



STYLE 1500 core is surrounded by an inconel-wire-inserted high-grade asbestos jacket for added strength at elevated temperatures and pressures. Inconel is chosen over other less expensive wires because of its high tensile strength and corrosion resistance.

STYLE 1500 is then surface coated with a superior lubricant called tungsten disulfide which will not cause electrolysis as do many other surface lubricants.

Use STYLE 1500 on all ranges of steam valves. It is excellent on valves of steam turbines, automatic tube blowers, high-temperature motor-actuated slide valves, and on high-pressure valving in general. It will also work well in granular or congealing fluids (such as pitch, tar, asphalt, etc.) on low-speed hardened rotary shafts.



1. Compressible extruded core material of 100% asbestos fibres and graphite is specially compounded to prevent pitting of stainless steel equipment, yet it conforms easily under minimum gland pressures.

2. Finest quality braided Inconel wire reinforced asbestos jacket for increased temperature and pressure resistance, treated with tungsten disulphide which lubricates to 2400°F. (1320°C.).

SERVICE

All ranges of temperature and pressure, superheated or saturated. Steam valve stems to 1200°F (650°C). For turbines, general valving, expansion joints, automatic tube blowers, high-temperature slide valves, low-speed shafts on congealing fluids.

CHESTERTON STYLE 1500 is an entirely new concept in a high-temperature, high-pressure, valve-stem packing. STYLE 1500 is pliable, formable and easy to install. It compresses easily to required space configuration to form a tight seal. In the presence of condensate or superheat, this packing is and remains effortlessly adjustable, since it responds readily to gland take-up. All these desirable characteristics are attributable to its unique ingredients and construction.

The technical superiority of CHESTERTON STYLE 1500 is primarily due to the ability of the asbestos fibers in the core to slide over each other in response to gland adjustment. This is because of the complete graphite envelopment of individual core fibers.

STYLE 1500 also incorporates finely dispersed particles of zinc in the core to help alleviate electrolytic action between the core and the valve stem. The zinc acts as a sacrificial material and is used first, before any pitting will occur on the valve components.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8 [1]	3,2	2	0,908	1560	106.8	71,66
	4,0 [1]	2	0,908	1561	77.2	51,87
3/16	4,8	2	0,908	1562	43.2	28,98
	6,0	2 5	0,908 2,270.	1563 1572	30.7 30.7	20,62 20,62
1/4	6,4	2 5	0,908 2,270	1564 1573	26.5 26.5	17,78 17,78
5/16	8,0	2 5	0,908 2,270	1565 1574	17.6 17.6	11,81 11,81
3/8	9,5	2 5 10	0,908 2,270 4,540	1566 1575 1581	11.5 11.5 11.5	7,72 7,72 7,72
	10,0	2 5	0,908 2,270	1567 1576	9.4 9.4	6,32 6,32
7/16	11,1	2 5	0,908 2,270	1568 1577	8.5 8.5	5,70 5,70
	12,0	2 5 10	0,908 2,270 4,540	1569 1578 1582	7.4 7.4 7.4	4,97 4,97 4,97
1/2	12,7	2 5 10	0,908 2,270 4,540	1570 1579 1583	6.5 6.5 6.5	4,36 4,36 4,36
9/16	14,3	5 10	2,270 4,540	1580 1584	4.9 4.9	3,29 3,29
5/8	15,9	10	4,540	1585	4.4	2,95
11/16	7,5	10	4,540	1586	3.3	2,22
3/4	19,1	10	4,540	1587	2.8	1,88
13/16	20,6	10	4,540	1588	2.5	1,68
7/8	22,2	10	4,540	1589	2.2	1,48
15/16	23,8	10	4,540	1593	1.9	1,28
1	25,4	10	4,540	1594	1.7	1,14

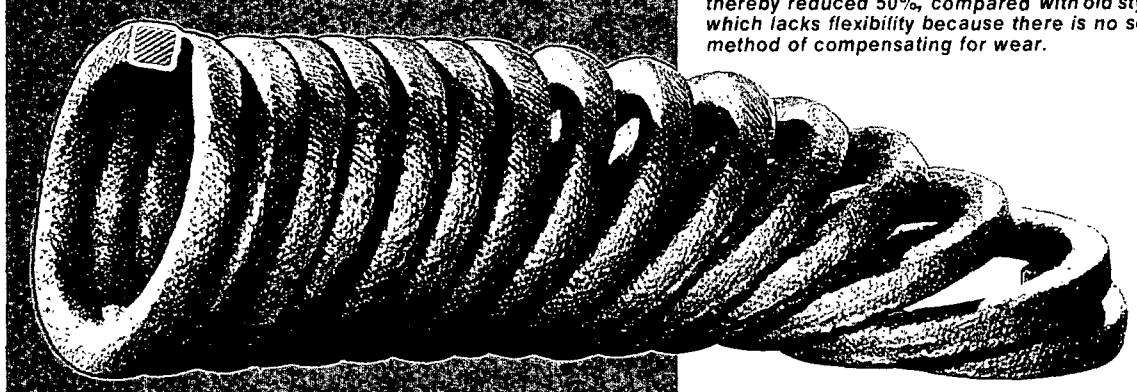
[1] Construction differs slightly in these sizes.

2 ROD and VALVE STEM PACKINGS

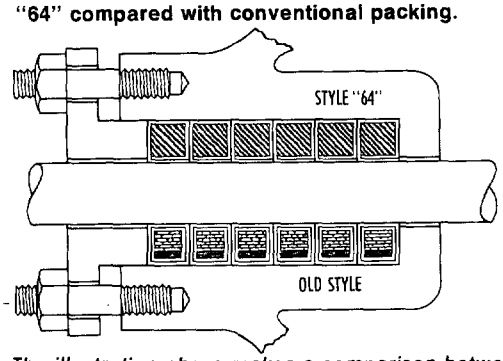
CHESTERTON®

CHESTERTON STYLES 64, 364-T

RETAINS COMPRESSIBILITY
RESISTS HARDENING



"64" compared with conventional packing.



The illustration above makes a comparison between "64" and ordinary rubberback asbestos packing in actual service. A slight increase in pressure on "64" will force the plies onto the rod, effectively establishing a seal. As pressure is relieved the packing resumes its former position and shape, and only gently contacts the rod. Friction is thereby reduced 50%, compared with old style of packing which lacks flexibility because there is no scientific method of compensating for wear.

SERVICE

Valves, pumps, digesters, compressors, expansion joints to 300 psig (21 kg/cm²).

The unique diagonal design and construction of STYLE 64 places each ply of asbestos cloth diagonal rather than parallel to the rod. Expansion and elasticity are thus provided mechanically through construction rather than from a rubber back found in ordinary type packings. Compressibility adds "life" to STYLE 64, and this means longer service and fewer replacements.

STYLE 64 is recommended for general use on rods and valves operating against steam, mild acids, and alkalies. Many applications, such as safety and blow-off valves, steam pumps and engines, air compressors, and expansion joints require this tough, resilient, long life elastic packing.

CHESTERTON STYLE 364-T

For those desiring the resiliency of STYLE 64 but without graphite, Chesterton offers STYLE 364-T. STYLE 364-T comes with a polytetrafluorethylene surface-lubricant embodying finely divided Teflon* particles. This style is especially recommended for brewing kettles, mixers, and for the top gland of pulp mill digesters where flexibility, chemical resistance, and purity of lubricants are essential combined characteristics.

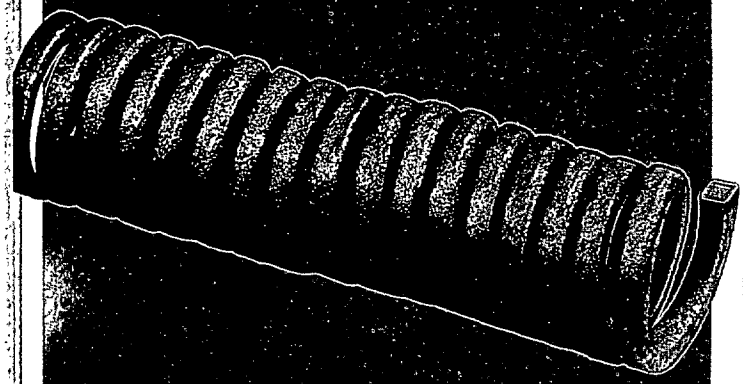
For ***364-T*** chart see page 89

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
¼	6,4	2.00	0,91	6404	20.00	13,45
5/16	8,0	2.50	1,13	6405	13.60	9,13
⅜	9,5	2.75	1,25	6406	11.00	7,40
7/16	11,1	3.25	1,48	6407	8.60	5,76
½	12,7	3.75	1,70	6408	6.00	4,03
9/16	14,3	5.50	2,50	6409	4.90	3,30
⅝	15,9	5.75	2,61	6410	4.40	2,94
11/16	17,5	6.90	3,13	6411	3.60	2,42
¾	19,1	6.90	3,13	6412	2.90	1,94
13/16	20,6	6.90	3,13	6413	2.47	1,66
⅞	22,2	8.50	3,85	6414	2.00	1,34
15/16	23,8	8.50	3,85	6415	1.88	1,26
1	25,4	9.12	4,14	6416	1.75	1,18
1 1/16	27,0	To order		6417	1.33	0,89
1 1/8	28,6	To order		6418	1.23	0,83
1 3/16	30,2	To order		6419	1.15	0,77
1 ¼	31,7	To order		6420	1.10	0,74
1 5/16	33,3	To order		6421	1.00	0,67
1 ⅜	34,9	To order		6422	0.90	0,61
1 ½	38,1	To order		6424	0.73	0,49

* DuPont's registered trademark.

CHESTERTON

CHESTERTON STYLE 350



SERVICE

For saturated high pressure steam on rods and valve stems

STYLE 350 is a woven, folded asbestos packing incorporating a resilient rubber back for compressibility. It is treated with a heat-resisting binder for high temperatures, and is lubricated to insure proper operation under high pressure steam conditions. STYLE 350 is recommended for compressed air and general steam rod application up to 300 psi (20 kg/cm²). It is a proven packing against saturated steam conditions as found on pumps, engines, steam hammers, and expansion joints.

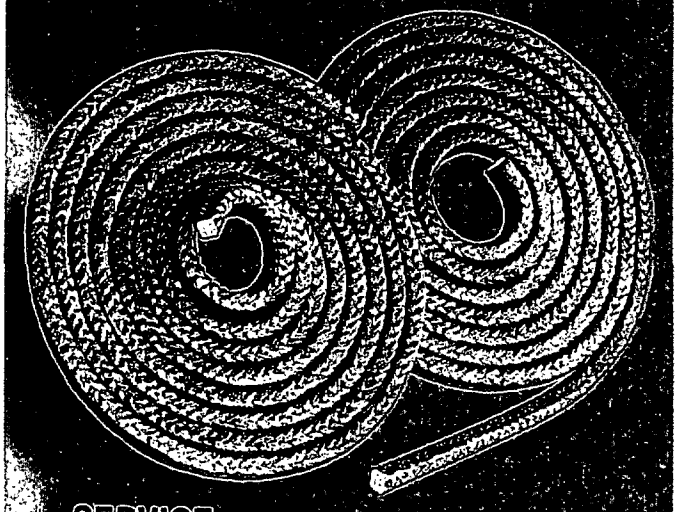
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
1/4	6,4	2.25	1,02	35004	17.70	11,79
5/16	8,0	2.50	1,14	35005	11.10	7,39
3/8	9,5	3.25	1,48	35006	9.30	6,20
7/16	11,1	4.00	1,82	35007	7.10	4,73
1/2	12,7	4.50	2,04	35008	5.00	3,36
9/16	14,3	6.00	2,72	35009	4.10	2,75
5/8	15,9	6.75	3,06	35010	3.70	2,49
11/16	17,5	6.75	3,06	35011	2.96	1,99
3/4	19,1	8.50	3,86	35012	2.30	1,54
13/16	20,6	8.50	3,86	35013	2.16	1,45
7/8	22,2	8.50	3,86	35014	2.00	1,34
15/16	23,8	11.50	5,22	35015	1.76	1,18
1	25,4	11.50	5,22	35016	1.50	1,01
1 1/16	27,0	To order		35017	1.25	0,84
1 1/8	28,6	To order		35018	1.03	0,69

Rubber back in 7/16" (11 mm) and larger sizes only

CHESTERTON

CHESTERTON STYLE 5010



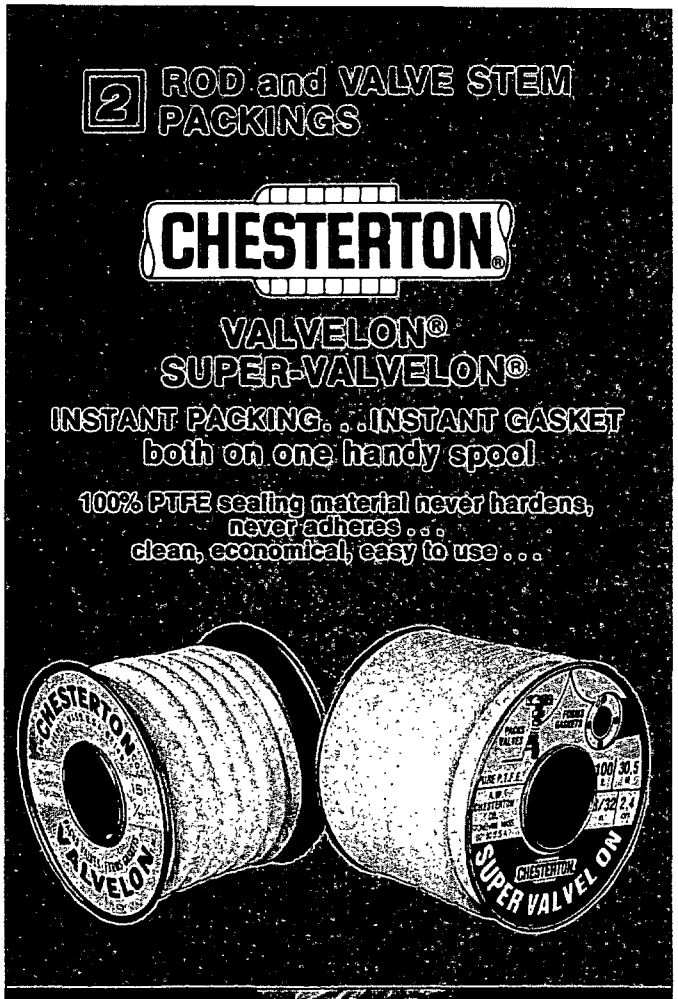
SERVICE

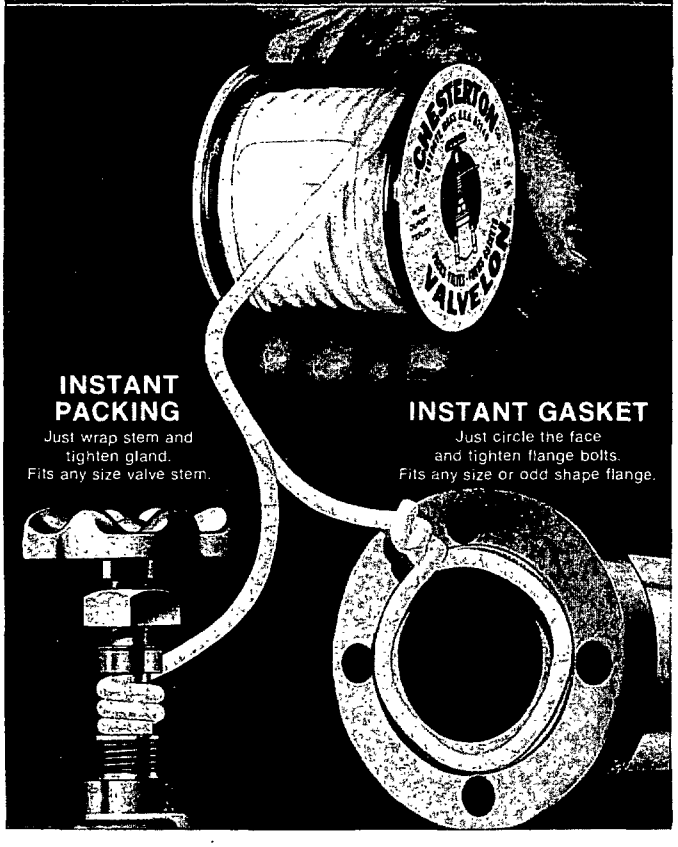
Reciprocating rod and valve stem packing for superheated steam to 1000°F. (540°C.)

CHESTERTON STYLE 5010 is recommended for superheated steam to 1000°F. (540°C.), or on any installation where excessive lubrication may prove bothersome through shrinking and boil-off. Expansion joints, turbines, stems of engines and valves may be packed with STYLE 5010. It also gives excellent results on fast reciprocating rods. STYLE 5010 contains no wire.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
1/16	1,6	2	0,908	5051	590.00	395,89
1/8	3,2	2	0,908	5060	145.00	97,30
3/16	4,8	2	0,908	5062	66.00	44,29
1/4	6,4	2 5	0,908 2,270	5064 5073	37.00 37.00	24,82 24,82
5/16	8,0	2 5	0,908 2,270	5065 5074	23.00 23.00	15,43 15,43
3/8	9,5	2 5 10	0,908 2,270 4,540	5066 5075 5081	16.00 16.00 16.00	10,74 10,74 10,74
7/16	11,1	2 5	0,908 2,270	5068 5077	12.00 12.00	8,05 8,05
1/2	12,7	2 5 10	0,908 2,270 4,540	5070 5079 5083	9.00 9.00 9.00	6,04 6,04 6,04
9/16	14,3	5 10	2,270 4,540	5080 5084	7.47 7.47	5,02 5,02
5/8	15,9	10	4,540	5085	5.75	3,86
11/16	17,5	10	4,540	5086	4.80	3,23
3/4	19,1	10	4,540	5087	4.00	2,68
13/16	20,6	10	4,540	5088	3.50	2,35
7/8	22,2	10	4,540	5089	3.00	2,01
15/16	23,8	10	4,540	5093	2.64	1,78
1	25,4	10	4,540	5094	2.25	1,51





SERVICE
All liquids and gases
from −400°F (240°C) to +500°F (260°C)
Do Not use on liquid or gaseous oxygen.

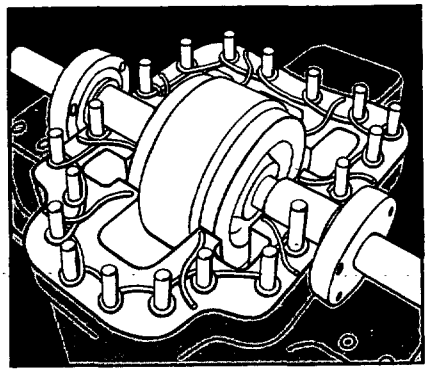
CHESTERTON VALVELON® provides a double construction of 100% PTFE core with a spiral covering of PTFE tape molecularly oriented to help resist extrusion. This double construction enables VALVELON to conform to uneven flange surfaces, fill voids, and yet resist extrusion.

CHESTERTON SUPER-VALVELON provides, for the first time, the versatility of a malleable core material with the strength and high extrusion resistance of a braided jacket of pure Teflon* yarn giving chemical resistance and extreme low friction characteristics associated with Teflon yarns. This allows SUPER-VALVELON to be used at higher pressures than our standard VALVELON material.

CHESTERTON VALVELON and SUPER-VALVELON are unaffected by chemicals (except molten alkali metals and some rare halogenated compounds), never harden, never adhere, and are completely inert. They also reduce the need for large inventories of valve stem packings, and flange gaskets.

VALVES — VALVELON and SUPER-VALVELON pack valves! Wrap several turns around the stem to fill the stuffing box. Tighten down the follower nut. The "plastic" PTFE squeezes to fill all voids making a tight seal.

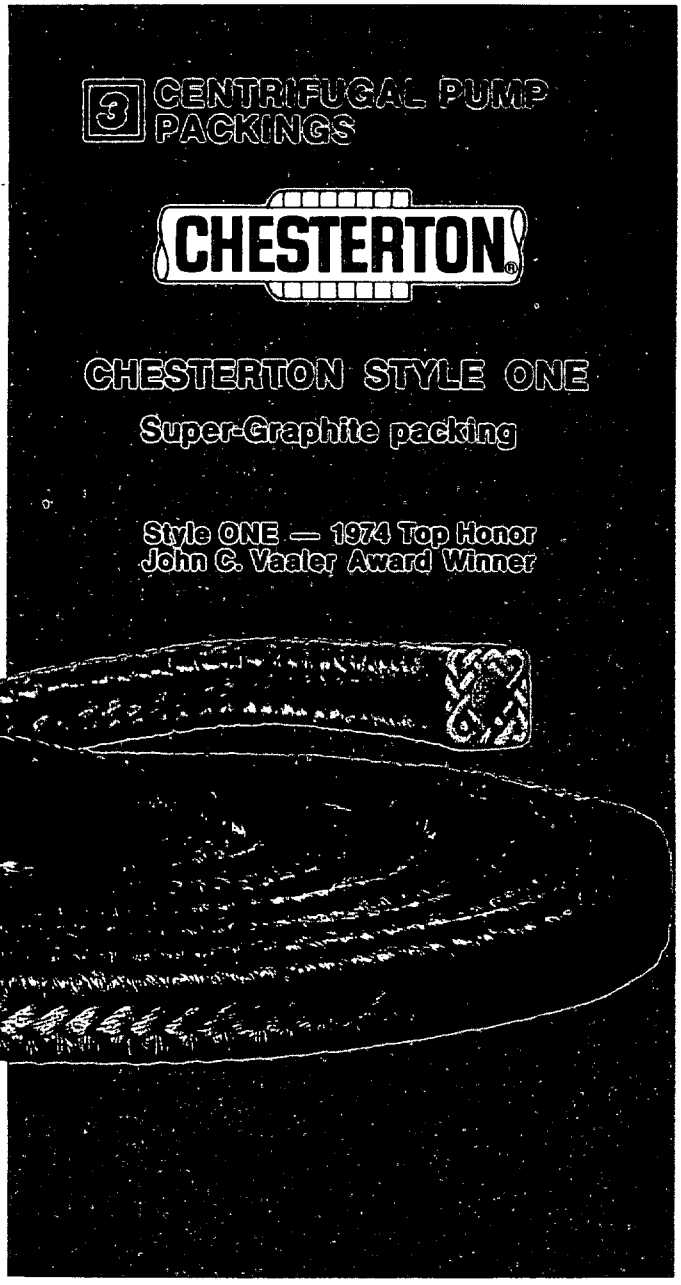
GASKETING — A single strand of VALVELON or SUPER-VALVELON forms a gasket that can be parted cleanly years later. Tightening the flange bolts squeezes the VALVELON/SUPER-VALVELON into a continuous gasket.



VALVELON/SUPER-VALVELON forms a perfect seal when laid continuously around the face (and bolts) of odd shaped flanges. Squeezes into a custom molded gasket.

APPROXIMATE DATA				
SIZE	VALVELON REORDER PROD. NO.	SUPER-VALVELON REORDER PROD. NO.	SPOOLS/ CARTON	CARTON/ MASTER
3/32" × 80' 2,4 mm × 24,4 M	NA	[1]3666	12	12
3/32" × 50' 2,4 mm × 15,3 M	[1]3566	NA	12	12
5/32" × 35' 4,0 mm × 10,7 M	[1]3570	[1]3670	12	12
7/32" × 15' 5,6 mm × 4,6 M	[1]3574	[1]3674	12	12
9/32" × 9' 7,1 mm × 2,7 M	[1]3578	[1]3678	12	12
Kit 3 Spools of each size	3500	3600		

* DuPont's registered trademark
[1] Reorder Product Number is for individual item



SERVICE

Low friction, universal packing for pumps and valves. Self-lubricating fiber. High chemical immunity. For non-oxidizing services to 5000°F. (2760°C.) 100% pure graphite throughout. Low (81 ppm) chloride content. Virtually non-scoring.

The A. W. Chesterton Company set out to create a new material which would eliminate the problems found in mechanical packings and could be used in all services. The finished result of this highly scientific engineering and testing program is a packing which has such tremendous efficiencies that Chesterton decided to assign it the leading number of its line: STYLE ONE.

CHESTERTON STYLE ONE SUPER-GRAPHITE is the world's first 100% graphite packing which can be applied to virtually all pumps and valves. It is manufactured from a pure quality graphite yarn braided in the Chesterton interbraid method. Firmly entrapped between every fiber are tiny submicron-sized particles of pure graphite which act both as a blocking agent to prevent leakage and as a surface lubricant. This exclusive feature allows STYLE ONE to be used in extreme service where other graphite or P.T.F.E. type packings fail due to burning, migration, or loss of foreign lubricant, their "weak link." STYLE ONE contains only graphite.

STYLE ONE eliminates shaft wear associated with asbestos-P.T.F.E. or graphite-P.T.F.E. packings which burn when shaft-temperatures exceed 600°F. (315°C.). Being pure graphite, STYLE ONE will not harden or glaze over and can result in a maintenance savings many times in excess of the actual packing cost.

STYLE ONE is so efficient that it is commonly referred to as a "universal packing," that is, it can be used for virtually any sealing application where conventional packings are presently employed. In fact, STYLE ONE is so revolutionary that it has replaced mechanical shaft seals in some cases due to lower cost, easier installation and similar leakage control with minimum possible shaft scoring. STYLE ONE can truly be said to be the best packing material ever offered.

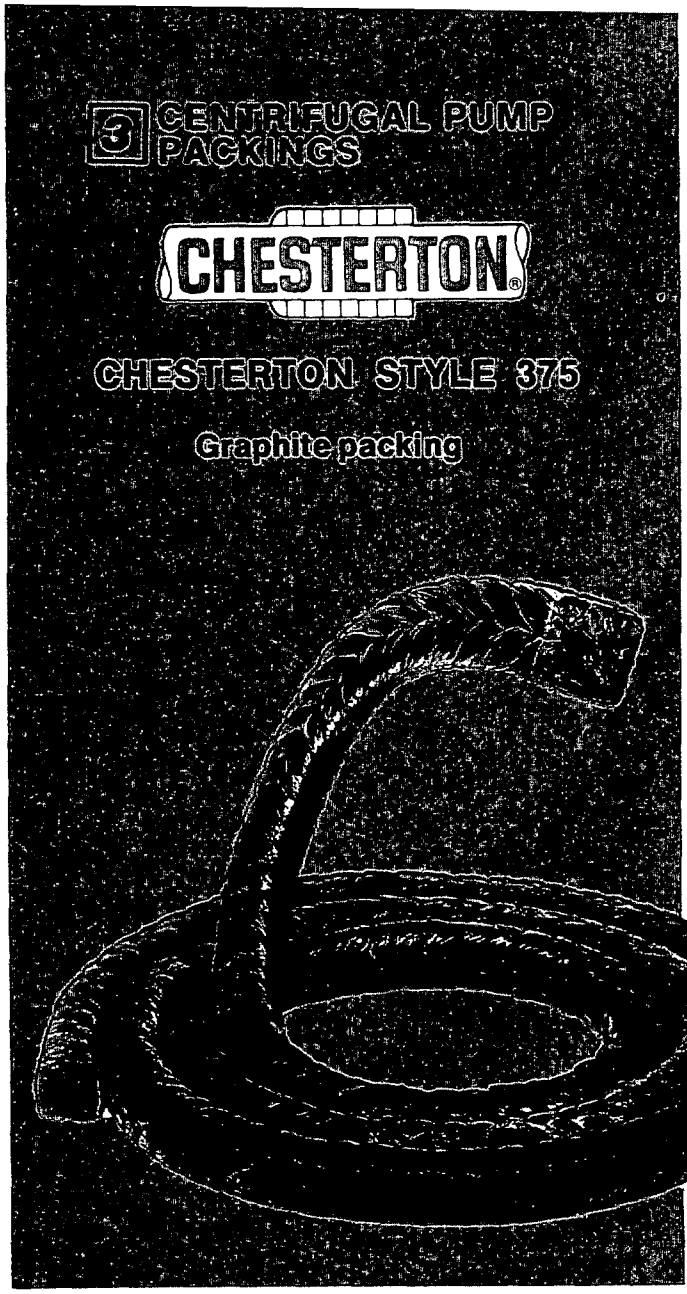
Being an all-graphite material, it can withstand temperatures to 5000°F. (2760°C.) in absence of an oxidizing agent, with practically no weight loss, and will take 800°F. (430°C.) in air with no change in characteristics. STYLE ONE also has remained flexible when tested in liquid helium to −400°F. (−240°C.).

STYLE ONE is inert to almost all chemicals from pH 1 to 14. (Exceptions are oleum, fuming nitric acid, aqua regia, and fluorine. Hydrofluoric acid and hydrochloric acids will not attack STYLE ONE unless it is used as a positive electrode in the electrolysis of an aqueous acid solution.)

Authorized by the United States Department of Agriculture (USDA) for use in federally inspected meat and poultry plants.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
¼	6,4	1 3	0,454 1,360	37654 37604	40.5 40.5	27,17 27,17
5/16	8,0	1 3	0,454 1,360	37655 37605	29.0 29.0	19,44 19,44
⅜	9,5	1 3	0,454 1,360	37656 37606	19.0 19.0	12,73 12,73
7/16	11,1	1 3	0,454 1,360	37657 37607	13.3 13.3	8,91 8,91
½	12,7	1 4	0,454 1,820	37658 37608	10.0 10.0	6,71 6,71
9/16	14,3	4	1,820	37609	8.8	5,89
⅝	15,9	4	1,820	37610	6.8	4,55
11/16	17,5	To order		37611	5.6	3,76
¾	19,1	To order		37612	4.6	3,08
13/16	20,6	To order		37613	4.0	2,69
⅞	22,2	To order		37614	3.5	2,35
15/16	23,8	To order		37615	3.0	2,02
1	25,4	To order		37616	2.4	1,62



much is added, it results in burning or charring when the packing is used in high-speed applications, where surface temperatures exceed Teflon limits of 600°F. This can result in shaft scoring and packing failure. CHESTERTON does not overload the packing with suspensoid.

STYLE 375 eliminates most shaft wear associated with Asbestos/Teflon packings because the fibers are comparatively frictionless in running and immune to chemical hardening

STYLE 375 is manufactured from twisted end plied pure graphite yarns with a minimum of 99% carbon assay, and is completely inert to chemical attack. (Exceptions are oleum, fuming nitric acid, aqua regia, and fluorines which attack the base yarn.) This packing is extremely pure, devoid of chemically attackable or abrasive contaminants. The coated yarn has a 1% maximum ash content.

STYLE 375, having pure graphite yarn and a small amount of suspensoid, can be used readily on centrifugal pump applications because the heat generated at the shaft is carried off through the yarns to the stuffing box. In fact, there is comparatively little thermal expansion to graphite and less than that of the shaft metals themselves.

STYLE 375 is effective through the entire pH range in pumps and valves handling chemicals to 600°F (315°C).

SERVICE

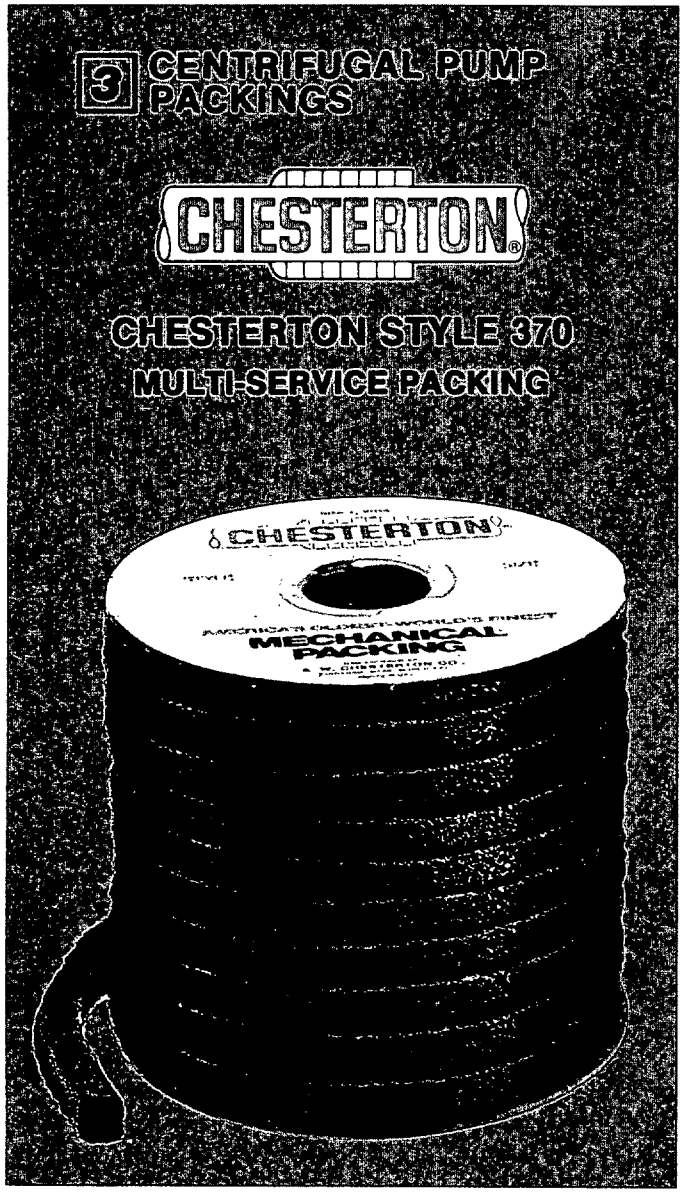
For strong chemical services on centrifugal and reciprocating shafts to 600°F (315°C). Less than 200 ppm chloride content.

CHESTERTON STYLE 375 is manufactured in square plait braided construction from the highest quality pure graphite yarns. After braiding, it is treated with a controlled amount of DuPont Teflon*, which acts as both a blocking agent to prevent weepage through the packing, and as a lubricant. The amount of Teflon suspensoid added is relatively small. If too

* DuPont's registered trademark.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb	M/kg.
1/8	3,2	1	0,454	37552	86.00	57,70
3/16	4,8	1	0,454	37553	63.00	42,26
1/4	6,4	1 3	0,454 1,360	37554 37504	40 50 40.50	27,17 27,17
5/16	8,0	1 3	0,454 1,360	37555 37505	29.00 29.00	19,44 19,44
3/8	9,5	1 3	0,454 1,360	37556 37506	19.00 19.00	12,73 12,73
7/16	11,1	1 3	0,454 1,360	37557 37507	13.30 13.30	8,91 8,91
1/2	12,7	1 4	0,454 1,820	37558 37508	10.00 10.00	6,71 6,71
9/16	14,3	4	1,820	37509	8.80	5,89
5/8	15,9	4	1,820	37510	6.80	4,55
11/16	17,5	To order		37511	4.75	3,20
3/4	19,1	To order		37512	4.60	3,08
13/16	20,6	To order		37513	3.80	2,55
7/8	22,2	To order		37514	3.33	2,24
15/16	23,8	To order		37515	2.80	1,88
1	25,4	To order		37516	2.50	1,68



SERVICE

Controls water, steam, boiler feed, aqueous solutions of acids, alkalies, pH 1 to 14, temperatures to 800°F (430°C).

CHESTERTON STYLE 370 is manufactured from a high-quality carbon yarn. STYLE 370, in interbraid construction, incorporates particles of pure graphite, high-temperature special oils, and molybdenum disulfide, which act as long-life lubricants and blocking agents. This exclusive feature allows CHESTERTON STYLE 370 to be used in services where asbestos-PTFE type packings fail due to burning, glazing, migration or loss of lubrication which is their "weak-link." The low-friction carbon yarn itself has exceptional high-temperature capability in a non-oxidizing environment. STYLE 370 provides the first viable replacement for asbestos packing in most applications where easier installation, lower operating cost, controlled leakage and minimum shaft scoring are determining factors.

FOUR-STAGE LUBRICATION PROVIDES PROTECTION AGAINST HEAT AND SHAFT WEAR

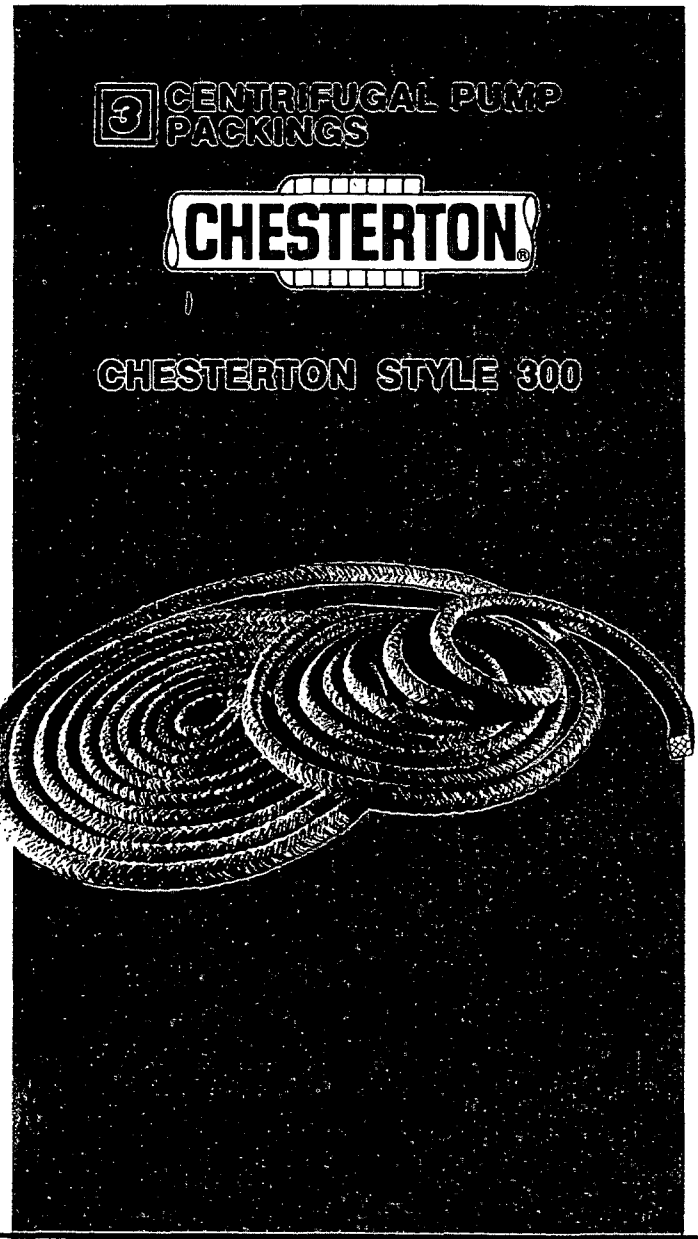
1. High-temperature, non-glazing special lubricant protects shaft and packing during fast (often under 15 minutes) break-in period. This special lubricant is non-carbonizing, odorless, non-toxic and will not turn rancid.
2. Graphite flake particles cover the carbon yarn providing non-migrating lubrication to the shaft surfaces and act as a blocking agent against wicking action.
3. High-pressure, high-temperature molybdenum disulfide lubricant provides shaft protection even when contact pressure between packing and shaft is excessive. Molybdenum's serviceable temperature range is up to 2000°F (1100°C) in the absence of oxygen.
4. Self-lubricating carbon yarn controls wear evenly during long service life. Carbon is recognized as an ideal sealing material in mechanical seals. As a yarn, interbraided into STYLE 370 packing, these qualities provide a dense, formable surface to seal against the shaft with almost frictionless contact. As the carbon yarn slowly wears, the surfaces exposed are continually self-lubricating.

PROPERTIES: CHESTERTON STYLE 370 is non-reactive with all chemicals from pH 1 to 14. Exceptions are oleum, fuming nitric, aqua regia and fluorine. Hydrofluoric acid and hydrochloric acid will not attack STYLE 370 unless it is used as a positive electrode in the electrolysis of an aqueous acid solution.

CHESTERTON STYLE 370 also meets analysis for use in nuclear areas as the total chloride content will not exceed 200 p.p.m.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8	3,2	2	0,908	37060	111.40	74,85
	4,0	2	0,908	37061	70.68	47,49
3/16	4,8	2	.0,908	37062	49.78	32,98
	6,0	2 5	0,908 2,270	37063 37072	31.25	21,00
1/4	6,4	2 5	0,908 2,270	37064 37073	27.80	18,68
5/16	8,0	2 5	0,908 2,270	37065 37074	16.10	10,82
3/8	9,5	2 5 10	0,908 2,270 4,540	37066 37075 37081	12.00	8,06
	10,0	2 5	0,908 2,270	37067 37076	11.21	7,53
7/16	11,1	2 5	0,908 2,270	37068 37077	9.10	6,11
	12,0	2 5 10	0,908 2,270 4,540	37069 37078 37082	7.96	5,35
1/2	12,7	2 5 10	0,908 2,270 4,540	37070 37079 37083	7.10	4,77
9/16	14,3	5 10	2,270 4,540	37080 37084	5.10	3,43
5/8	15,9	10	4,540	37085	4.10	2,75
11/16	17,5	10	4,540	37086	3.90	2,62
3/4	19,1	10	4,540	37087	3.30	2,21
13/16	20,6	10	4,540	37088	2.80	1,88
7/8	22,2	10	4,540	37089	2.50	1,68
15/16	23,8	10	4,540	37093	2.20	1,48
1	25,4	10	4,540	37094	1.90	1,28



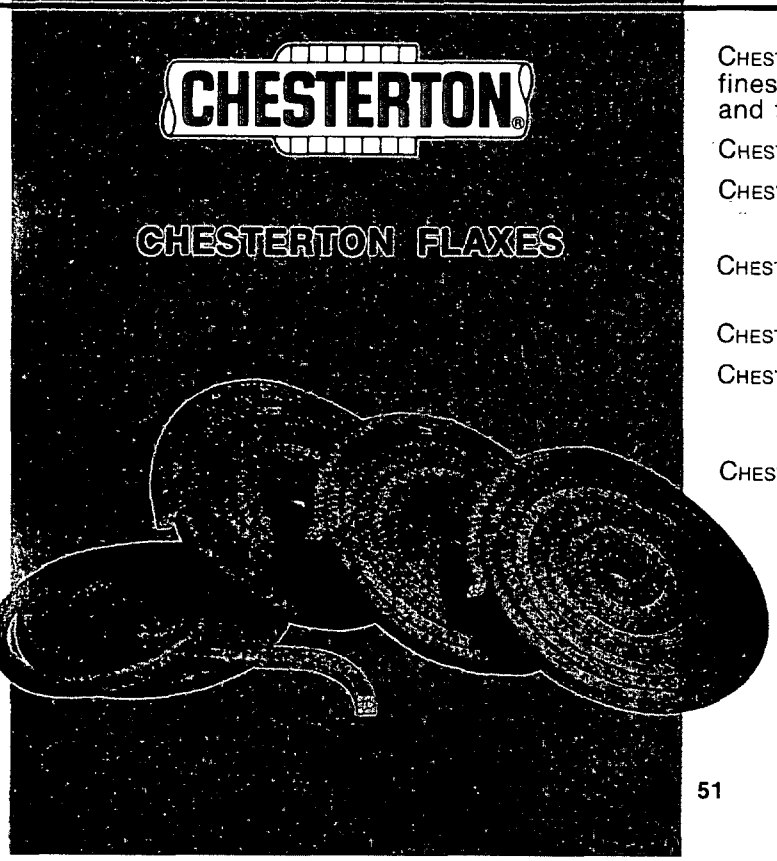
SERVICE

For centrifugal pumps handling all inert liquids up to 225°F. (110°C.)

STYLE 300 is a soft, strong, absorbent, cotton packing that presents a cushioned surface that will not score brass shafts or sleeves because the cotton constantly absorbs the liquid being pumped and maintains a soft, moist, pliable running-face on the shaft. STYLE 300 contains Molybdenum Disulfide (MoS_2) and graphite. MoS_2 reduces shaft wear because it eases fabric to metal contact, yet it embodies very high lubricating qualities, tenaciously adhering to metal shafts. MoS_2 is heat resistant, chemically stable, is insoluble in water, oil, alkalies and most acids.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16	4,8	2	0,908	30062	29.50	19,79
1/4	6,4	2	0,908	30064	20.50	13,75
		5	2,270	30073	20.50	13,75
5/16	8,0	2	0,908	30065	17.50	11,94
		5	2,270	30074	17.50	11,94
3/8	9,5	2	0,908	30066	12.50	8,40
		5	2,270	30075	12.50	8,40
		10	4,540	30081	12.50	8,40
7/16	11,1	2	0,908	30068	8.30	5 57
		5	2,270	30077	8.30	5,57
1/2	12,7	2	0,908	30070	7.00	4,69
		5	2,270	30079	7.00	4,69
		10	4,540	30083	7.00	4,69
9/16	14,3	5	2,270	30080	5.80	3,89
		10	4,540	30084	5.80	3,89
5/8	15,9	10	4,540	30085	4,50	3,01
11/16	17,5	10	4,540	30086	3.87	2,60
3/4	19,1	10	4,540	30087	3.30	2,21
13/16	20,6	10	4,540	30088	3.10	2,08
7/8	22,2	10	4,540	30089	2.50	1,67
15/16	23,8	10	4,540	30093	2.16	1,45
1	25,4	10	4,540	30094	1.80	1,21



CHESTERTON FLAX PACKINGS are made from the very finest imported flax rovings. They are strong, uniform and free from tow or foreign matter.

CHESTERTON STYLE 80 — lubricated flax packing

CHESTERTON STYLE 81 — graphited, lubricated flax packing

CHESTERTON STYLE 82 — lubricated mixed roving packing

CHESTERTON STYLE 84 — lubricated jute

CHESTERTON STYLE 85 — lubricated flax packing for hydraulic services to 800 psi (57 kg/Cm^2)

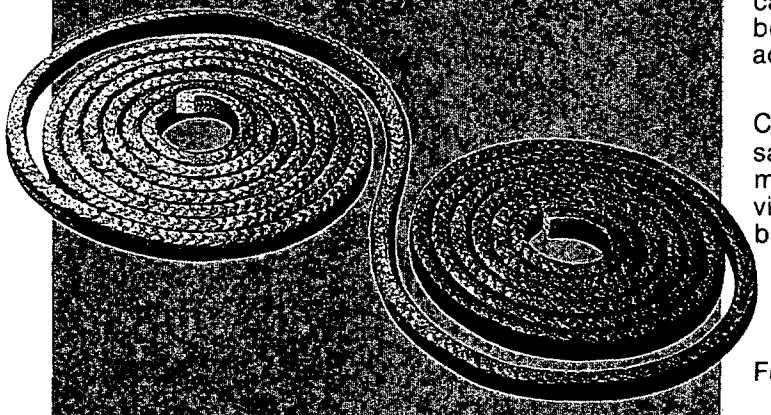
CHESTERTON STYLE 87 — graphited mixed roving packing

For chart see page 90

3 CENTRIFUGAL PUMP PACKINGS

CHESTERTON

CHESTERTON STYLE 315/1715



SERVICE

Centrifugal pumps handling hot liquids including water, alcohol, mild acids and caustics.

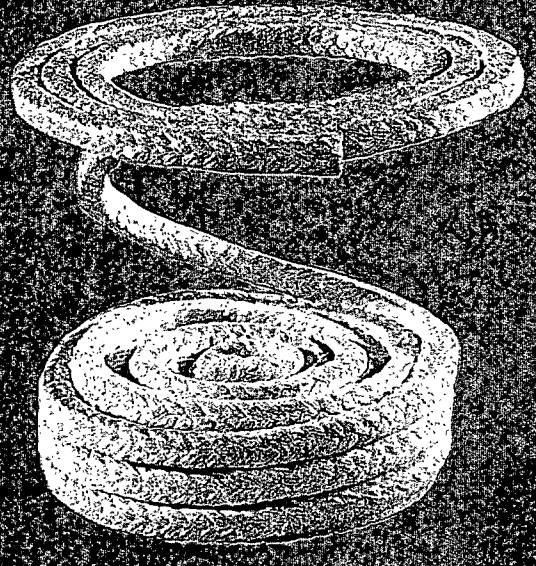
CHESTERTON STYLE 315 is made from long, selected fibers of Canadian asbestos, manufactured in the square plait method which allows for maximum l rication. STYLE 315 contains Molybdenum Disulfid (MoS_2) and graphite. MoS_2 reduces shaft wear b cause it eases fabric to metal contact, yet it em- bodies very high lubricating qualities, tenaciousl adhering to metal shafts.

CHESTERTON STYLE 1715 is manufactured from the same quality materials as is STYLE 315. STYLE 1715 manufactured in interbraid construction which p vides a denser, stable and more uniformly patter braid.

For chart see page 91

CHESTERTON

CHESTERTON STYLE 330/1730



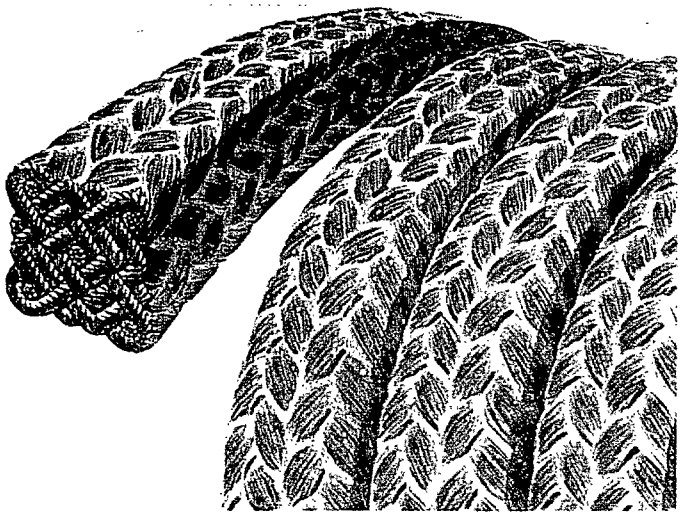
SERVICE

Stainless steel shafts handling stainable products or mild chemicals.

CHESTERTON STYLE 330 is a thoroughly lubricated braided asbestos packing, white in color. Becau contains no graphite, it has proven very servicea for those rotary operations where non-discolorat of stock is an important consideration. Example are paper stock, soaps, pulp, and a wide variety similar materials. Recommended for alcohol; als the weaker acids and caustics with pH values 5 through 10, inclusive.

CHESTERTON STYLE 1730 is similar to STYLE 330 but construction the packing is manufactured in int braid design where the outside fibers are locked near the center of the packing. STYLE 1730 is der and provides more stability than STYLE 330.

For chart see page 91

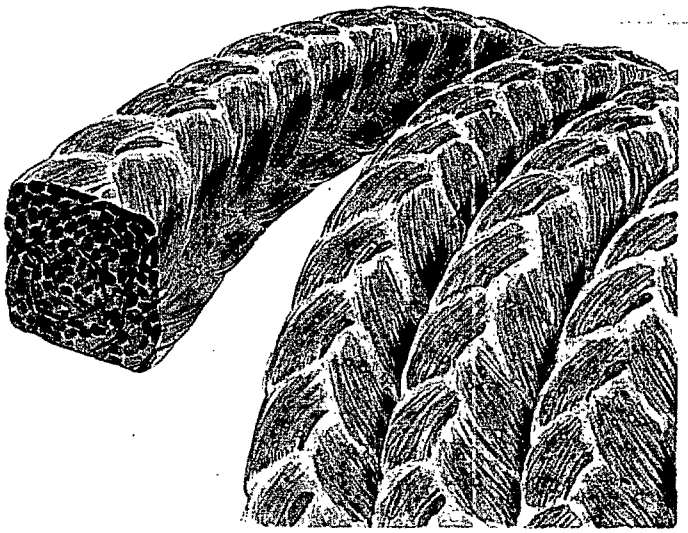


CHESTERTON STYLE 1729

CHESTERTON STYLE 1729 is similar to STYLE 1735 in construction, but incorporates long-fibered roved flax of the highest quality as the base material. STYLE 1729 offers the same design advantages in interbraid construction while offering a fiber with many years of proven success in both the marine and paper industries.

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/2	12,7	5 10	2,270 4,540	3879 3883	6.70	4,50
9/16	14,3	5 10	2,270 4,540	3880 3884	5.30	3,56
5/8	15,9	10	4,540	3885	4.10	2,75
11/16	17,5	10	4,540	3886	3.40	2,28
3/4	19,1	10	4,540	3887	2.80	1,88
13/16	20,6	10	4,540	3888	2.40	1,61
7/8	22,2	10	4,540	3889	1.90	1,28
15/16	23,8	10	4,540	3893	1.80	1,21
1	25,4	10	4,540	3894	1.70	1,14
1729 REELS ONLY (25 lb. min.)						
1	25,4	To order		3816	1.70	1,14
1 1/8	28,6	To order		3818	1.35	0,91
1 1/4	31,7	To order		3820	1.06	0,71
1 3/8	34,9	To order		3822	0.98	0,66
1 1/2	38,1	To order		3824	0.82	0,55
1 5/8	41,2	To order		3826	0.70	0,47
1 3/4	44,4	To order		3828	0.60	0,40
1 7/8	47,6	To order		3830	0.51	0,34
2	50,8	To order		3832	0.44	0,29
2 1/8	54,0	To order		3834	0.43	0,28
2 1/4	57,1	To order		3836	0.38	0,26
2 3/8	60,3	To order		3838	0.33	0,22
2 1/2	63,5	To order		3840	0.29	0,19
2 5/8	66,7	To order		3842	0.28	0,18
2 3/4	69,6	To order		3844	0.24	0,16
2 7/8	73,0	To order		3846	0.21	0,14
3	76,2	To order		3848	0.19	0,13
3 1/8	79,4	To order		3850	—	—
3 1/4	82,6	To order		3852	—	—
3 3/8	85,7	To order		3854	—	—
3 1/2	88,9	To order		3856	—	—
3 5/8	92,1	To order		3858	—	—
3 3/4	95,3	To order		3860	—	—
3 7/8	98,4	To order		3862	—	—
4	101,6	To order		3864	—	—

30' and 60' Reels standard for marine use or 1" size



CHESTERTON STYLE 329

CHESTERTON STYLE 329 is the same type of packing as STYLE 1729 in materials, but is manufactured on square plait braiding machinery for those applications where a more flexible, more formable packing is required.

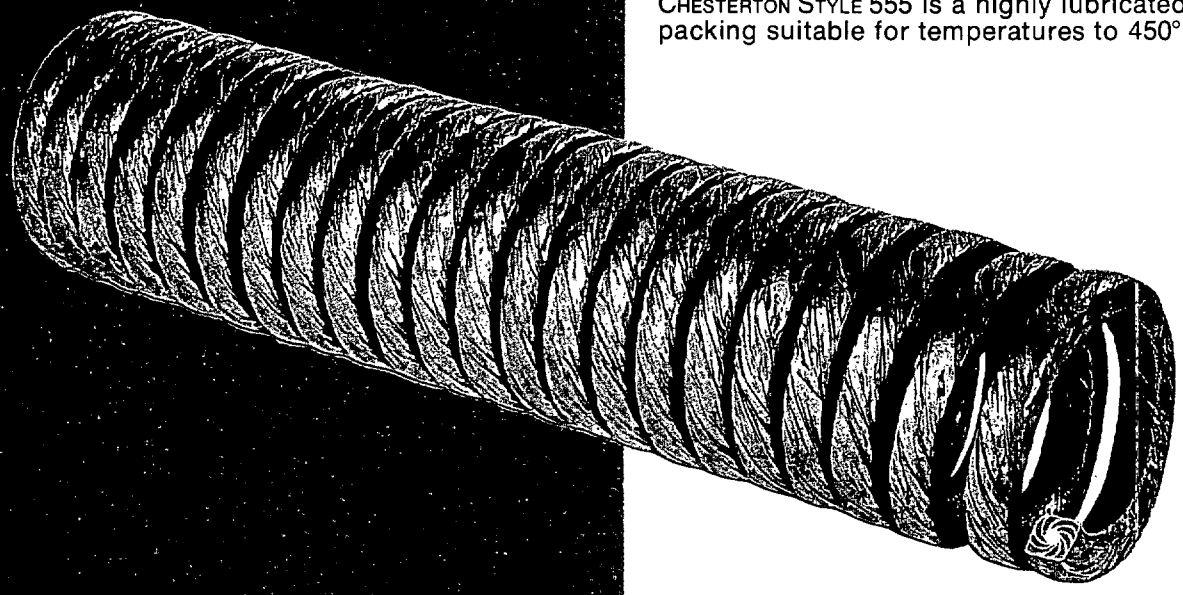
APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/4	6,4	5	2,270	32973	28.20	18,920
5/16	8,0	5	2,270	32974	16.50	11,070
3/8	9,5	5 10	2,270 4,540	32975 32981	11.90	7,980
7/16	11,1	5	2,270	32977	9.00	6,040
1/2	12,7	5 10	2,270 4,540	32979 32983	6.90	4,630
9/16	14,3	5 10	2,270 4,540	32980 32984	5.50	3,690
5/8	15,9	10	4,540	32985	4.30	2,880
11/16	17,5	10	4,540	32986	3.60	2,420
3/4	19,1	10	4,540	32987	3.00	2,010
13/16	20,6	10	4,540	32988	2.60	1,750
7/8	22,2	10	4,540	32989	2.10	1,410
15/16	23,8	10	4,540	32993	2.00	1,340
1	25,4	10	4,540	32994	1.90	1,270
329 REELS ONLY (25 lb. min.)						
1 1/8	28,6	To order		32918	1.70	1,140
1 1/4	31,7	To order		32920	1.30	0,870
1 3/8	34,9	To order		32922	0.98	0,660
1 1/2	38,1	To order		32924	0.84	0,560
1 5/8	41,2	To order		32926	0.62	0,420
1 3/4	44,4	To order		32928	0.60	0,400
1 7/8	47,6	To order		32930	0.56	0,380
2	50,8	To order		32932	0.48	0,320
2 1/8	54,0	To order		32934	0.43	0,290
2 1/4	57,1	To order		32936	0.38	0,250
2 3/8	60,3	To order		32938	0.35	0,230
2 1/2	63,5	To order		32940	0.32	0,210
2 5/8	66,7	To order		32942	0.29	0,185
2 3/4	69,6	To order		32944	0.26	0,170
2 7/8	73,0	To order		32946	0.23	0,154
3	76,2	To order		32948	0.21	0,140

30' and 60' Reels standard for marine use or 1" size

3 CENTRIFUGAL PUMP PACKINGS

CHESTERTON

CHESTERTON STYLE 555

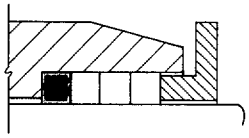


CHESTERTON STYLE 555 is primarily serviceable for pumps handling distillates, fuels and crude oils, mineral seal oil, fresh or salt water, and boiler feed water. STYLE 555 is particularly successful when used against abrasives, crystallizing or congealing liquids such as sugar, asphalt, and slurry (see special instructions pages). It is a preferred packing for medium temperature heat transfer fluids.

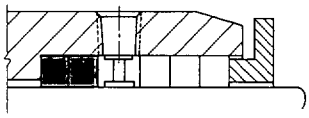
CHESTERTON STYLE 555 is a highly lubricated metallic packing suitable for temperatures to 450°F (230°C).

555 = ■

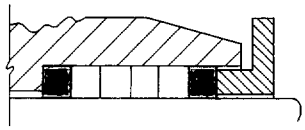
1722 = □



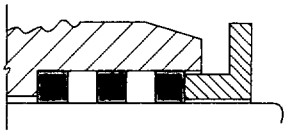
A. General Sea Water



B. Maintains Lantern Ring Position



C. Prevents Extrusion of Soft Packing from Gland and Neck Clearances



D. High Pressure

SERVICE

For rotating shafts to 450°F (230°C) on centrifugal oil pumps, High Pressure water pumps, boiler feed pumps, steam turbine shafts, air and ammonia compressors, pumps with congealing fluids, Heat Transfer fluids.

CHESTERTON STYLE 555 is a strong, compressible, antifrictional, and highly lubricated metallic packing. STYLE 555 achieves unusual resilience due to its cushioning core of asbestos rovings. About this core are folded ribbons of babbitt foil, strong enough to prevent penetration of foreign substances into the packing, yet soft enough to present the shaft with a bearing alloy that reduces scoring. The foil is wrapped, twisted and crinkled in an exclusive process that traps special oils and graphite in the voids and interstices.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16	4,8	1.75	0,79	55503	12.30	8,26
1/4	6,4	3.10	1,42	55504	7.68	5,16
5/16	8,0	3.50	1,59	55505	6.02	4,04
3/8	9,5	5.10	2,32	55506	4.01	2,69
7/16	11,1	6.00	2,72	55507	3.86	2,59
1/2	12,7	9.00	4,09	55508	2.13	1,43
9/16	14,3	9.60	4,37	55509	1.72	1,15
5/8	15,9	12.00	5,45	55510	1.60	1,07
11/16	17,5	14.60	6,64	55511	1.42	0,95
3/4	19,1	14.60	6,64	55512	1.28	0,86
13/16	20,6	22.20	10,09	55513	0.90	0,60
7/8	22,2	25.60	11,63	55514	0.84	0,56
15/16	23,8	25.80	11,72	55515	0.68	0,45
1	25,4	33.60	15,27	55516	0.59	0,39



SERVICE

Marine — Tail shaft liners, rudder posts
Paper — Jordans, Claflins, Hydro-Finers

CHESTERTON STERN-LON® packings are an exclusive approach in the design of large, cross-sectional sizes of packings. They are formulated to solve the exacting sealing requirements of stern tube and rudder post stuffing boxes in the marine field. It is also applicable to installations in the pulp and paper industry in connection with Jordans, Claflins, Hydro-Finers and the like.

The purpose behind this superior packing is to carry out the following objectives: extremely low frictional characteristics, resistance to rot, compressibility, tensile strength without sacrifice of flexibility, comparative ease of installing and of "take-up" (especially for large cross sections), minimal shaft wear, and good peripheral seal contact.

CHESTERTON STYLE 1735

CHESTERTON STYLE 1735 is manufactured on our exclusive interbraid machinery which allows us to offer this packing in interbraid construction throughout the entire size range from ½" through 4". Interbraid construction, in STYLE 1735, results in an almost perfectly square-shaped packing having increased sealing contact, a denser construction than packings made on square plait braider machines, and results in reduced gland pressures and lower scoring rates in order to control leakage.

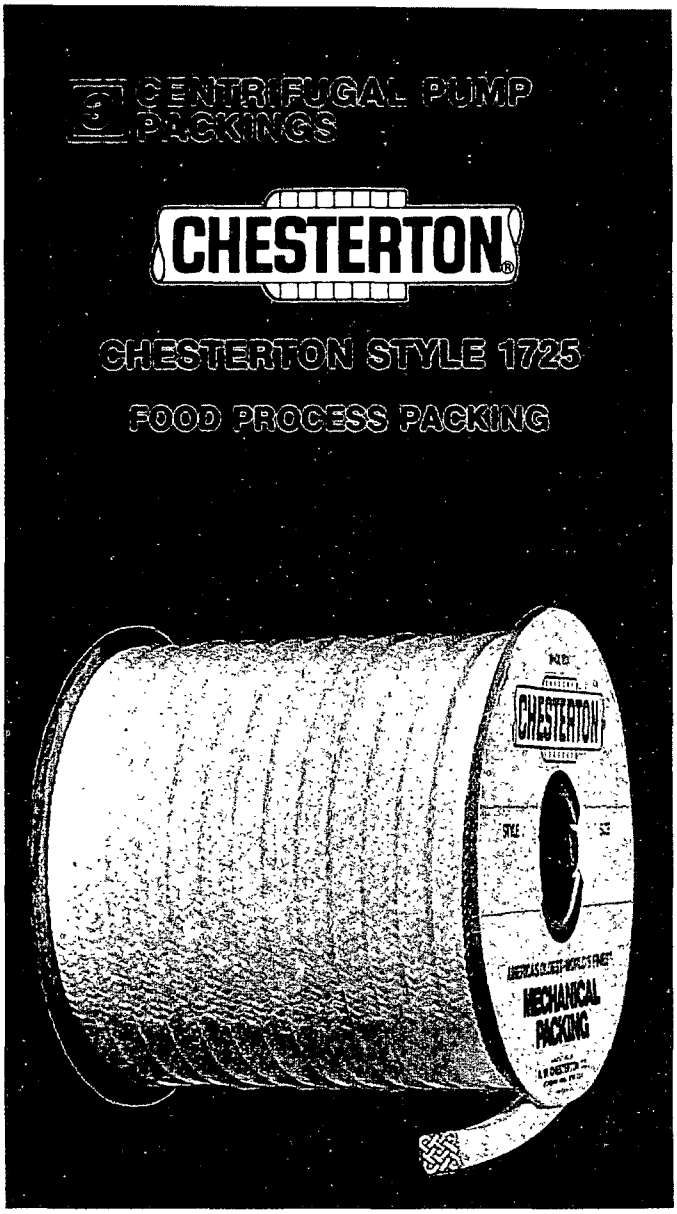
STYLE 1735 is formulated from special yarns which achieve superior sealing and reduced costs when compared to ordinary packings.

It 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. Finally, in order to minimize friction, a finely divided fluorocarbon powder is embedded into the surface of the packing. There will be virtually no wear on the shaft.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
½	12,7	5 10	2,270 4,540	3979 3983	6.70	4,50
9/16	14,3	5 10	2,270 4,540	2980 3984	5.30	3,56
5/8	15,9	10	4,540	3985	4.10	2,75
11/16	17,5	10	4,540	3986	3.40	2,28
¾	19,1	10	4,540	3987	2.80	1,88
13/16	20,6	10	4,540	3988	2.40	1,61
⅞	22,2	10	4,540	3989	1.90	1,28
15/16	23,8	10	4,540	3993	1.80	1,21
1	25,4	10	4,540	3994	1.70	1,14
1735 REELS ONLY (25 lb. min.)						
1	25,4	To order		3916	1.70	1,14
1⅛	28,6	To order		3918	1.35	0,91
1¼	31,7	To order		3920	1.06	0,71
1⅜	34,9	To order		3922	0.98	0,66
1½	38,1	To order		3924	0.82	0,55
1⅝	41,2	To order		3926	0.70	0,47
1¾	44,4	To order		3928	0.60	0,40
1⅞	47,6	To order		3930	0.51	0,34
2	50,8	To order		3932	0.44	0,29
2⅛	54,0	To order		3934	0.43	0,28
2¼	57,1	To order		3936	0.38	0,26
2⅜	60,3	To order		3938	0.33	0,22
2½	63,5	To order		3940	0.29	0,19
2⅝	66,7	To order		3942	0.28	0,18
2¾	69,6	To order		3944	0.24	0,16
2⅞	73,0	To order		3946	0.21	0,14
3	76,2	To order		3948	0.19	0,13
3⅛	79,4	To order		3950	—	—
3¼	82,6	To order		3952	—	—
3⅜	85,7	To order		3954	—	—
3½	88,9	To order		3956	—	—
3⅝	92,1	To order		3958	—	—
3¾	95,3	To order		3960	—	—
3⅞	98,4	To order		3962	—	—
4	101,6	To order		3964	—	—

30' and 60' Reels standard for marine use or 1" size



SERVICE

Pumps, agitators, mixers, for valves, etc., for handling food process fluids.

CHESTERTON STYLE 1725 FOOD PROCESS PACKING is designed for service in food processing equipment with shaft speeds up to 1200 feet per minute (6 M/sec.) and temperatures of 450°F (230°C).

CHESTERTON STYLE 1725 is the only product available that complies with the FDA and the USDA requirements under Title 21 Food and Drugs, 178.3570, lubricants with incidental food contact and 177.1550, perfluorocarbon resins.

An exclusive manufacturing process employed by CHESTERTON, utilizing special yarn fibers, permits this compliance by eliminating soap acids and wetting agents which, in PTFE dispersioned packings, do not satisfy FDA requirements.

With STYLE 1725, its interbraid construction provides unusual toughness and greater sealing ability by placing the maximum number of strands of the packing against sealing surfaces.

The product contains only those materials permitted for food contact use by the U.S. Department of Agriculture and the Food and Drug Administration. Its pure, polytetrafluoroethylene yarn is non-contaminating and resists chemicals in the range of pH1 to pH 14.

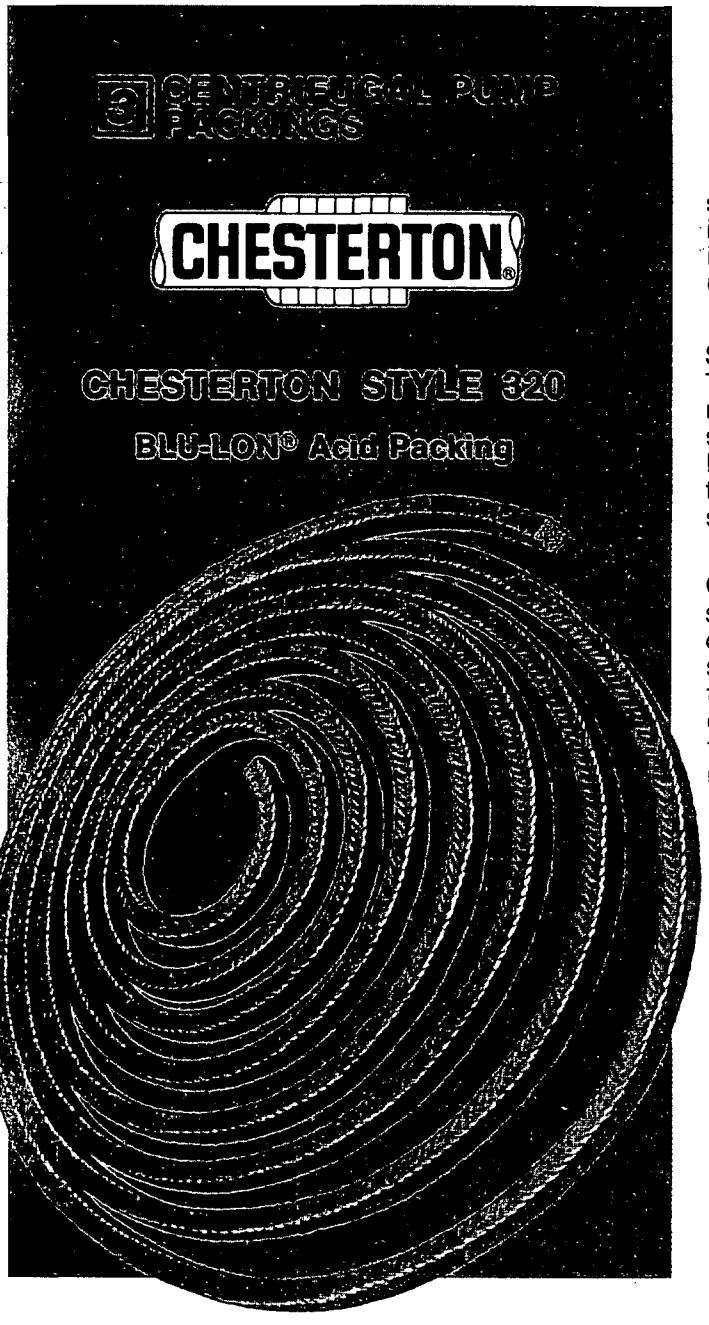
In performance, there is less drag which reduces shaft wear, power consumption and product loss. This is achieved in the manufacturing process by combining special, food-grade lubricants and other bulk particles to serve as a blocking agent to reduce packing bleed through the pumped product and to reduce friction.

The universality of the product for application in valves, pump, agitators, mixers, and other rotating/reciprocating equipment, permits reduction of inventories of several styles of mechanical packing.

CHESTERTON STYLE 1725 FOOD PROCESS PACKING awarded HONORS in the 1977 FOOD PROCESSING AWARDS program by an independent panel of food industry judges.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8	3,2	2	0,908	3360	72.35	48,61
	4,0	2	0,908	3361	54.27	36,46
3/16	4,8	2	0,908	3362	36.20	24,32
	6,0	2 5	0,908 2,270	3363 3372	23.41	15,73
1/4	6,4	2 5	0,908 2,270	3363 3373	17.02	11,44
5/16	8,0	2 5	0,908 2,270	3365 3374	13.62	9,15
3/8	9,5	2 5 10	0,908 2,270 4,540	3366 3375 3381	9.87	6,63
	10,0	2 5	0,908 2,270	3367 3376	8.75	5,88
7/16	11,1	2 5	0,908 2,270	3368 3377	6.70	4,50
	12,0	2 5 10	0,908 2,270 4,540	3369 3378 3382	6.20	4,17
1/2	12,7	2 5 10	0,908 2,270 4,540	3370 3379 3383	5.70	3,83
9/16	14,3	5 10	2,270 4,540	3380 3384	4.70	3,16
5/8	15,9	10	4,540	3385	3.70	2,49
11/16	17,5	10	4,540	3386	3.07	2,06
3/4	19,1	10	4,540	3387	2.44	1,64
13/16	20,6	10	4,540	3388	2.08	1,40
7/8	22,2	10	4,540	3389	1.79	1,20
15/16	23,8	10	4,540	3393	1.56	1,05
1	25,4	10	4,540	3394	1.37	0,92



SERVICE

For shafts, rods, valves against highly corrosive acids to 500°F. (260°C.)

STYLE 320 BLU-LON® is a newly developed and perfected braided packing chemically resistant to such difficult acid conditions as sulphuric, sulphurous, hydrochloric and chromic. It has two primary base ingredients: first, DuPont Teflon* tetrafluoroethylene resin which is inert to all materials except molten alkali metals; secondly, South African Blue Crocidolite asbestos, a chemically pure asbestos yarn recognized for its superior acid resisting properties. Each strand of this yarn is separately and completely covered with chemically inert Teflon Suspensoid, using our special and exclusive process. The packing is then manufactured in our interbraid construction for added dimensional stability. Once again it is treated with DuPont Teflon to give it an additional lubricating surface, thus helping to eliminate severe shaft scoring. STYLE 320 BLU-LON is further treated with a break-in lubricant to decrease shaft damage during start-up operations.

STYLE 320 BLU-LON is superior in service to straight Teflon resins of the braided ribbon or extruded moulded types. Moulded resin packings will swell and seize high speed shafts. BLU-LON will not. Further, BLU-LON has excellent compressibility and recuperation. These desirable characteristics are not found in straight Teflon resin packings.

CHESTERTON BLU-LON Packing is recommended for strong acids ranging from pH values 1 through 4 inclusive. Ideally suited for service on chrome plated or stainless steel shafts. *Note:* Makes a fine, permanent-type ammonia valve stem packing because the lubricant does not dry out, since STYLE 320 is Teflon protected from the residual oil and water present in ammonia lines.

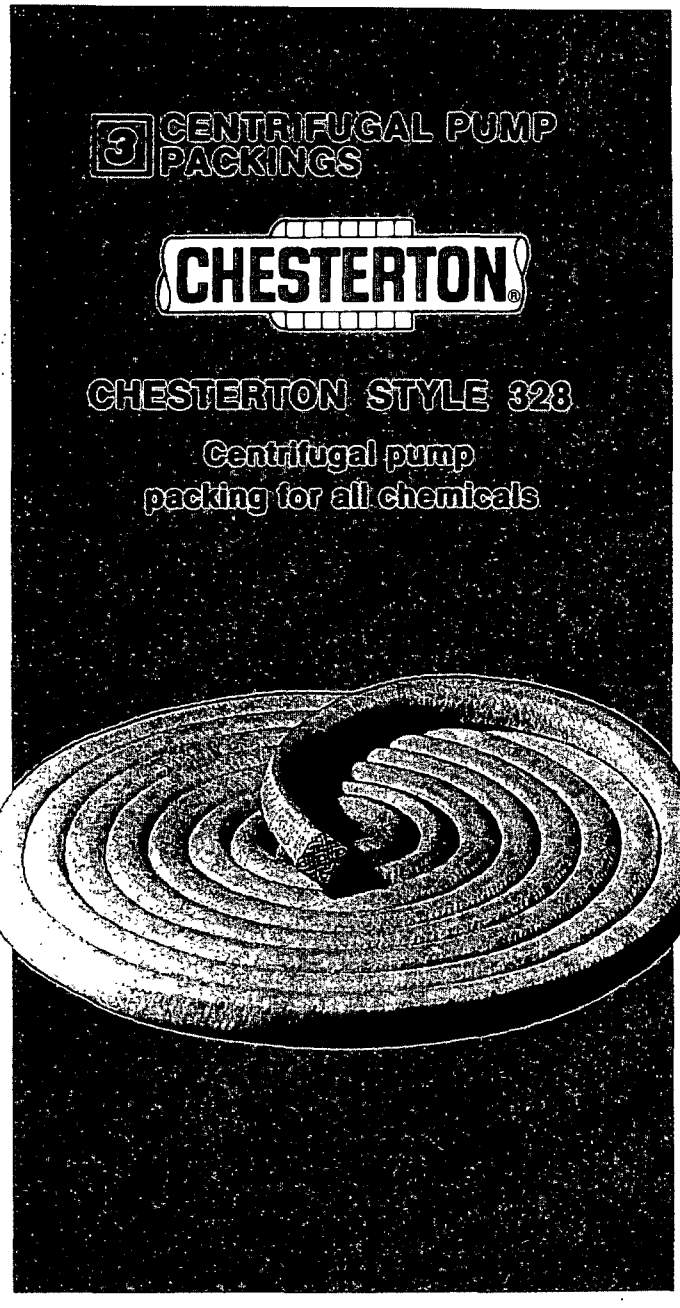
* DuPont's registered trademark.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8[1]	3,2	2	0,908	32060	78.0	52,34
	4,0[1]	2	0,908	32061	57.0	38,30
3/16[1]	4,8	2	0,908	32062	30.6	20,56
	6,0	2 5	0,908 2,270	32063 32072	24.0 24.0	16,09 16,09
1/4	6,4	2 5	0,908 2,270	32064 32073	19.3 19.3	12,96 12,96
5/16	8,0	2 5	0,908 2,270	32065 32074	11.6 11.6	7,79 7,79
3/8	9,5	2 5 10	0,908 2,270 4,540	32066 32075 32081	8.7 8.7 8.7	5,80 5,80 5,80
	10,0	2 5	0,908 2,270	32067 32076	7.8 7.8	5,23 5,23
7/16	11,1	2 5	0,908 2,270	32068 32077	6.1 6.1	4,09 4,09
	12,0	2 5 10	0,908 2,270 4,540	32069 32078 32082	5.6 5.6 5.6	3,76 3,76 3,76
1/2	12,7	2 5 10	0,908 2,270 4,540	32070 32079 32083	4.8 4.8 4.8	3,22 3,22 3,22
9/16	14,3	5 10	2,270 4,540	32080 32084	4.1 4.1	2,75 2,75
5/8	15,9	10	4,540	32085	3.4	2,28
11/16	17,5	10	4,540	32086	2.7	1,82
3/4	19,1	10	4,540	32087	2.2	1,47
13/16	20,6	10	4,540	32088	1.9	1,27
7/8	22,2	10	4,540	32089	1.8	1,20
15/16	23,8	10	4,540	32093	1.5	1,01
1	25,4	10	4,540	32094	1.47	0,98

[1] Slightly different construction

FOR APPLICATIONS INVOLVING NITRIC ACID — CONSULT FACTORY



SERVICE

For shaft speeds to 1200 ft. per min. (6 m/sec.) against all chemicals also for air and gas valves

Normally, an all-fibre packing made of Teflon* (such as our STYLE 324 for valves) is limited in its ability to handle the higher shaft speeds. In STYLE 328 CHESTERTON has developed an all-Teflon fibre which has been reoriented to increase substantially the tolerance of the fibre to higher peripheral shaft speed demands. Designed for centrifugal pump service, it is a chemical packing completely inert to all materials except molten alkali metals.

CHESTERTON STYLE 328 fibres have been preshrunk and braided in our interbraid construction to give greater dimensional stability at elevated temperatures to 500°F. (260°C.). Additionally, DuPont Teflon suspensoid resin and other lubricants are incorporated into the fibres to resist migration, often the primary cause of leakage, and for low frictional qualities.

* *DuPont's registered trademark.*

STYLE 328 differs from other Teflon fibre packings. It is capable of withstanding higher shaft speeds because of the inclusion of CHESTERTON'S exclusive "blocking agent". Friction between shaft and packing builds; and because Teflon is an insulator, heat is unable to escape to the casing. The incorporation of CHESTERTON'S "blocking agent" in STYLE 328 allows for expansion. The packing is permitted to breathe in the box, and heat is dissipated to prevent exothermic burning.

Shaft frictional scoring is virtually eliminated with the development of this new soft TFE form. Also excellent for air and gas valves, as STYLE 328 is easily responsive, and thus resists channeling.

The effective use of Teflon in centrifugal pumps with higher speed shafts is now significantly increased with STYLE 328 to approximately 1200 ft./min. (6 m/sec.) or higher if considerable care is used on installation and break-in. See shaft peripheral speed table in rear of catalog to determine ft./min. or m/sec.

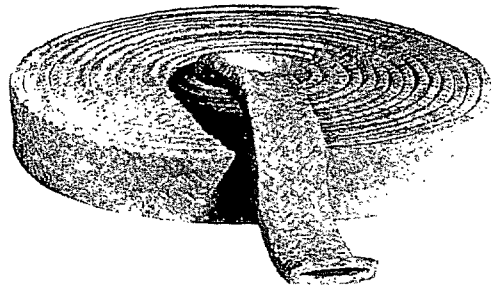
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8 [1]	3,2	2	0,908	32860	76.0	50,99
	4,0 [1]	2	0,908	32861	53.0	35,61
3/16 [1]	4,8	2	0,908	32862	27.0	18,12
	6,0	2	0,908	32863	22.5	15,12
		5	2,270	32872	22.5	15,12
1/4	6,4	2	0,908	32864	21.0	14,09
		5	2,270	32873	21.0	14,09
5/16	8,0	2	0,908	32865	12.0	8,05
		5	2,270	32874	12.0	8,05
3/8	9,5	2	0,908	32866	8.3	5,57
		5	2,270	32875	8.3	5,57
		10	4,540	32881	8.3	5,57
	10,0	2	0,908	32867	7.4	4,97
		5	2,270	32876	7.4	4,97
7/16	11,1	2	0,908	32868	7.0	4,70
		5	2,270	32877	7.0	4,70
	12,0	2	0,908	32869	5.8	3,90
		5	2,270	32878	5.8	3,90
		10	4,540	32882	5.8	3,90
1/2	12,7	2	0,908	32870	4.8	3,22
		5	2,270	32879	4.8	3,22
		10	4,540	32883	4.8	3,22
9/16	14,3	5	2,270	32880	3.8	2,55
		10	4,540	32884	3.8	2,55
5/8	15,9	10	4,540	32885	3.3	2,21
11/16	17,5	10	4,540	32886	2.8	1,88
3/4	19,1	10	4,540	32887	2.4	1,61
13/16	20,6	10	4,540	32888	2.1	1,41
7/8	22,2	10	4,540	32889	1.8	1,21
15/16	23,8	10	4,540	32893	1.5	1,01
1	25,4	10	4,540	32894	1.0	0,80

[1] Slightly different construction

FOR APPLICATIONS INVOLVING NITRIC ACID — CONSULT FACTORY

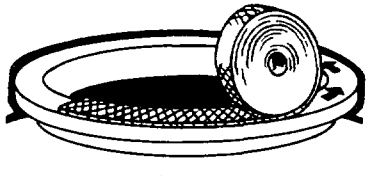




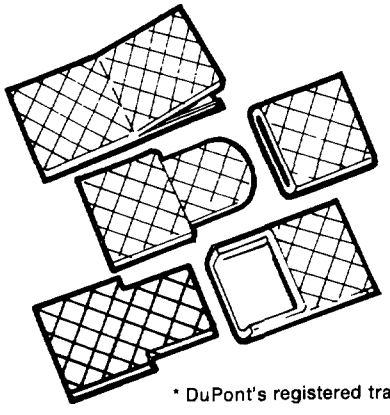
SERVICE

Forms an endless seal for any diameter flange on reactor vessels, tank covers, domes, pipes, etc. Replaces envelope gaskets.

A single role of either of these versatile gasketing materials eliminates the costly stocking of a multiplicity of sizes of conventional, ring-type Teflon* envelope gaskets. It can be cut, shaped, and joined into endless lengths — right on the job! And only an ordinary pencil is needed to make bolt holes, if required.



GASKET LIES FLAT
Construction bends to conform perfectly to flange diameter or possible imperfections. Leakage is prevented.



TONGUE TYPE ENDLESS JOINT
Leak-proof joint formed "on-the-job" by cutting and shaping one end to fit into hollow center of other end.

* DuPont's registered trademark.

CHESTERTON STYLE 325

CHESTERTON STYLE 325 FOOD PROCESS GASKET TAPE is constructed entirely of the same approved materials used in STYLE 1725 Packing and meets the same requirements of the United States Food & Drug Administration (FDA) Code of Federal Regulations (CFR) paragraphs 178.3570 "Lubricants with Incidental Food Contact" and 177.1550 "Perfluorocarbon resins." Accepted by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA). CHESTERTON STYLE 325 FOOD PROCESS GASKET TAPE forms an endless seal on flanges of vessels, mixers, tanks, piping, etc.

CHESTERTON STYLE 382

CHESTERTON STYLE 382 is made of a tough, braided DuPont Teflon fiber treated with special lubricants.

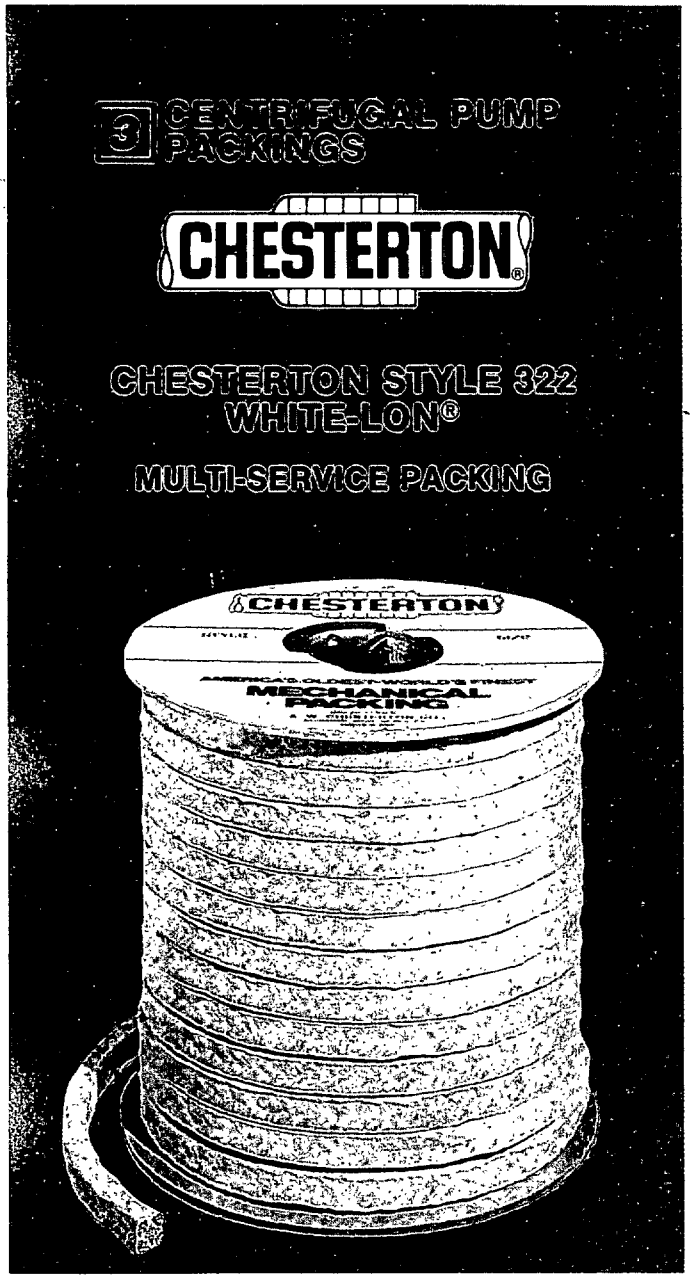
STYLES 325 and 382 are especially suitable for use with glass, glass-lined porcelain, Karbate, FRP or metal flanges where the low flange pressure and flange irregularities require effortless, easy compression of the gasket. Furthermore, no shimming is needed. Tank covers, domes of trucks and tank cars, and pharmaceutical or other vessels offer exceptional opportunities for this versatile gasketing. Because it does not adhere, metal flanges need never be scraped or cleaned; it withstands all chemicals and fuels. Extrusion of the gasket is greatly reduced because of the high mechanical strength of the braided fiber.

There are guidelines as to the use of these styles where temperature and pressure are combined: At a low pressure of 28 psi (2 kg/cm²), STYLES 325/382 are effective slightly above 400°F (205°C). However, as the internal vessel pressure is increased, the maximum temperature must be decreased.

The maximum temperature/pressure combination is 200 psi (14 kg/cm²) at 250°F (120°C). Negative pressures to 28" Hg are permissible.

APPROXIMATE DATA

Size		Packaged±10%		Reorder Product No.		Lengths/Weight	
Inches	mm	lbs.	kg.	STYLE 382	STYLE 325	Ft./lb.	M/kg.
⅛ × ½	3,2 × 12,7	25	7,62	38211	38311	16.0	10,75
		50	15,24	38212	38312		
		100	30,48	38213	38313		
		or to order		38214	38314		
⅛ × 1	3,2 × 25,4	25	7,62	38221	38321	7.7	5,17
		50	15,24	38222	38322		
		100	30,48	38223	38323		
		or to order		38224	38324		
¼ × 1	6,4 × 25,4	15	4,57	38231	38331	5.0	3,36
		25	7,62	38232	38332		
		50	15,24	38233	38333		
		or to order		38234	38334		
¼ × 1½	6,4 × 38,1	25	7,62	38241	38341	3.0	2,01
		50	15,24	38242	38342		
		or to order		38243	38343		
¼ × 2	6,4 × 50,8	25	7,62	38251	38351	2.6	1,74
		50	15,24	38252	38352		
		or to order		38253	38353		



SERVICE

For Shafts, Rods, Valves Against Water, Steam, Mild Acids and Alkalies, Solvents to 500°F (260°C)

CHESTERTON STYLE 322 WHITE-LON® MULTI-SERVICE PACKING is capable of a wide variety of plant uses. STYLE 322 withstands most water, steam, solvent and chemical applications to 500°F (260°C). It is equally effective in reciprocating and centrifugal pumps, as well as in valves. Thus, WHITE-LON can be said to be a packing truly universal in usage.

CHESTERTON STYLE 322 WHITE-LON is manufactured from Chrysotile asbestos yarn in square plait construction. It is massively treated and immunized by DuPont Teflon* tetrafluoroethylene resin. Standard lubricants may migrate from packings due to pressure from gland take-up, heat, chemical action, or by being dissolved or washed out. WHITE-LON'S superior Teflon lubrication is resistant to these conditions, making STYLE 322 effective against even the most difficult alkaline substances. WHITE-LON also contains a break-in lubricant to help lubricate shafts during initial start-up periods.

WHITE-LON MULTI-SERVICE is ideal for use on both hot and cold water pumps because of its unusually low coefficient of friction. Expensive shafts and sleeves (often costing far in excess of packings) can be spared. WHITE-LON resists scoring of stainless steel and chrome plated shafts; and, containing no graphite, it will not cause pitting of rods or shafts. Being white in color it will not stain in pulp and paper mill applications.

STYLE 322 TWISTED:

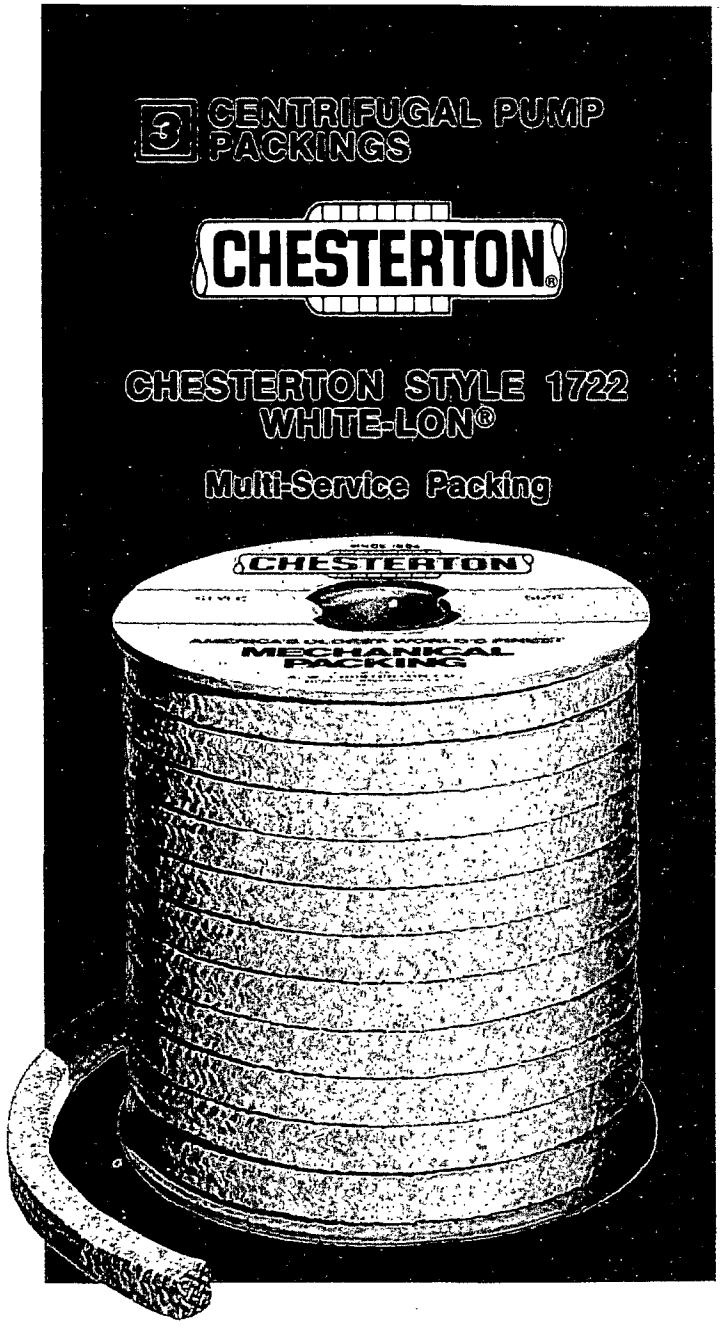
STYLE 322 TWIST is available in 1/8", 1/4", and 3/8" sizes packaged in kits containing 2 spools each of the above sizes. This packing is limited to valve service.

For STYLE 322 TWIST KITS see page 89.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	32260	63.00	42,30
	4,0	2	0,908	32261	51.90	34,87
3/16	4,8	2 5	0,908 2,270	32262 32271	39.20 39.20	26,91 26,91
	6,0	2 5	0,908 2,270	32263 32272	24.80 24.80	16,66 16,66
1/4	6,4	2 5	0,908 2,270	32264 32273	20.00 20.00	19,42 19,42
5/16	8,0	2 5	0,908 2,270	32265 32274	15.30 15.30	10,27 10,27
3/8	9,5	2 5 10	0,908 2,270 4,540	32266 32275 32281	10.50 10.50 10.50	7,05 7,05 7,05
	10,0	2 5	0,908 2,270	32267 32276	9.00 9.00	6,05 6,05
7/16	11,1	2 5	0,908 2,270	32268 32277	8.30 8.30	5,57 5,57
	12,0	2 5 10	0,908 2,270 4,450	32269 32278 32282	7.00 7.00 7.00	4,70 4,70 4,70
1/2	12,7	2 5 10	0,908 2,270 4,540	32270 32279 32283	5.80 5.80 5.80	3,90 3,90 3,90
9/16	14,3	5 10	2,270 4,540	32280 32284	4.90 4.90	3,29 3,29
5/8	15,9	10	4,540	32285	4.00	2,68
11/16	17,5	10	4,540	32286	3.10	2,08
3/4	19,1	10	4,540	32287	2.30	1,54
13/16	20,6	10	4,540	32288	2.15	1,45
7/8	22,2	10	4,540	32289	2.00	1,34
15/16	23,8	10	4,540	32293	1.80	1,21
1	25,4	10	4,540	32294	1.50	1,00
1 1/16	27,0	To order		32217	1.30	0,87
1 1/8	28,6	To order		32218	1.23	0,82
1 1/4	31,7	To order		32220	1.00	0,67

* DuPont's registered trademark.



SERVICE

For shafts, rods, valves against water, steam, solvents, mild acids and alkalies to 500°F. (260°C.). Being white in color, it will not stain pulp and paper mill applications.

CHESTERTON STYLE 1722 WHITE-LON® is manufactured from white Canadian chrysotile asbestos and Teflon* suspensoid in interbraid construction. Prior to braiding, each strand of asbestos is individually coated with DuPont Teflon by a unique yarn coating process to accurately control and evenly disperse the lubricant. STYLE 1722 is then interbraided, and once again coated with Teflon suspensoid. To STYLE 1722 an additional break-in lubricant is added to minimize shaft damage and to allow for expansion during the break-in period. The combination of full lubrication and interbraid construction produces a natural square packing having better sealing contact with reduced gland pressure.

* DuPont's registered trademark.

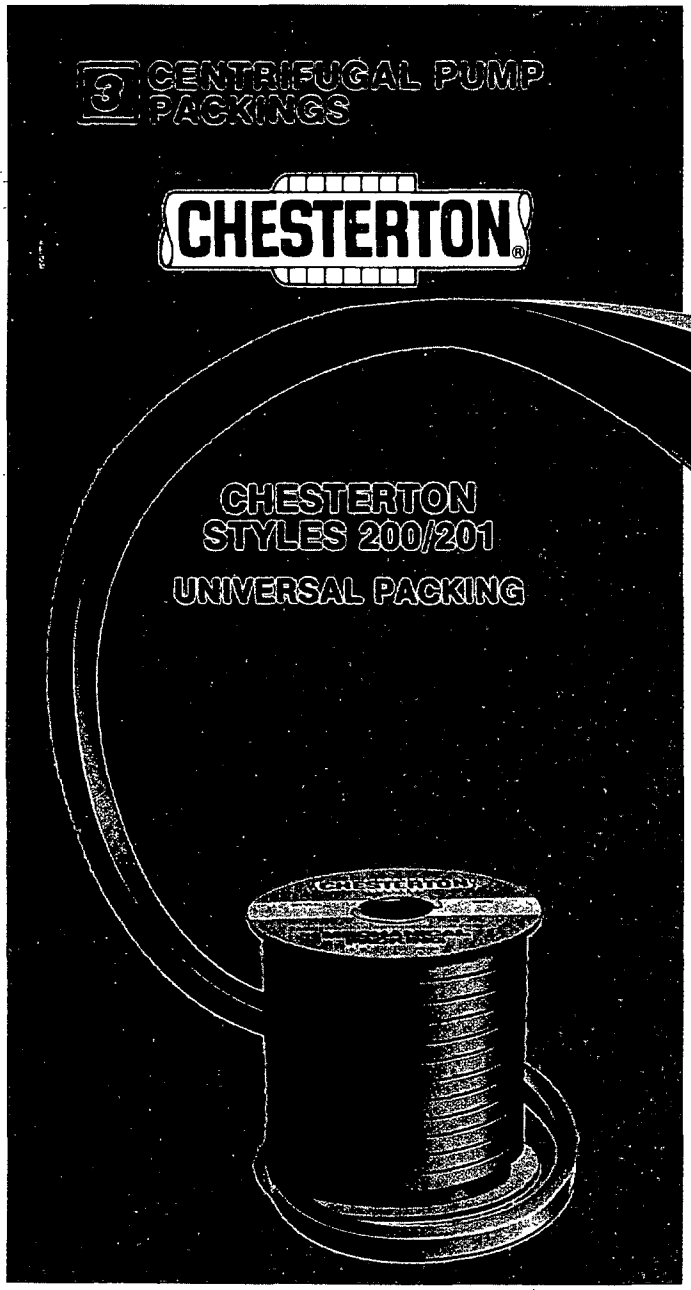
STYLE 1722 WHITE-LON is a truly multi-service packing capable of a wide variety of uses throughout a plant. STYLE 1722 may be used on water, steam, solvents, mild acids and alkalies in valves, pumps, expansion joints, mixers and agitators to 500°F. (260°C.). STYLE 1722 resists scoring of stainless or chrome-plated shafts; and, containing no graphite, it will not cause pitting to rods or shafts.

Marine Service: A ship can be packed from bow to stern on most applications on both pumps and valves. This effects standardization, reduces packing styles needed aboard. STYLE 1722 WHITE-LON reduces shaft wear while giving extended, virtually leak-free service.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8[1]	3,2	2	0,908	3160	81.68	54,88
	4,0[1]	2	0,908	3161	55.20	37,10
3/16[1]	4,8	2	0,908	3162	39.20	26,91
		5	2,270	3171	39.20	26,91
	6,0	2	0,908	3163	28.60	19,22
		5	2,270	3172	28.60	19,22
1/4	6,4	2	0,908	3164	22.14	14,87
		5	2,270	3173	22.14	14,87
5/16	8,0	2	0,908	3165	13.46	9,04
		5	2,270	3174	13.46	9,04
3/8	9,5	2	0,908	3166	9.55	6,41
		5	2,270	3175	9.55	6,41
		10	4,540	3181	9.55	6,41
	10,0	2	0,908	3167	8.80	5,92
		5	2,270	3176	8.80	5,92
7/16	11,1	2	0,908	3168	7.15	4,80
		5	2,270	3177	7.15	4,80
	12,0	2	0,908	3169	7.10	4,77
		5	2,270	3178	7.10	4,77
		10	4,540	3182	7.10	4,77
1/2	12,7	2	0,908	3170	6.04	4,05
		5	2,270	3179	6.04	4,05
		10	4,540	3183	6.04	4,05
9/16	14,3	5	2,270	3180	4.55	3,05
		10	4,540	3184	4.55	3,05
5/8	15,9	10	4,540	3185	3.75	2,51
11/16	17,5	10	4,540	3186	2.80	1,88
3/4	19,1	10	4,540	3187	2.57	1,72
13/16	20,6	10	4,540	3188	2.24	1,50
7/8	22,2	10	4,540	3189	2.00	1,34
15/16	23,8	10	4,540	3193	1.80	1,20
1	25,4	10	4,540	3194	1.41	0,94
1 1/16	27,0	To order		3117	1.25	0,84
1 1/8	28,6	To order		3118	1.20	0,80

[1] Slightly different construction



CHESTERTON STYLE 200 resists hardening when used within its intended temperature limits of 500°F (260°C), and will remain flexible and has excellent lubrication retention properties.

CHESTERTON STYLE 201

CHESTERTON STYLE 201 is made from similar materials to STYLE 200 but is white in color. Where a non-staining, non-discoloring packing is needed, it is available in STYLE 201.

CHESTERTON STYLE 200 is designed to resist extrusion due to alignment and orientation of its PTFE fiber-like strands. It is suggested, however, that back up rings of braided material be used where higher pressures and excessive clearances are encountered.

SERVICE

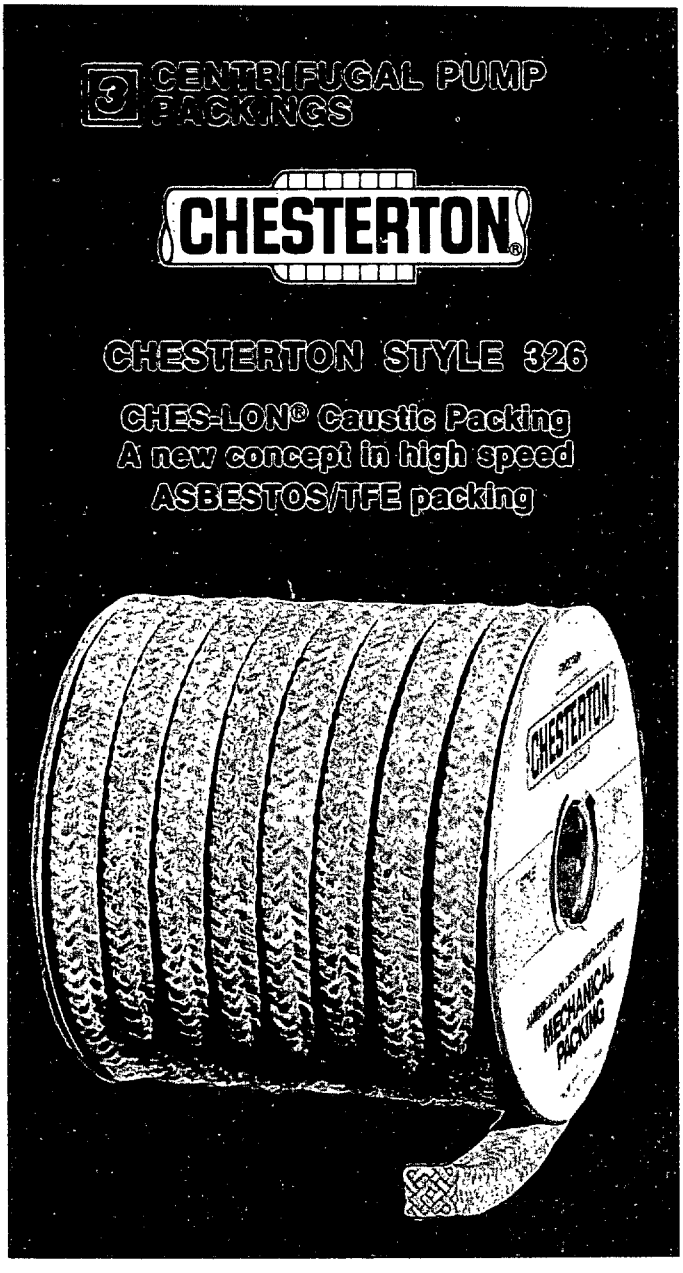
For shafts, rods, valves, against water, steam, acids and alkalies, solvents and gases to 500°F (260°C).

CHESTERTON STYLE 200

CHESTERTON STYLE 200 Universal Packing is designed for use in a wide variety of services and applications. It can service not only standard applications such as water, oils, solvents, steam, paper mill stock, but may also be used in severe acid or alkali conditions. It may be employed in clean fluids or abrasives, on centrifugal or reciprocating pumps, mixers, agitators, or in valves or expansion joints.

CHESTERTON STYLE 200 is manufactured from a combination of lubricants, unsintered oriented PTFE, and other chemically resistant materials. They are formulated and blended to provide a packing with superior anti-friction and non-scoring characteristics which, at the same time, contain a large quantity of PTFE material which provides chemical resistance for the entire pH range.

APPROXIMATE DATA							
Size		Packaged ± 10%		Reorder Product No.		Lengths/Weight	
Inches	mm	lbs.	kg.	STYLE 200	STYLE 201	Ft./lb.	M/kg.
1/8	3,2	2	0,908	20060	20160	80.00	53,75
	4,0	2	0,908	20061	20161	51.00	34,27
5/32	4,8	2	0,908	20062	20162	36.00	24,19
	6,0	2 5	0,908 2,270	20063 20072	20163 20172	24.45	16,43
1/4	6,4	2 5	0,908 2,270	20064 20073	20164 20173	20.00	13,44
5/16	8,0	2 5	0,908 2,270	20065 20074	20165 20174	14.16	9,51
3/8	9,5	2 5 10	0,908 2,270 4,540	20066 20075 20081	20166 20175 20181	8.33	5,60
	10,0	2 5	0,908 2,270	20067 20076	20167 20176	7.52	5,05
7/16	11,1	2 5	0,908 2,270	20068 20077	20168 20177	5.88	3,95
	12,0	2 5 10	0,908 2,270 4,540	20069 20078 20082	20169 20178 20182	5.21	3,50
1/2	12,7	2 5 10	0,908 2,270 4,540	20070 20079 20083	20170 20179 20183	4.54	3,05
9/16	14,3	5 10	2,270 4,540	20080 20084	20180 20184	3.74	2,51
5/8	15,9	10	4,540	20085	20185	2.94	1,98
11/16	17,5	10	4,540	20086	20186	2.49	1,67
3/4	19,1	10	4,540	20087	20187	2.04	1,37
13/16	20,6	10	4,540	20088	20188	1.76	1,18
7/8	22,2	10	4,540	20089	20189	1.49	1,00
15/16	23,8	10	4,540	20093	20193	1.31	0,88
1	25,4	10	4,540	20094	20194	1.13	0,76



SERVICE

For shafts, rods, valves against the strongest alkalies, the milder acids, to 500°F. (260°C.)

CHESTERTON STYLE 326 CHES-LON® is a new *high speed* packing exclusively designed for the most severe alkaline conditions such as potassium, calcium, ammonium, barium, and magnesium hydroxides, sodium hydroxide (caustic soda), and all other strong alkaline solutions. It is recommended for reciprocating rods, rotating shafts, and valves. STYLE 326, because of exclusive CHES-LON features, offers unusual service life against liquids of high pH values ranging in excess of pH 9.

CHESTERTON STYLE 326 CHES-LON is a completely *different* Packing. An exclusive development by Chesterton makes possible total elimination of the cotton "carrier" used for spinning white asbestos yarn. Previous to this innovation, white yarns usually contained a generous percentage of cotton in order to provide greater spinning strength, to decrease the harshness of asbestos, and to aid in the retention of lubricants. Since caustics destroy cotton, it has been the practice either to live with cotton, at sacrifices to packing life; or to use either blue asbestos or a 4A white yarn. Either solution, however, produces a fiber highly abrasive to shafts. The result is severe scoring of expensive shafts and sleeves, particularly those of stainless steel.

Our answer is logical: — use Teflon* *fiber* as a carrier. In STYLE 326 we now offer a *white* asbestos with low abrasive characteristics and with a chemical resistance previously associated only with blue asbestos.

Each strand of STYLE 326 CHES-LON is individually coated with DuPont Teflon, braided in our interbraid construction, and then again massively lubricated with an additional coating of Teflon, which gives STYLE 326 a smooth, slippery surface. This lubricant, unlike waxes or greases, is immune to acids and caustics. Furthermore, it is stable in the packing and will neither wash out nor squeeze out as a result of gland pressure, and thus the lubricant is retained in the packing throughout its life. An added benefit is the fact that crystallization through absorption does not take place in the packing because Teflon effectively seals off the surface. The result is far less packing wear on shafts, and all this at speeds in excess of normal pure Teflon packings. STYLE 326 also contains a break-in lubricant to help alleviate heat build-up during start-up.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16[1]	4,8	2	0,908	32662	33.3	22,37
	6,0	2	0,908	32663	29.0	19,49
		5	2,270	32672		
1/4	6,4	2	0,908	32664	19.0	12,76
		5	2,270	32673	19.0	12,76
5/16	8,0	2	0,908	32665	12.7	8,52
		5	2,270	32674	12.7	8,52
3/8	9,5	2	0,908	32666	9.6	6,45
		5	2,270	32675	9.6	6,45
		10	4,540	32681	9.6	6,45
	10,0	2	0,908	32667	7.0	4,70
		5	2,270	32676	7.0	4,70
7/16	11,1	2	0,908	32668	6.1	4,09
		5	2,270	32677	6.1	4,09
	12,0	2	0,908	32669	5.7	3,82
		5	2,270	32678	5.7	3,82
		10	4,540	32682	5.7	3,82
1/2	12,7	2	0,908	32670	5.5	3,69
		5	2,270	32679	5.5	3,69
		10	4,540	32683	5.5	3,69
9/16	14,3	5	2,270	32680	4.3	2,88
		10	4,540	32684	4.3	2,88
5/8	15,9	10	4,540	32685	3.2	2,15
11/16	17,5	10	4,540	32686	2.7	1,79
3/4	19,1	10	4,540	32687	2.4	1,61
13/16	20,6	10	4,540	32688	2.2	1,47
7/8	22,2	10	4,540	32689	1.8	1,21
15/16	23,8	10	4,540	32693	1.5	1,00
1	25,4	10	4,540	32694	1.3	0,87

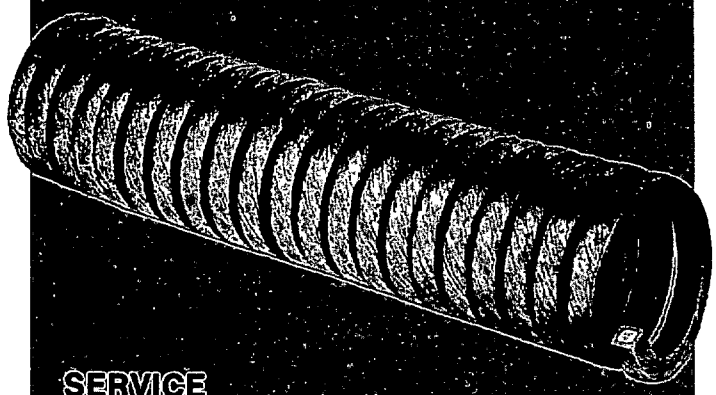
[1] Slightly different construction

* DuPont's registered trademark.

3 CENTRIFUGAL PUMP PACKINGS

CHESTERTON

CHESTERTON STYLE 666



SERVICE
For rotating shafts of 500 Brinell hardness to 1000°F (540°C) on centrifugal hot oil charge pumps, diphenyl valves, still necks, hot oil valves, boiler feed pumps, heat transfer fluids.

STYLE 666 is aluminum ribbon constructed in the same manner as STYLE 555. The lubricant used will not carbonize at high temperatures, thus the heavy concentration of graphite is free to function as a true and unimpeded lubricant. Shafts should be of 500 Brinell hardness or over when STYLE 666 is employed. Typical installations include centrifugal hot oil charge pumps handling crude oil, gas oil, pressure distillate and lower fractions up to maximum temperature. Also suitable for still necks, diphenyl valves, hot oil valves, and boiler feed pumps. It is recommended for equipment found in oil refineries to 1000°F. (540°C.).

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16	4,8	1.30	0,59	66603	52.69	35,42
1/4	6,4	1.90	0,86	66604	28.97	19,46
5/16	8,0	1.50	0,68	66605	19.00	12,76
3/8	9,5	1.70	0,77	66606	12.14	8,15
7/16	11,1	1.90	0,86	66607	9.70	6,51
1/2	12,7	2.80	1,27	66608	8.71	5,85
9/16	14,3	3.10	1,41	66609	6.78	3,82
5/8	15,9	3.70	1,68	66610	4.86	3,26
11/16	17,5	4.50	2,04	66611	4.42	2,96
3/4	19,1	4.50	2,04	66612	4.00	2,68
13/16	20,6	4.15	1,88	66613	3.54	2,37
7/8	22,2	4.76	2,16	66614	3.10	2,08
15/16	23,8	5.38	2,44	66615	2.65	1,78
1	25,4	6.06	2,75	66616	2.22	1,49

CHESTERTON

CHESTERTON STYLE 550

Braided plastic packing



SERVICE
For centrifugal pumps to 350°F. (180°C.) on hot and cold water, steam, air.

STYLE 550 is composed of long fibre asbestos, graphite, and anti-frictional non-scoring components all bonded together into a homogeneous product. It is covered with a light braided jacket to ensure dimensional stability. STYLE 550 is widely used to 350°F. (180°C.) on centrifugal shafts in contact with hot water, oil, and many solvents. When used with metallic STYLE 555 it is very effective on boiler feed pumps. It is also suggested as a general service packing on steam, air, oil, and water valves.

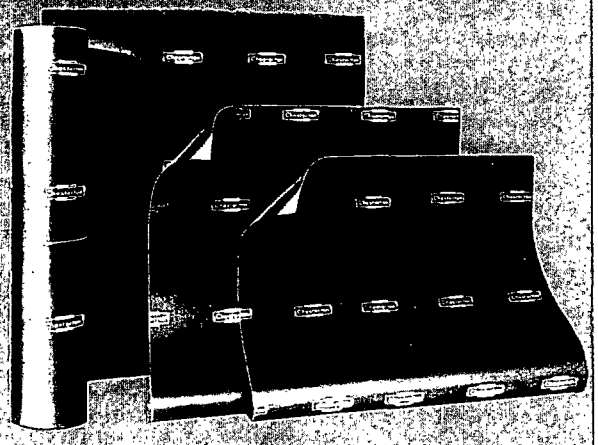
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	55060	83.30	55,90
3/16	4,8	2	0,908	55062	62.50	41,94
1/4	6,4	2 5	0,908 2,270	55064 55073	28.60 28.60	19,19 19,19
5/16	8,0	2 5	0,908 2,270	55065 55074	19.20 19.20	12,88 12,88
3/8	9,5	2 5 10	0,908 2,270 4,540	55066 55075 55081	13.00 13.00 13.00	8,72 8,72 8,72
7/16	11,1	2 5	0,908 2,270	55068 55077	11.40 11.40	7,65 7,65
1/2	12,7	2 5 10	0,908 2,270 4,540	55070 55079 55083	6.80 6.80 6.80	4,56 4,56 4,56
9/16	14,3	5 10	2,270 4,540	55080 55084	5.40 5.40	3,62 3,62
5/8	15,9	10	4,540	55085	4.40	2,95
11/16	17,5	10	4,540	55086	3.66	2,46
3/4	19,1	10	4,540	55087	3.00	2,01
13/16	20,6	10	4,540	55088	2.62	1,76
7/8	22,2	10	4,540	55089	2.20	1,48
15/16	23,8	10	4,540	55093	2.10	1,41
1	25,4	10	4,540	55094	2.00	1,34

4 FLANGE and GASKETING MATERIAL

CHESTERTON

CHESTERTON STYLE 210



SERVICE
Heavy duty graphited sheet to 750°F. (400°C.) against superheated or saturated steam, air, gas, ammonia, alkalies and many acids.

CHESTERTON STYLE 210 is a heavy-duty compressed asbestos sheet of exceptional quality, suitable for practically all flange use. This superior sheet with its heat-resisting graphite impregnation is recommended for super-heated or saturated steam, compressed air, ammonia, gas, and nearly all chemicals. It is made by a special method which results in an extremely tough, high-tensile sheet, since this construction places the fibres in successive layers crosswise to each other, in contrast to ordinary homogeneous sheets, and each fibre is carefully graphite-lubricated, which insures longer life against hardening.

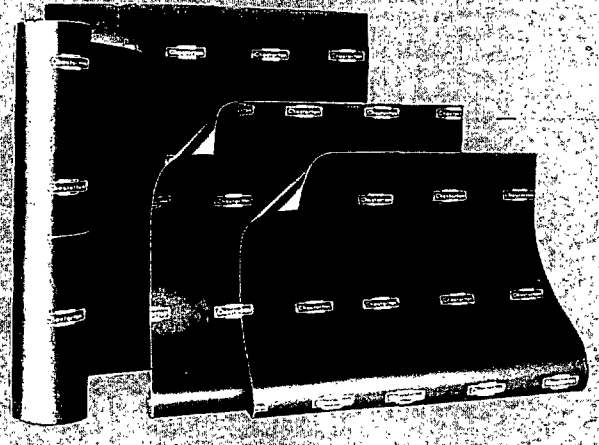
APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	21061	60" × 60"	1,52 × 1,52	3.4	1,54	27
1/32"	0,8	21062	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/16"	1,6	21001	60" × 60"	1,52 × 1,52	13.7	6,22	7
3/32"	2,4	21086	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	21002	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/32"	0,8	21074	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	21071	60" × 120"	1,52 × 3,04	27.4	12,44	4
1/8"	3,2	21072	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON

CHESTERTON STYLE 211



SERVICE
Heavy duty sheet to 750°F. (400°C.) against superheated or saturated steam, air, gas, ammonia, alkalies and many acids.

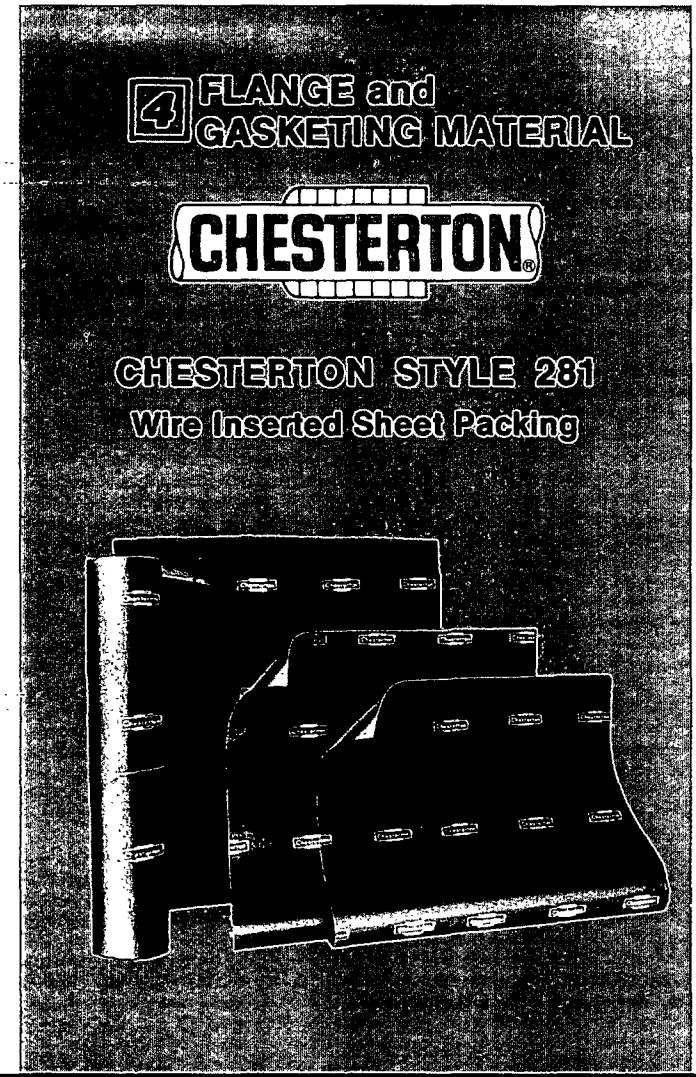
STYLE 211 is a heavy-duty compressed asbestos sheet equal in quality and strength to STYLE 210. The difference between these two sheets is that STYLE 211 is coated with CHESTERTON'S new "ANTI-STICK" compound, while STYLE 210 is graphited.

CHESTERTON'S "ANTI-STICK" COATING ON STYLE 211 means easier layout, cutting, and handling while at the same time insuring a material which will release easily from flange surfaces. "ANTI-STICK" invisible film also helps prevent or retard absorption of any medium, thus assuring longer gasket life.

APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	21161	60" × 60"	1,52 × 1,52	3.4	1,54	27
1/32"	0,8	21162	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/32"	0,8	21174	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	21101	60" × 60"	1,52 × 1,52	13.7	6,22	7
1/16"	1,6	21171	60" × 120"	1,52 × 3,04	27.4	12,44	4
3/32"	2,4	21186	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	21102	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/8"	3,2	21172	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.



SERVICE

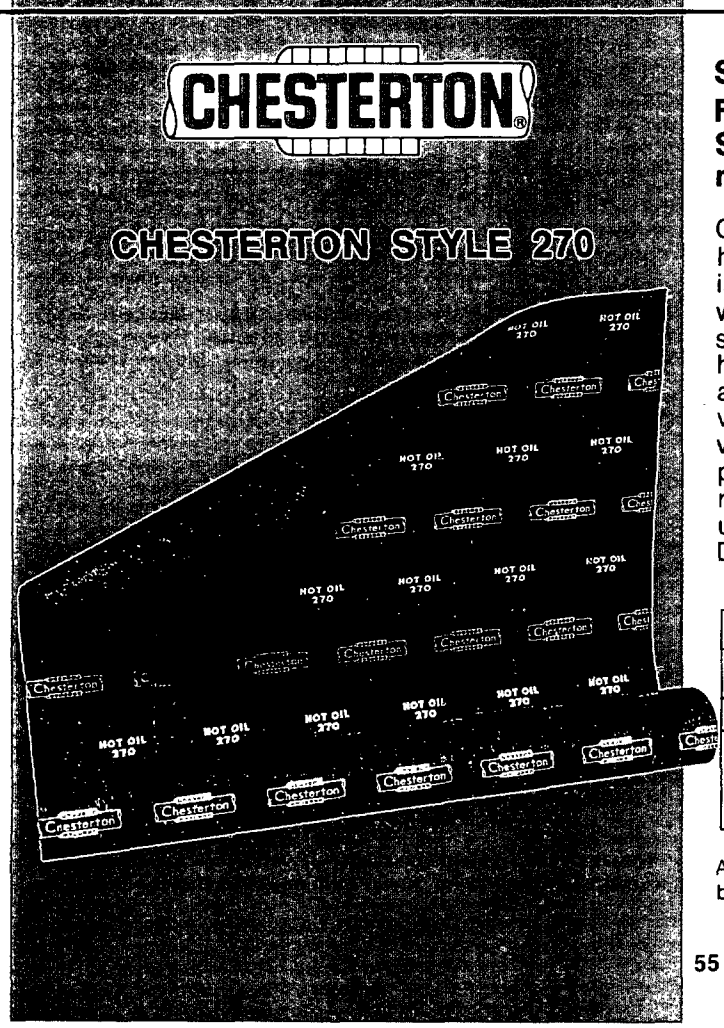
All industrial and marine boiler pipeline applications, in all areas requiring reinforced sheet gasketing, for general flanges, especially on lines subject to vibration.

CHESTERTON STYLE 281 is a heavy duty wire-inserted, compressed asbestos sheet of high tensile strength for services to 1000°F (550°C), 2000 psi (140 kg/cm²). Coated with CHESTERTON ANTI-STICK COMPOUND which allows easy gasket removal from pipe flanges, even on superheat applications.

APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets/
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	28162	60" × 60"	1,52 × 1,52	8.9	4,04	12
1/16"	1,6	28101	60" × 60"	1,52 × 1,52	18.6	8,45	6
3/32"	2,4	28166	60" × 60"	1,52 × 1,52	26.0	11,81	4
1/8"	3,2	28102	60" × 60"	1,52 × 1,52	33.9	15,40	3

A Pressure times Temperature factor (P × T°F) of 250,000 should be considered the limit for use of compressed asbestos sheet.



SERVICE

For 700°F (370°C) hot oil, solvents, Freon, SO_2, hot gases, superheated steam, natural gases.

CHESTERTON STYLE 270 has been specially designed for hot oils, solvents and aeronautical applications. This is a high quality bonded compressed asbestos sheet which is recommended for use against aromatic solvents, aliphatic hydrocarbons such as butane and hexane. It shows good performance as a gasket against carbon tetrachloride, turpentine, animal and vegetable fats, formaldehyde, fuel oils, Freon, and various alkalies. It is strong and dense and yet compressible enough to compensate for flange irregularities. It is unusually resistant to plastic flow under substantial bolt loads. STYLE 270 meets ASTM D1170, G1122-1 and AMS-3232J and MIL-G-12803A.

APPROXIMATE DATA

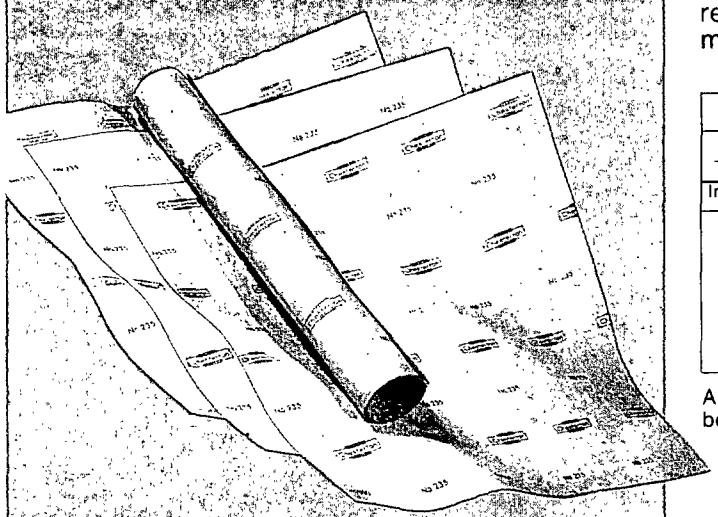
Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets/
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	27062	60" × 60"	1,52 × 1,52	7.5	3,40	14
1/16"	1,6	27001	60" × 60"	1,52 × 1,52	15.0	6,81	7
3/32"	3,4	27086	50" × 75"	1,27 × 1,90	21.7	9,85	4
1/8"	3,2	27002	60" × 60"	1,52 × 1,52	30.0	13·62	3

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

4 FLANGE and GASKETING MATERIAL

CHESTERTON®

CHESTERTON STYLE 235



SERVICE

For general service to 700°F (370°C) on superheated or saturated steam, air, gas, ammonia alkalies, mild solvents and acids.

Manufactured from carefully selected asbestos fibres, STYLE 235 is cured with a heat-resisting compound, and bonded under great pressure to produce a superior high-quality general-service sheet packing suitable for steam, air, oil, hot gases, and many chemicals. STYLE 235 is extremely workable, resulting in uniform easy to cut gaskets. STYLE 235 meets MIL-G-12803A.

APPROXIMATE DATA

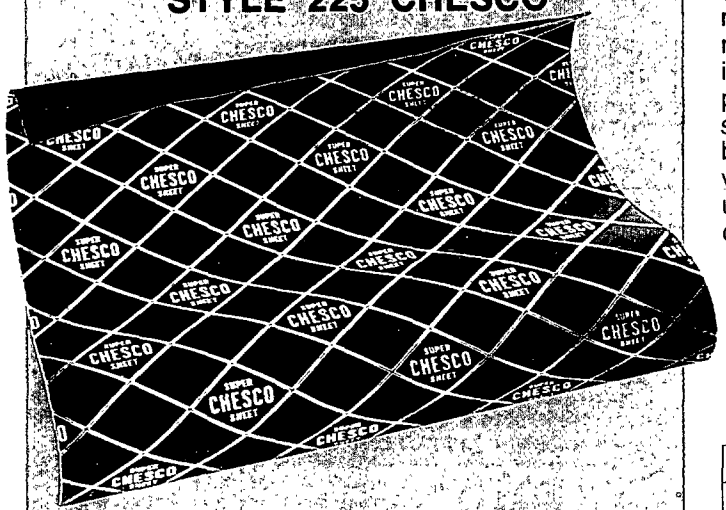
Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	23561	60" × 60"	1,52 × 1,52	3.4	1,54	27
1/32"	0,8	23562	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/16"	1,6	23501	60" × 60"	1,52 × 1,52	13.7	6,22	7
3/32"	2,4	23586	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	23502	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/32"	0,8	23574	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	23571	60" × 120"	1,52 × 3,04	27.4	12,44	4
1/8"	3,2	23572	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F) of 250,000 should be considered the limit for use of compressed asbestos sheet.

NEW — Both sides of this sheet are now protected by an extra exclusive, ANTI-STICK SURFACING for easy removal of gaskets.

CHESTERTON®

STYLE 225 CHESCO™



SERVICE

For general use to 700°F (370°C) against superheated or saturated steam, air, gas, ammonia, solvents, weak alkalies and acids.

CHESTERTON STYLE 225 CHESCO SHEET is an extremely versatile, general service gasket material, coated with "ANTI-STICK," to insure easy gasket removal. This quality sheet is suitable for a wide range of conditions of super-heated or saturated steam, many chemicals, hot gases, compressed air, and mild solvents. STYLE 225 is manufactured from quality Canadian asbestos fibres and bonded under high pressure into a homogeneous sheet of considerable strength. STYLE 225 will meet most major demands in both industrial and marine applications. STYLE 225's versatility makes it an ideal sheet for gasket shop use. Its pliability and medium cure insure ease of cutting. STYLE 225 meets MIL-G-12803A.

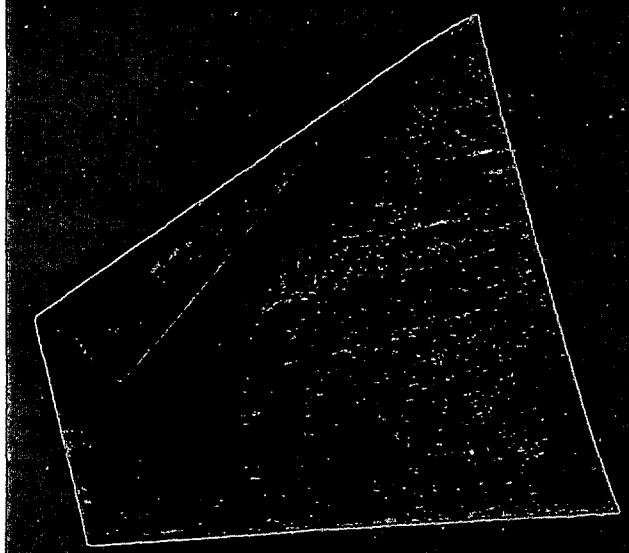
APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0.8	262	50" × 75"	1,27 × 1,90	7.5	3,40	14
1/16"	1.6	201	50" × 75"	1,27 × 1,90	15.0	6,81	7
3/32"	2.4	266	50" × 75"	1,27 × 1,90	22 0	9,98	4
1/8"	3,2	202	50" × 75"	1,27 × 1,90	30.0	13,62	3

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON

CHESTERTON STYLE 260



SERVICE

Inorganic (mineral) acids up to 50%; all water-soluble organic acids in any concentration to 700°F. (370°C.).
NOTE: Do not use against concentrated strong mineral acids.

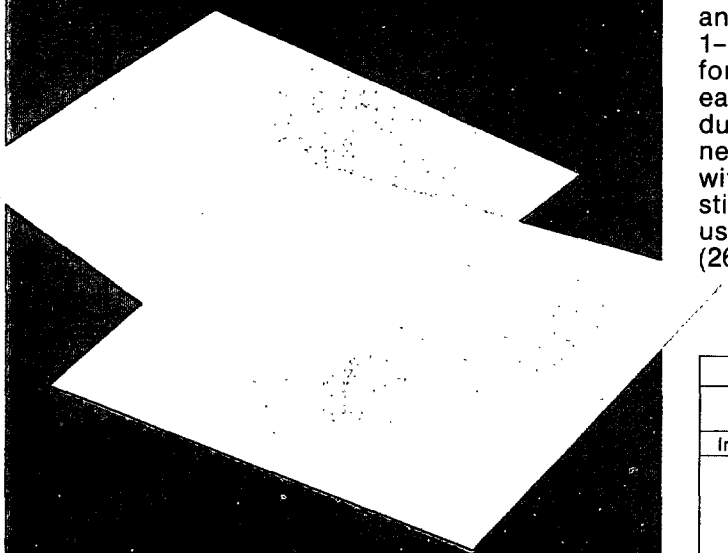
For sulphuric and other strong acids, blue asbestos is generally preferred over white. CHESTERTON STYLE 260 incorporates a blue asbestos fibre that contains no waters of hydration and is chemically pure. When bonded under pressure and vulcanized into a homogeneous sheet, STYLE 260 provides suitable compressibility for gasketing applications against hot or cold mineral acids either alone or in connection with oils or organic solvents.

APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	26062	50" × 50"	1,27 × 1,27	5	2,27	20
1/16"	1,6	26001	50" × 50"	1,27 × 1,27	10	4,54	10
3/32"	2,4	26066	50" × 50"	1,27 × 1,27	15	6,81	9
1/8"	3,2	26002	50" × 50"	1,27 × 1,27	20	9,08	5

CHESTERTON

CHESTERTON STYLE 2000



SERVICE

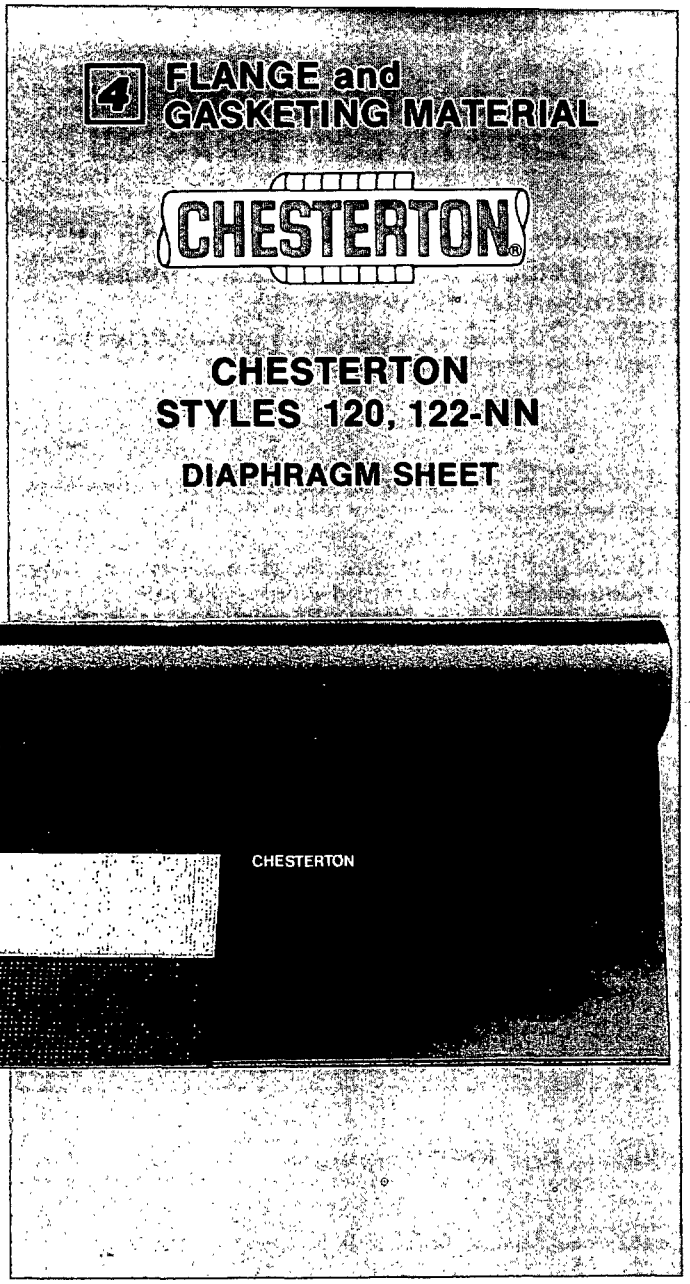
2000 — For All Chemicals.

CHESTERTON STYLE 2000 P.T.F.E. sheet is made of virgin P.T.F.E. It can resist the severest of chemicals and is useful throughout the entire pH range of 1–14. STYLE 2000 is a highly stable material with uniform thickness and close overall tolerances. It can easily be machined, punched or stamped, to produce parts such as washers, mechanical components, or gaskets. The inherent qualities of P.T.F.E. with its low frictional characteristics and non-sticking surfaces make STYLE 2000 the material to be used in a wide variety of applications to 500°F. (260°C.).

APPROXIMATE DATA

Thickness		Weight per Square Foot		Reorder Product No. Available Widths		
Inches	mm	lbs.	kg.	24" × 24"	24" × 48"	48" × 48"
1/64"	0,4	0.20	0,090	2061	2161	2261
1/32"	0,8	0.40	0,180	2062	2162	2262
1/16"	1,6	0.75	0,340	2001	2101	2201
3/32"	2,4	1.20	0,544	2066	2166	2266
1/8"	3,2	1.50	0,680	2002	2102	2202
3/16"	4,8	2.25	1,020	2003	2103	2203
1/4"	6,4	3.00	1,360	2004	2104	2204
3/8"	9,5	4.25	1,750	2006	2106	2206

24" × 24" = 0,610 mm × 0,610 mm
24" × 48" = 0,610 mm × 1,219 mm
48" × 48" = 1,219 mm × 1,219 mm



SERVICE

For Steam, Gas, Air, Oil, Water, Solvents On Regulators, Diaphragm Motors, Reducing Valves, Fuel Pumps

Two different types of diaphragm stock are offered, STYLE 122-NN and STYLE 120. Selection depends upon the service involved. Two factors should be considered: the rubber covering, and the fabric insertion. The purpose of the rubber cover is to seal the fabric against fluid penetration. The type of rubber will depend upon temperature of the fluid and whether or not oil is present. As for the fabric insertion, strength should be combined with flexibility. Additional plies or heavier fabric add to pressure resistance, but the penalty is greater stiffness.

Our regular grade is STYLE 120—and our premium grade heavy-duty oil resistant sheet is our STYLE 122-NN, each described below. The latter is used where pressure, a minimum of extrusion, oil resistance, and resiliency are important.

CHESTERTON STYLE 120
A good grade of diaphragm sheet for general service against steam, water, and gas. Extensively used on regulators and reducing valves. Cover is strong flexible rubber, and the fabric is heavy duck, one ply for each 1/16" of thickness. Furnished in approximate 100# rolls (45,4 kg).

STYLE 120

	psi	kg / cm²
Mullen Burst Test Data		
1/16" thickness over a 2" opening (1,6 mm thickness over a 50,8 mm opening)	150	10,71
Tensile Strength— Cover Compound	900	64,2
Width of Material	42"	1,06 m

Weights per Lineal Yard	Reorder Product No.	42" × 36"	1,1 m × ,91 m
1/16" (1,6 mm)	12001	5.84 lbs.	2,65 kg.
1/8" (3,2 mm)	12002	11.68 lbs.	5,30 kg.
3/16" (4,8 mm)	12003	17.52 lbs.	7,96 kg.
1/4" (6,4 mm)	12004	23.40 lbs.	10,62 kg.

Shore Durometer—60; Elongation 340%

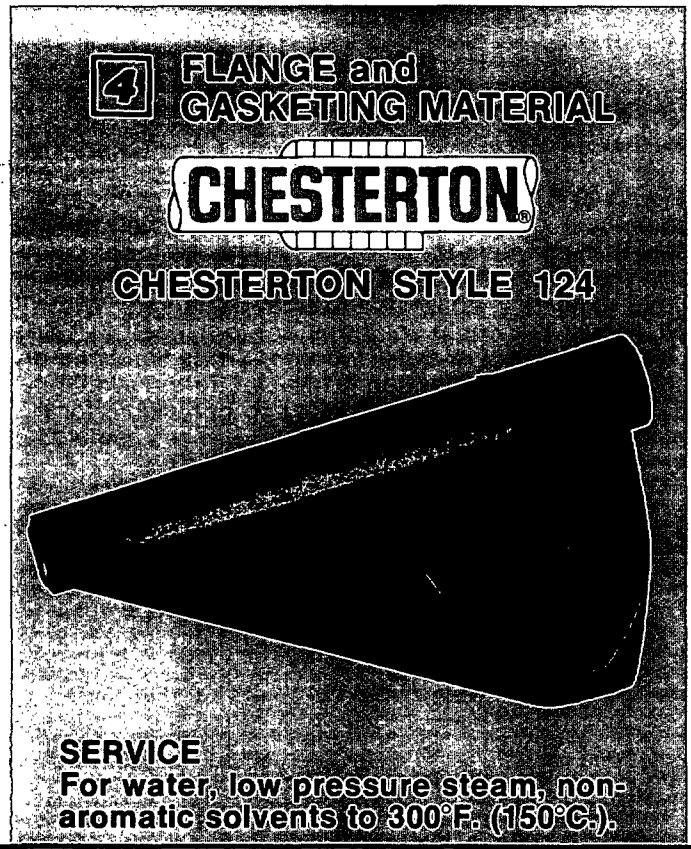
CHESTERTON STYLE 122-NN
Designed for oil and solvents and for excessive pressures where a super-quality diaphragm sheet is indicated. The cover is oil resisting Neoprene. Fabric is Nylon 8.25 oz. double strand 2 × 2 basket weave 33 ×31, 16.5 × 15.5, single ply throughout. While steam has little effect, direct exposure of the fabric insert is necessarily limited to 250°F. (120°C.). Furnished in 100# rolls (45,4 kg).

STYLE 122-NN

	psi	kg / cm²
Mullen Burst Test Data		
1/16" thickness over a 2" opening (1,6 mm thickness over a 50,8 mm opening)	650	46,41
Tensile Strength— Cover Compound	1500	107,1
Width of Material	48"	1,22 m

Weights per Lineal Yard	Reorder Product No.	48" × 36"	1,22 m × ,91 m
1/16" (1,6 mm)	12201	4.88 lbs.	2,22 kg.
1/8" (3,2 mm)	12202	10.20 lbs.	4,63 kg.
3/16" (4,8 mm)	12203	16.00 lbs.	7,26 kg.
1/4" (6,4 mm)	12204	21.40 lbs.	8,71 kg.

Shore Durometer—60; Elongation 340%

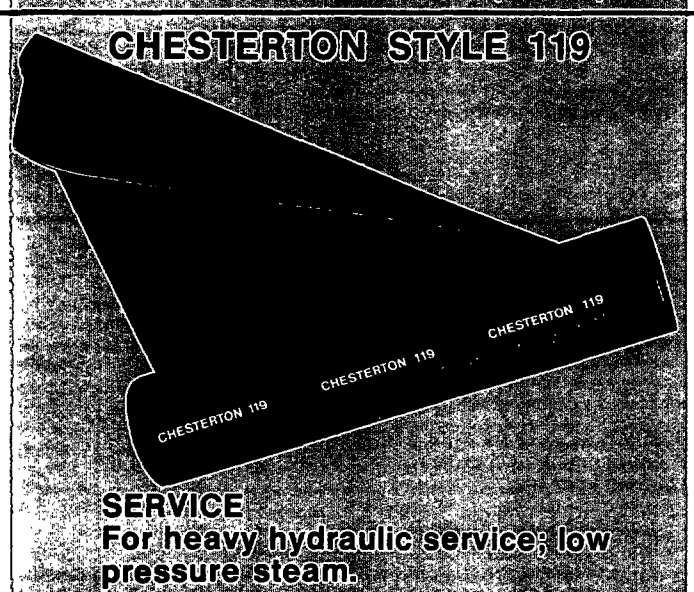


CHESTERTON STYLE 124 is made of oil resistant materials and a fortified carbon black compound for gasketing against fatty oils or solvents and non-aromatic petroleum products. It is medium-soft in density so that it can be employed not only on precision-finished flanges where resistance to gasket flow under heavy bolt loads is a requirement, but also when bolt loads are light or where flanges are irregular.

This quality sheet should be used when oil resistance is an important consideration, or when temperatures are higher than those considered suitable for red rubber sheet packing. Temperature range is approximately 300°F. (150°C.). Furnished 36" (90cm) wide in 100 lb. rolls. (45,4 kg).

APPROXIMATE DATA

Thickness		Reorder	Weights ± 10%		General
Inches	mm	Product No.	lbs./sq. yd.	kg./m²	Information
1/16"	1,6	12401	4.5	2,45	Tensile — 1200 psi (85 kg/cm²)
1/8"	3,2	12402	9.0	4,90	Elongation — 400%
3/16"	4,8	12403	13.5	7,35	Shore Duro — 60 ± 5
1/4"	6,4	12404	18.0	9,80	Density — 1.55
					Color — Black



CHESTERTON STYLE 119 is a black rubber cloth inserted sheet packing of great tensile strength, rendering it especially adaptable to heavy hydraulic service. It may be used generally in place of STYLE 100, if preferred, against hot or cold water, low pressure steam and ammonia to 250°F. (120°C.).

The cloth insertion is on the inside, both sides protected by a rubber cover. Because it resists creeping, STYLE 119 makes an excellent flange gasket for hydraulic work. Furnished 36" (90cm) wide.

APPROXIMATE DATA

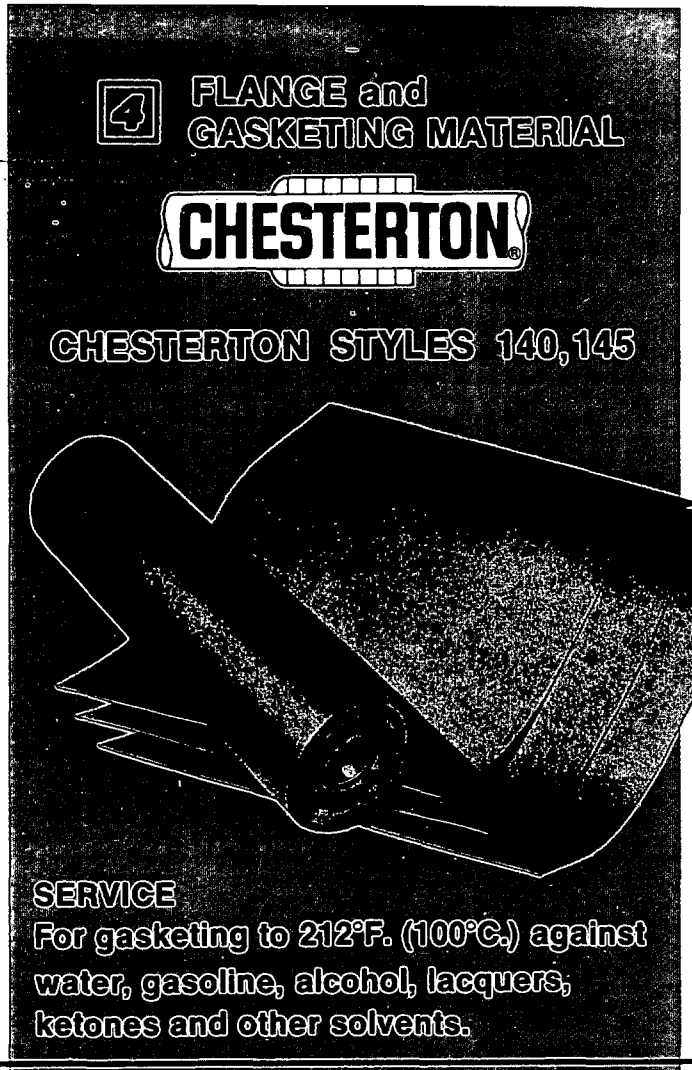
Thickness		Reorder	Weights ± 10%		Approx. Weights per Roll	
Inches	mm	Product No.	lbs. per yd.	kg./m²	lbs.	kg.
1/16"	1,6	11901	6	3,3	100	45,4
3/32"	2,4	11966	9	4,9	100	45,4
1/8"	3,2	11902	12	6,5	100	45,4
3/16"	4,8	11903	18	9,8	100	45,4
1/4"	6,4	11904	24	13,0	100	45,4



CHESTERTON STYLE 100 is a quality red rubber and should not be confused with commercial rubber. It is made from high grade rubber, and compounded so that it remains soft and pliable either in service or in stock. It is particularly suitable and recommended for low pressure or saturated steam, hot or cold water, ammonia, and caustic soda to 250°F. (120°C.). Furnished 36" (90cm) wide.

APPROXIMATE DATA

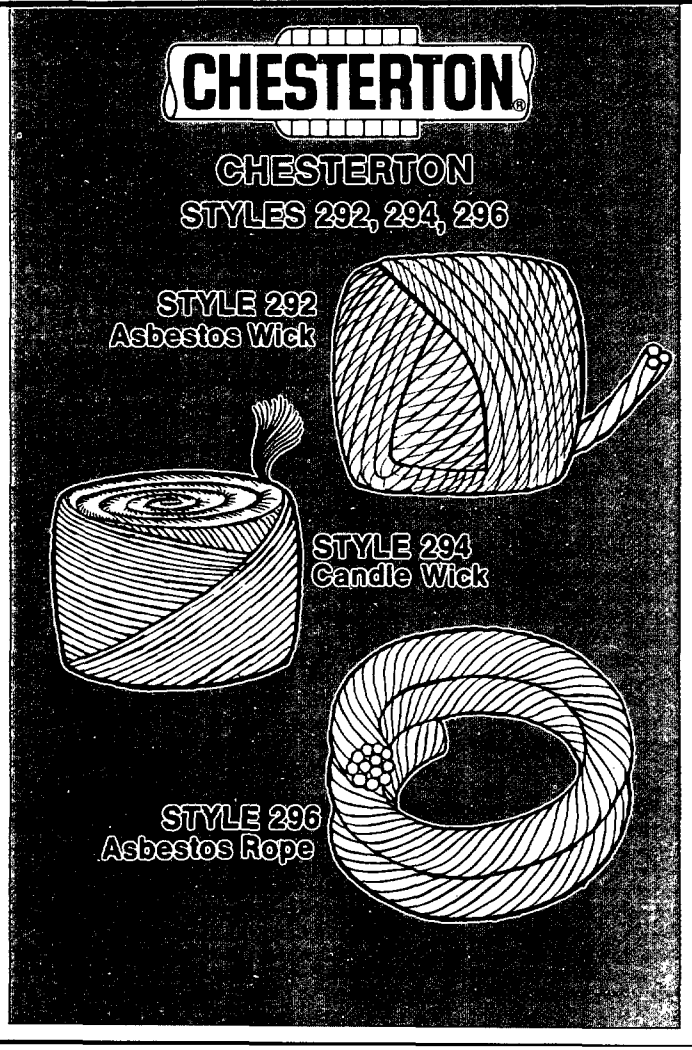
Thickness		Reorder	Weights ± 10%		Approx. Weights per Roll	
Inches	mm	Product No.	lbs. per yd.	kg./m²	lbs.	kg.
1/16"	1,6	10001	6	3,3	100	45,4
3/32"	2,4	10066	9	4,9	100	45,4
1/8"	3,2	10002	12	6,5	100	45,4
3/16"	4,8	10003	18	9,8	100	45,4
1/4"	6,4	10004	24	13,0	100	45,4



STYLE 140 is a vegetable fibre sheet, tan in color, and chemically treated by a special process which renders it impervious to gasoline, oil, grease, coal tar, and water. STYLE 140 is a highly flexible sheet with great resiliency, adaptable to uneven flanges. Width 36 inches. For liquid solutions not to exceed 212°F. (100°C.). NOTE: For those who prefer the inclusion of granulated cork, attention is directed to the availability of STYLE 145. Resilient, highly compressible for liquids in the range of 212°F. (100°C.). Sizes same as for STYLE 140.

APPROXIMATE DATA

Thickness		Reorder Product No.		Length per Roll	
Inches	mm	140	145	yds.	M
1/64"	0,4	14061	14561	50	45,70
1/32"	0,8	14062	14562	50	45,70
1/16"	1,6	14001	14501	25	22,80
3/32"	2,4	14066	14566	25	22,80
1/8"	3,2	14002	14502	25	22,80
1/4"	6,4	14004	14504	36" Sheets	0,91



STYLE 292 — Asbestos Wick

A twisted asbestos roving 1/4" (6,4mm) in diameter furnished in 1/2 and 1 lb. balls — 43 ft. per lb. (0,227 Kg. and 0,454 Kg. balls, 5,9 M/Kg.)

STYLE 294 — Candle Wick

A cotton wicking consisting of 12 twisted strands totalling 1/16" (1,6mm) diameter. Furnished in 2 oz. (0,06 Kg.) balls, 5 lbs. (2,27 Kg.) per bag.

STYLE 296 — Asbestos Rope

A durable twisted material for blowoff pipes and general gasketing. Furnished in 25 lb. (11,35 Kg.) and 50 lb. (22,7 Kg.) packages.

APPROXIMATE DATA

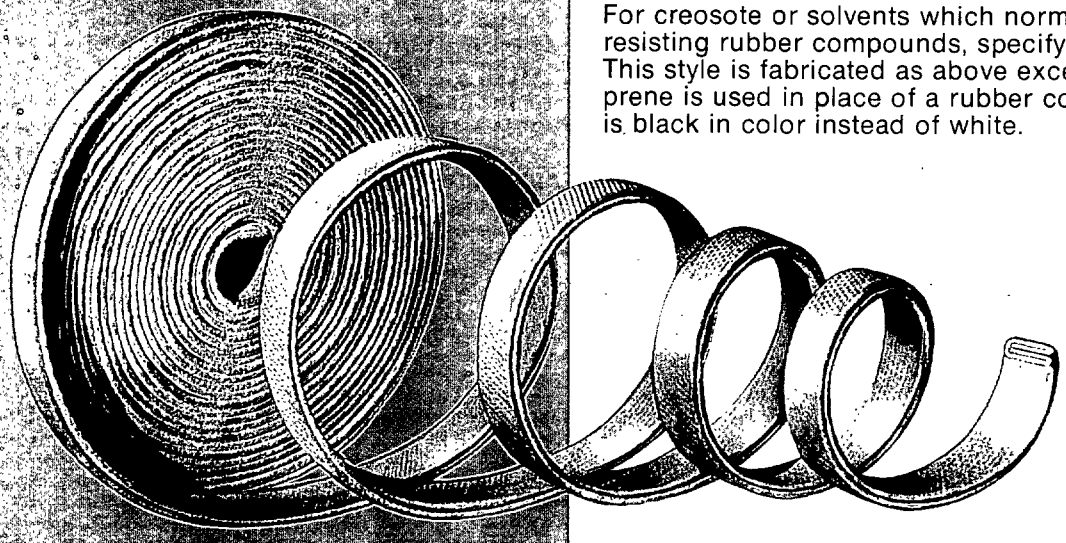
Style	Size		Reorder Product No.	
	Inch	mm	½ lb. (0,227 kg.)	1 lb. (0,454 kg.)
292	1/4"	6,4	29201	29200
294	1/16"	1,6	29401	
			25 lb. (11,35 kg.)	50 lb. (22,7kg.)
296	1/4"	6,4	29604	29654
	3/8"	9,5	29606	29656
	1/2"	12,7	29608	29658
	5/8"	15,9	29610	29660
	3/4"	19,1	29612	29662
	7/8"	22,2	29614	29664
	1"	25,4	29616	29666
	1 1/4"	31,7	29620	29670
	1 1/2"	38,1	29624	29674
	2"	50,8	29632	29682

4 FLANGE and GASKETING MATERIAL

CHESTERTON

CHESTERTON STYLES 290, 291–N

GASKET TAPES

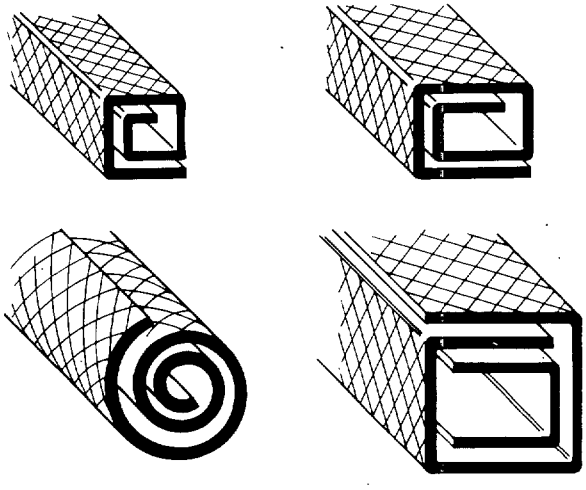


STYLE 290 GASKET TAPE is manufactured from brass wire inserted asbestos cloth coated with a heat resisting rubber compound, white in color. This tape serves a useful purpose in functioning as a high pressure steam gasketing material. Typical installations are the doors or covers of heaters, vulcanizers, kettles, cylinder heads, retorts. It will withstand the wear and abrasion where steam doors must be opened many times daily.

For creosote or solvents which normally attack heat resisting rubber compounds, specify STYLE 291–N. This style is fabricated as above except that Neoprene is used in place of a rubber compound, and it is black in color instead of white.

Gasket tape is furnished in any width, and in thicknesses ranging from 1/16" to 1½" (1,6mm to 38,1 mm). May be had in a variety of shapes and dimensions—and in square form from ⅜" to 1½" (9,5 mm to 38,1mm). All tape is made only to special order.

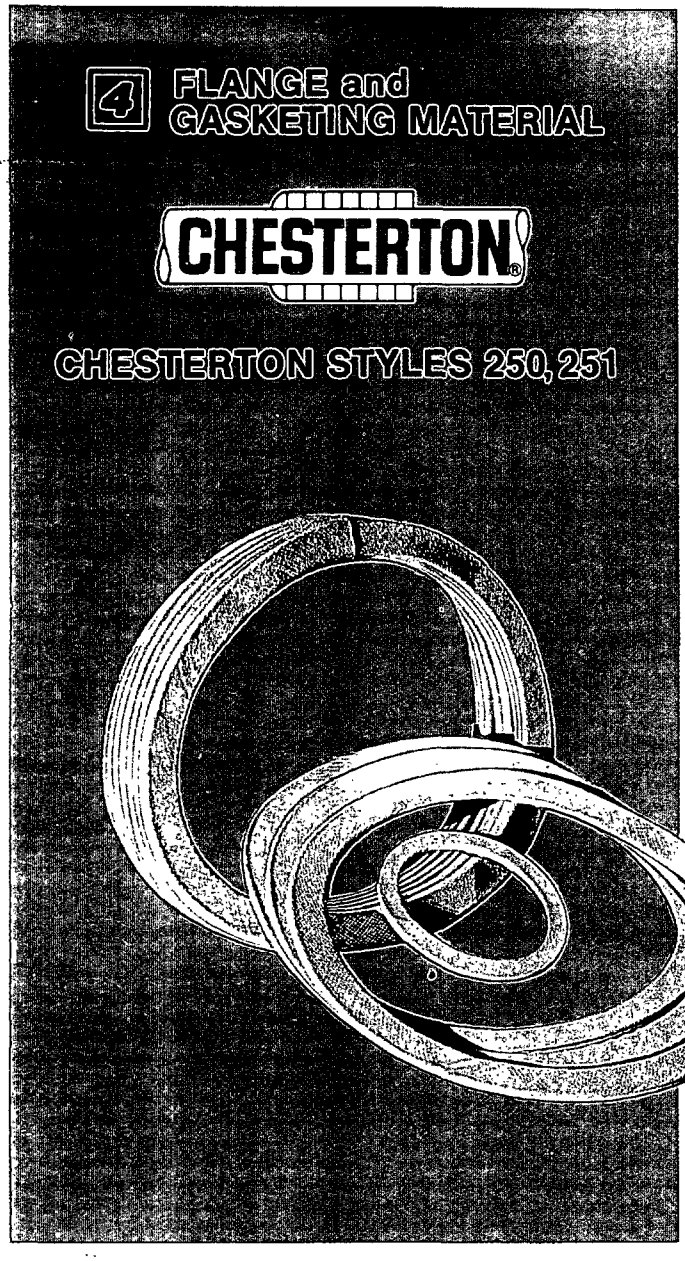
SOME AVAILABLE SHAPES



SERVICE

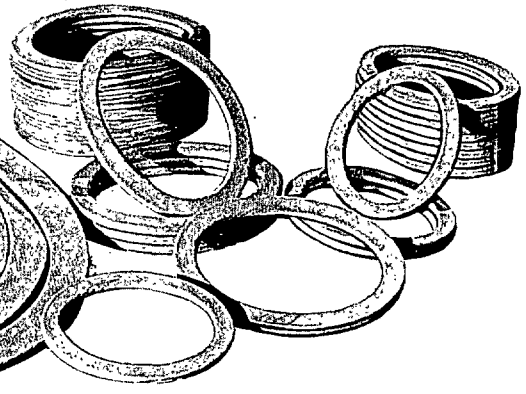
To 400 P.S.I. (28 Kg/cm²) on Cookers, Autoclaves, Vulcanizers, Groove Flanges, Door Gasketing, Against Steam, Air, Gas, Oil, Creosote, Alkalies

STYLES 290, 291–N	
Style	Reorder Product No.
290	290
291–N	291



STYLE 250 MANHOLE and STYLE 251 HANDHOLE GASKETS are an old, reliable, time-tested standard. These superior gaskets are fabricated from long fibres of selected Canadian asbestos, through the yarn of which is spun a fine brass wire which gives these gaskets added reinforcement and strength.

It is noteworthy that 250 and 251, though containing the same amount of asbestos as other reputable brands, are generally lighter in weight. This difference is due to the fact that 250 and 251 contain ample friction compounds, but are not loaded with weight-adding compounds. This results in an economical gasket which will make up and remain tight, assuring maximum service. Compare their performance with that of other gaskets and thus determine to your own satisfaction that 250 and 251 offer more value in dependable gasket service.



SERVICE

Manhole and handhole gaskets for boilers and other applications.

STOCK SIZES of 250 & 251 GASKETS, Standard 4-Ply 1/4" (6,4 mm) Thickness. 12 pieces of a size per box.

APPROXIMATE DATA		
Sizes		[1]Reorder Product No.
Inches	mm	
10 x 14 x 1	254,0 x 355,6 x 25,4	25126
10 x 14 x 1¼	254,0 x 355,6 x 31,7	25127
10 x 15 x 1	254,0 x 381,0 x 25,4	25128
10 x 15 x 1¼	254,0 x 381,0 x 31,7	25129
10½ x 14½ x 1¼	266,7 x 368,3 x 31,7	25130
10½ x 15 x 1	266,7 x 381,0 x 25,4	25131
10½ x 15 x 1¼	266,7 x 381,0 x 31,7	25132
11 x 14 x 1¼	279,4 x 355,6 x 31,7	25133
11 x 14½ x 1¼	279,4 x 368,3 x 31,7	25134
11 x 15 x 1	279,4 x 381,0 x 25,4	25135
11 x 15 x 1¼	279,4 x 381,0 x 31,7	25136
12 x 15 x 1	304,8 x 381,0 x 25,4	25137
12 x 15 x 1¼	304,8 x 381,0 x 31,7	25138
12 x 16 x 1	304,8 x 406,4 x 25,4	25139
12 x 16 x 1¼	304,8 x 406,4 x 31,7	25140

[1]Reorder Product Number is per piece.

APPROXIMATE DATA		
Sizes		[1]Reorder Product No.
Inches	mm	
2½ x 3 x ⅝	63,5 x 76,2 x 15,9	25027
2½ x 3½ x ½	63,5 x 88,9 x 12,7	25001
2½ x 3½ x ⅝	63,5 x 88,9 x 15,9	25002
2½ x 4 x ½	63,5 x 101,6 x 12,7	25003
3 x 3½ x ⅝	76,2 x 88,9 x 15,9	25004
3 x 4 x ½	76,2 x 101,6 x 12,7	25005
3 x 4 x ⅝	76,2 x 101,6 x 15,9	25006
3 x 4 x ¾	76,2 x 101,6 x 19,1	25007
3 x 4½ x ½	76,2 x 114,3 x 12,7	25008
3 x 4½ x ⅝	76,2 x 114,3 x 15,9	25009
3 x 5 x ½	76,2 x 127,0 x 12,7	25010
3 x 5 x ⅝	76,2 x 127,0 x 15,9	25011
3 x 5 x ¾	76,2 x 127,0 x 19,1	25012
3½ x 4 x ½	88,9 x 101,6 x 12,7	25013
3½ x 4 x ⅝	88,9 x 101,6 x 15,9	25014
3½ x 4½ x ½	88,9 x 114,3 x 12,7	25015
3½ x 4½ x ⅝	88,9 x 114,3 x 15,9	25016
3½ x 4½ x ¾	88,9 x 114,3 x 19,1	25017
3½ x 5 x ⅝	88,9 x 127,0 x 15,9	25018
3½ x 5½ x ⅝	88,9 x 139,7 x 15,9	25019
4 x 5 x ⅝	101,6 x 127,0 x 15,9	25020
4 x 5 x ¾	101,6 x 127,0 x 19,1	25021
4 x 5½ x ¾	101,6 x 139,7 x 19,1	25022
4 x 6 x ⅝	101,6 x 152,4 x 15,9	25023
4 x 6 x ¾	101,6 x 152,4 x 19,1	25024
4½ x 6½ x ¾	114,3 x 165,1 x 19,1	25026
6 x 8 x ¾	152,4 x 203,2 x 19,1	25025
6 x 8 x 1	152,4 x 203,2 x 25,4	25028

[1]Reorder Product Number is per piece.

CHESTERTON®

HYDRAULIC-PNEUMATIC SEALS



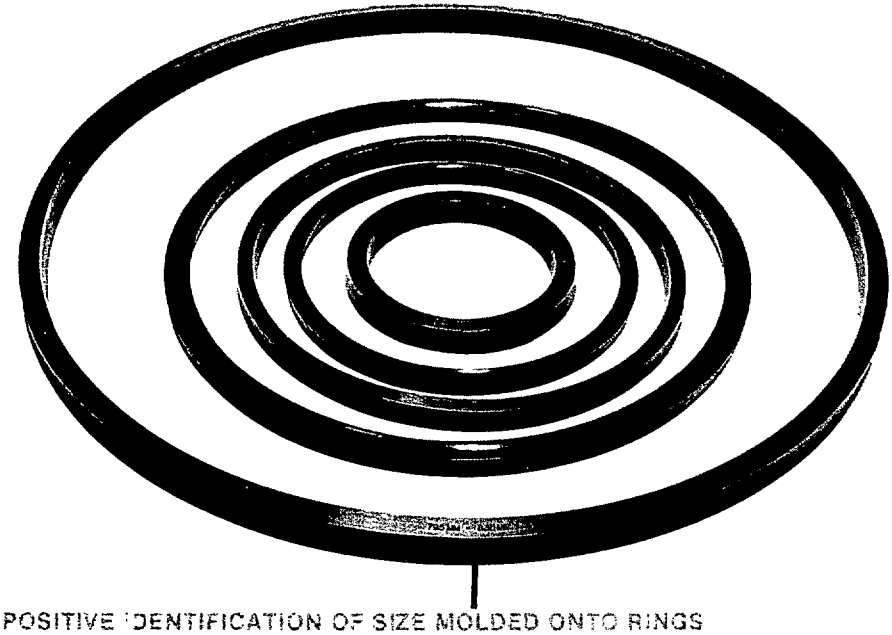
CHESTERTON®

STYLE 10,000 SUPER-MONOSEAL® SINGLE RING

POLYMER CONSTRUCTION
Rod and Piston, Air, Oil, Water Services

No gland adjustments
Use in either adjustable or fixed depth cavities
Automatically seals zero to 15,000 psig (1000 kg/cm²)
Self-lubricating

3,500 SIZES AVAILABLE — INCH and METRIC for effective sealing up to 15,000 psig (1000 kg/cm²)



POSITIVE IDENTIFICATION OF SIZE MOLDED ONTO RINGS

Applicable at temperatures from −60°F (−50°C) to 185°F (86°C). For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM

Leather "U" cups have no memory, absorb fluid, swell and bind. In water or air service they dry out, shrink and crack.

Fabric Reinforced Rubber "U" cups absorb fluid, swell, lose physical properties, rag out, extrude, have limited shelf life, retain foreign material or system impurities that cause equipment scoring and excessive wear.

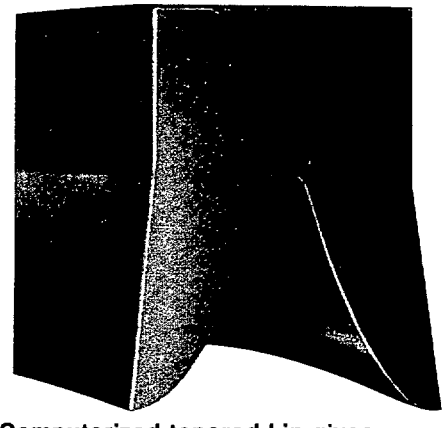
Rubber "U" cups have limited shelf life (harden) and are subject to ozone attack. The products lose resilience which affects positive sealing particularly at lower pressures. Lack of inherent lubrication causes binding, slow cycling and increased seal wear. Result is leakage and shortened life.

THE SOLUTION

CHESTERTON STYLE 10,000 SUPER-MONOSEAL: The answer to the shallow stuffing box problem! A single, **automatic** ring is all that's required to pack all depths of stuffing boxes. No after adjustments.

- Proven CHESTERTON Polymer — resists extrusion, has extended shelf life.
- Molydisulphide lubrication — low friction operation eliminates "slip stick" (chatter).
- High tensile strength — resists wear and abrasion.
- Tapered, flares lip design — automatically seals zero to 15,000 psig (1000 kg/cm²).
- Non-absorbent — retains physical properties, does not "rag-out".
- Excellent memory — retains lip flare.
- Easy installation — lip design gentled for easy insertion.

Result: Leaks controlled, downtime avoided, faster cycling, longer life.

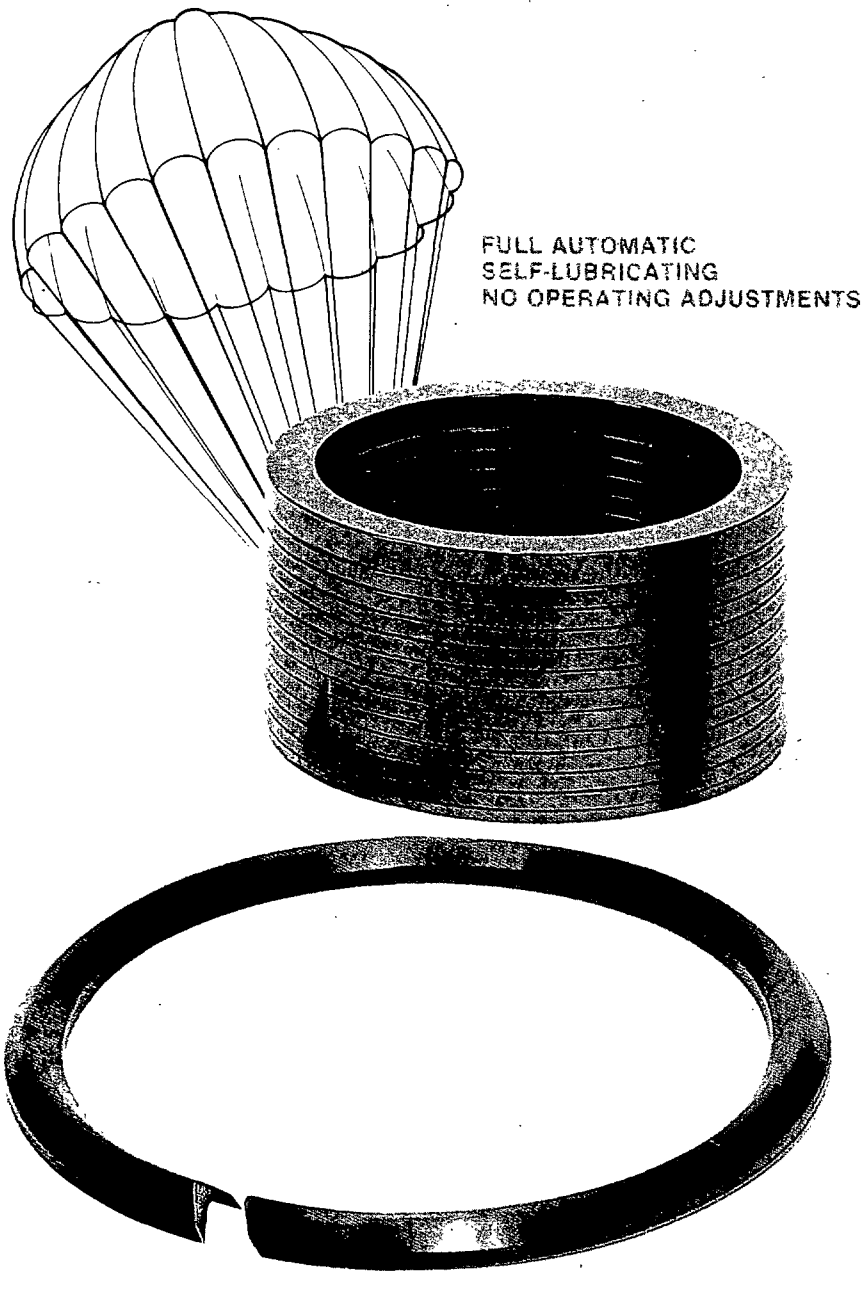


Computerized tapered Lip gives feather-touch response. Massive body withstands shocks.

CHESTERTON®

STYLE 8000 SUPER-PARACHUTE® V-RING SETS

POLYMER CONSTRUCTION
Rod and Piston, Air, Oil, Water Services

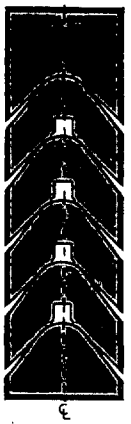


FULL AUTOMATIC
SELF-LUBRICATING
NO OPERATING ADJUSTMENTS

AUTOMATICALLY SEALS,
CONTROLS LEAKAGE ZERO TO MAXIMUM PRESSURE

Applicable at temperatures from −60°F (−50°C) to 185°F (86°C).
For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM



Conventional "V's" require constant critical adjustments during operation and are often overtightened causing binding and excessive wear, or if adjustment is not maintained, rolling and rag-out occurs which leads to leakage and failure.

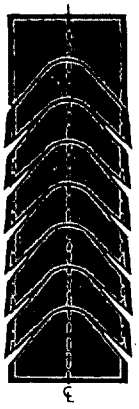
Fabric Reinforced Rubber "V's" absorb fluid, soften, swell, lose physical properties, extrude, leak and fail prematurely.

Leather "V's" absorb fluid, swell and bind. In water service or wet air applications (over a period of equipment shutdown) they dry out and crack.

Homogeneous Rubber "V's" have limited shelf life, **harden,** lose resilience and are subject to ozone attack. Their effectiveness is reduced, and the usual result is leakage at lower pressures.

PTFE "V's" have poor memory characteristics, a tendency to cold flow, and poor abrasion resistance.

THE SOLUTION



CHESTERTON STYLE 8000 SUPER-PARACHUTE:
Fully automatic, molded polymer rings are easy to install and offer superior service life:

- Up to 50% more seal lips per set — less chance of leakage.
- Seal effectively from zero to maximum pressure.
- Molded polymer is permanently lubricated with molydisulphide
  — lower friction
  — faster cycling
  — longer life.
- Available in rod sizes 7/16" (11 mm) to 70" (1780 mm).

(Stack height chart on page 74).

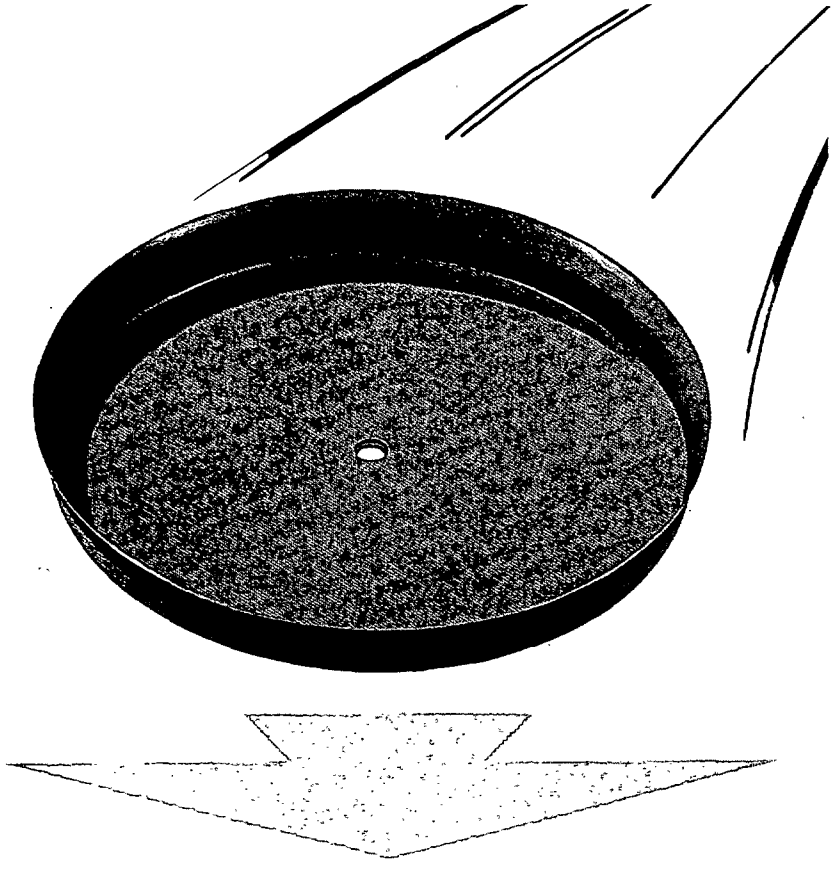
5 HYDRAULIC/PNEUMATIC SEALS

CHESTERTON®

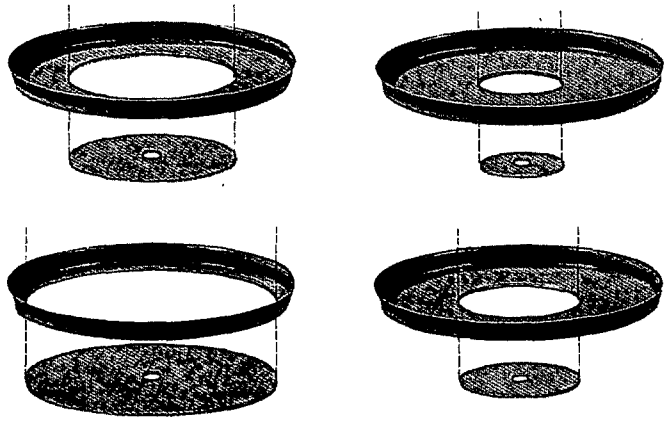
STYLE 7000 SUPERCUP™

METAL REINFORCED — POLYMER CONSTRUCTION
SELF-LUBRICATING (Molydisulphide)

Off-the-shelf in all popular bore sizes
Your Distributor will quickly cut the center hole required or you can easily do it yourself!



Why wait for cups? DO IT YOURSELF!



Applicable at temperatures from −60°F (−50°C) to 185°F (86°C). For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM

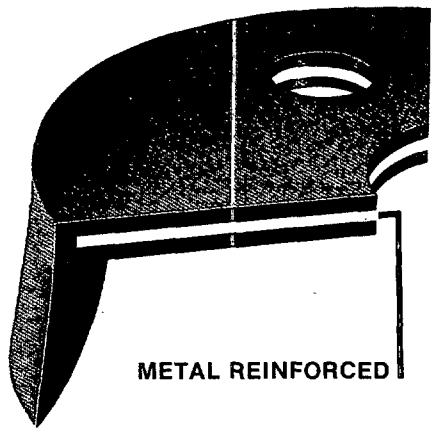
Conventional cups of rubber, fabric reinforced rubber or leather have limited shelf life and are subject to swelling, binding, extrusion and premature wear. A multiplicity of cylinder bore and center hole sizes requires either large inventories or waiting for special cups.

THE SOLUTION

Instead of waiting for special cups or carrying an unwieldy inventory, you can now take a CHESTERTON SUPERCUP in the proper cylinder bore size and cut the center-hole you require.*

STYLE 7000 SUPERCUPS are produced from the same low friction, tough, extrusion resistant polymer proven so successful in our STYLE 10,000 SUPER-MONOSEAL®. A big plus over all conventional cups is the molded in metal reinforcement which permits precision centering along with the stability required to prevent cup failure by heel breakdown.

CHESTERTON SUPERCUP™
THE LONG LIFE CUP . . .
won't swell, deform, drag or bind when properly installed



SUPERCUPS have a metal disc to guard against cold flow and prevent distortion. Special tough polymer body won't swell, extrude or drag. Feather-touch lip reduces friction at both high and low pressures. Breakaway pressure reduced, slip-stick controlled.

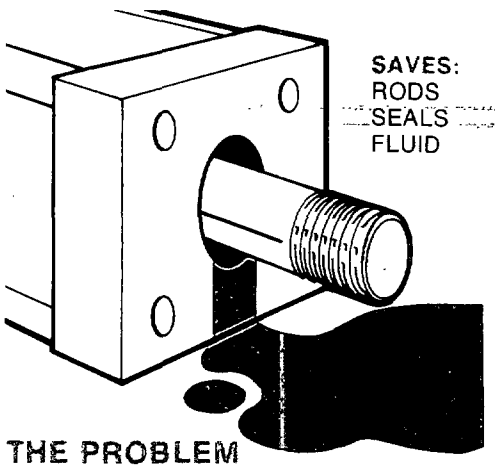
*Consult CHESTERTON

CHESTERTON®

STYLE 5000 SUPER-WIPER™

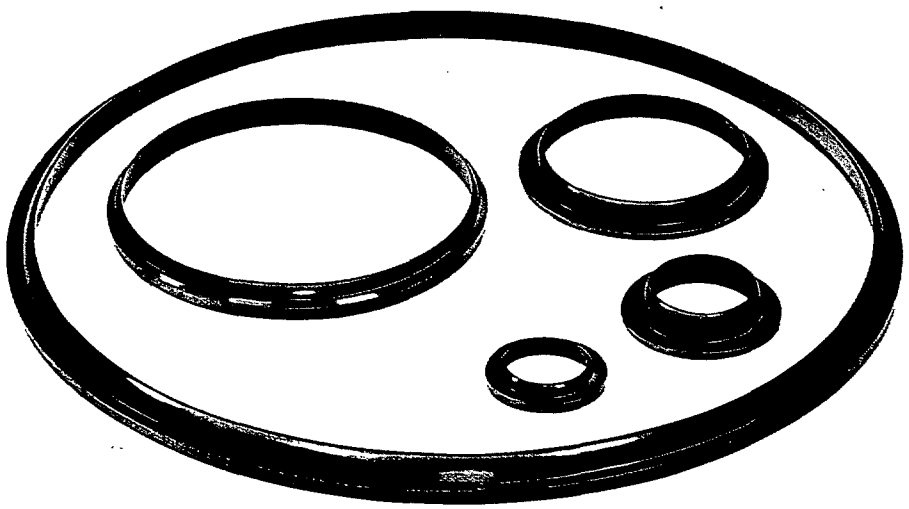
POLYMER CONSTRUCTION

Reciprocating Rod Service
Protects primary rod seal against intrusion of foreign materials.

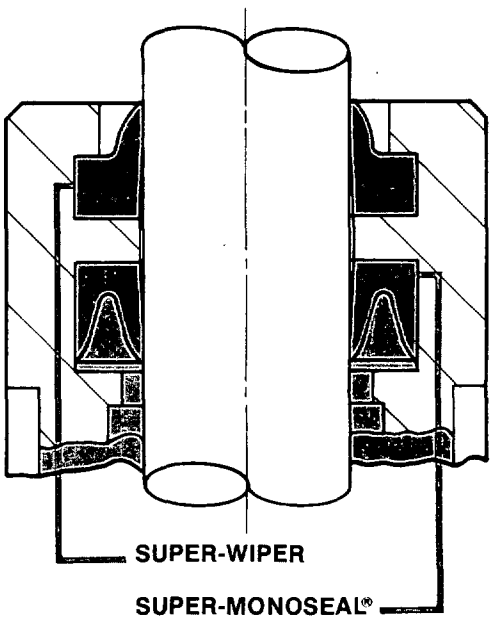


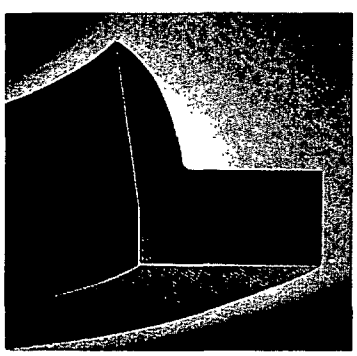
THE PROBLEM

Foreign material (dirt, abrasives, dust, etc.) coming in contact with rods causes scoring, which reduces the life of the rod, rod bushings, and primary rod seals. Conventional soft rubber scrapers are not tough enough to withstand the abrasive action of hostile intruders. The harder metalic devices cannot effectively conform to rods that wander or do not run true. These devices can cause rod damage as well as allowing foreign material entry into seal area resulting in rod seal leakage.



Sizes available to 70" (1780 mm).

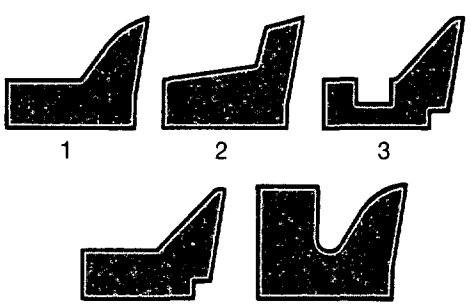




Permanently flared lip.
Minimum friction.
Positive control. Nonabsorbent.
Unaffected by ozone.

CONFIGURATIONS

Type 1 configuration is normally supplied as the standard.



THE SOLUTION

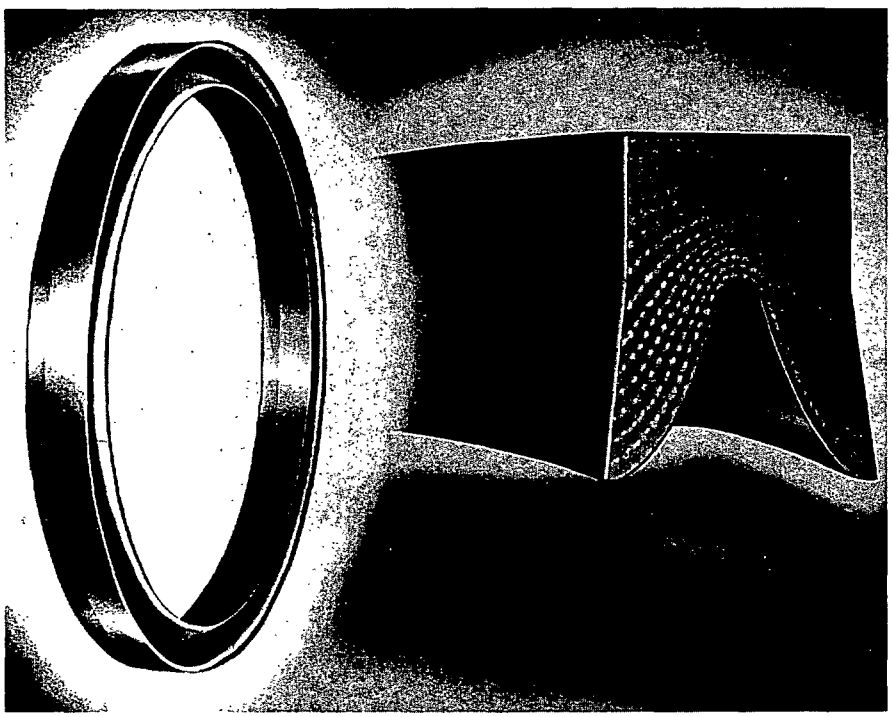
CHESTERTON STYLE 5000 SUPER-WIPERS are manufactured from a flexible, high durometer, highly abrasion resistant polymer, **lubricated with molydisulphide** to reduce friction. SUPER-WIPERS rugged lip design effectively excludes foreign material from entering bearing and seal areas. SUPER-WIPERS function in the temperature range of −60°F to 185°F (−50°C to 86°C) on pneumatic and hydraulic cylinders and presses that utilize petroleum based oils, water, or water with soluble oil.

CHESTERTON®

STYLE 6000 MONOSEAL® SINGLE RINGS

FULLY MOLDED, NEOPRENE COATED FABRIC CONSTRUCTION

Suitable to temperatures of 250°F (120°C)
Neoprene, synthetic-coated, fabric construction
Conforms to worn equipment
For water, oil and air
For stuffing box mount only



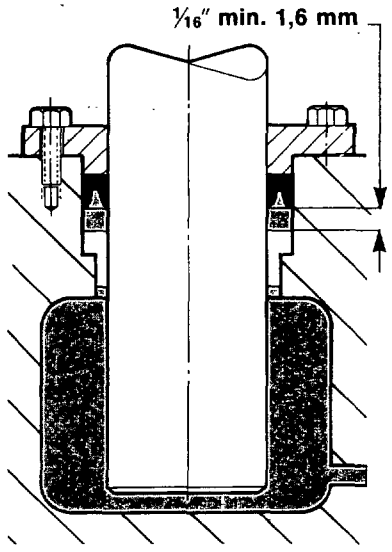
CHESTERTON MONOSEAL® is the answer to the shallow stuffing-box problem. One strong, proven, durable endless ring will seal under high pressure and will not weep at zero pressure because of the feather-touch response of this flared-lip design. MONOSEAL pays for itself through the retention of costly hydraulic fluids. A single unit is for **all** depths of stuffing boxes. MONOSEAL is easily installed with no after adjustments necessary. It functions equally well on oil and water; will not swell or bind the ram or soften as infiltration is prevented through complete coating of the fabric. The massive top construction of MONOSEAL withstands enormous packing shock from press bumping which would normally deform conventional U-rings or nested "V" type seals. This is your assurance of many years of trouble-free service plus savings in labor, fluid, and seal costs. Designed for rams 4¼" (108 mm) and larger, and in cross sections ½" (12,7 mm) and larger.

MONOSEAL STYLE 6000 is molded from Neoprene and fabric into a solid, reinforced single ring responsive to pressures varying from zero to maximum. Recommended for water, oils and air. It conforms effectively to the irregularities that are characteristic of older equipment which has been used on water service and/or where the stuffing box has become rough. Use STYLE 6000 PE as shown below for phosphate ester fluids.

CHESTERTON STYLE 6000 PE MONOSEAL

Recommended for use against straight phosphate esters such as certain types of Pydraul. Not suitable for chlorinated hydrocarbon types.

TYPE OF MOUNTING



Standard conventional stuffing box mounting in a typical hydraulic press.

DIMENSIONS — STYLE 6000

Cross Section		Seal Height*	
Inches	mm	Inches	mm
½"	12,7	1 1/16"	27,0
5/8"	15,9	1 1/16"	27,0
¾"	19,1	1 5/16"	33,3
7/8"	22,2	1 5/16"	33,3
1"	25,4	1 7/16"	36,5

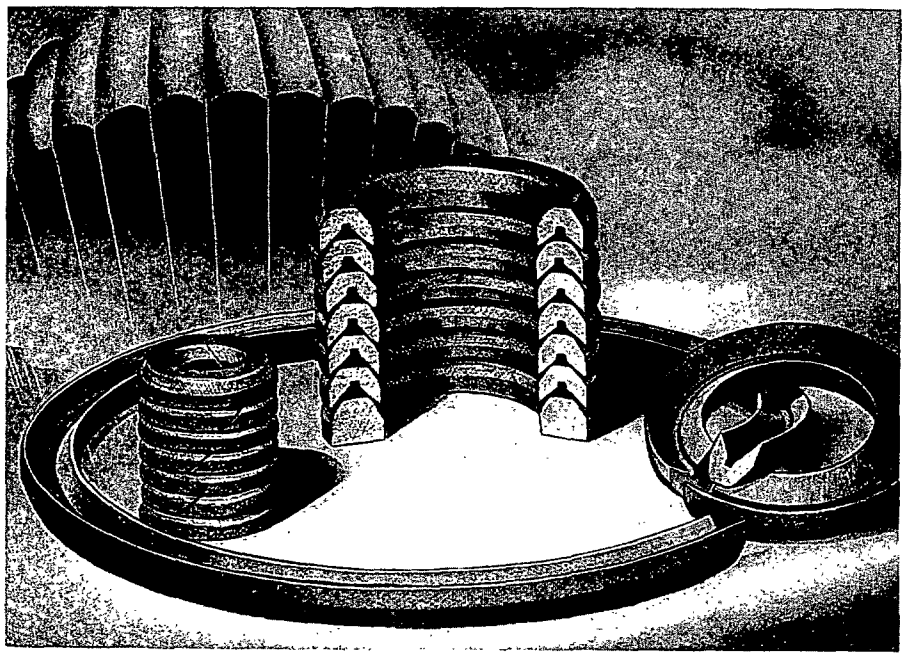
* Dimensions: Stuffing box space required below bottom of gland, after gland face is fully inserted face to face.
Measurements shown include 1/16" (1,6 mm) extra required free space in bottom.

CHESTERTON®

STYLE 600 PARACHUTE® V-RING SETS

FULLY MOLDED, FABRIC REINFORCED, SPLIT RING CONSTRUCTION

For all ram services and pressures — particularly adapted for deep stuffing boxes and odd sized Rams or conditions where endless rings cannot be installed.



CHESTERTON PARACHUTE® is a fully molded fabric reinforced seal which, because of its unique, individual lip seal design, requires little gland pressure. Wear is mostly limited to the energy stroke. Thus, PARACHUTE lasts longer than conventional V seals. No top adapter required because of flat-top surface design. Thick bottom ring is fully molded with straight sides permitting easy insertion.

STYLES AVAILABLE:

600W, **600F** } - Water
600S - Steam and Compressed Air
600CO, **600F** } - Cold Oils
600HO - Hot Oils and Solvents
600PE - Straight Phosphate Ester Fluids, such as certain classes of PYDRAUL

NOTE:

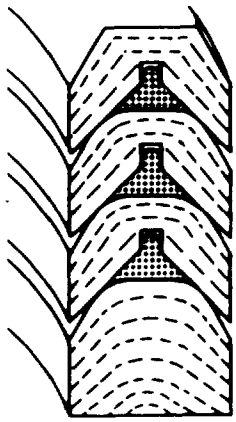
(Regular STYLE 600W or 600-CO is preferred for most stuffing boxes with depth adequate to pressure involved.)

NOTE:

Bull Rings in our STYLE 420 Sq. Braided Copper Packing are available where needed. (Also see STYLE 9000). Normal temperature limit for STYLE 600 is 250°F (120°C). STYLES 600 HO and 600 S temperature limit is slightly higher.

All styles of 600 are neoprene type rubber base except STYLE 600-PE which is a butyl type rubber base.

SPECIAL PARACHUTE STYLE 600-F



Prevents deformation at excessive pressures or where box is shallow in proportion to the pressure. For water or oil to 150°F (65°C). Available ¼" (6,4 mm) up.

(NOTE: Regular STYLE 600W or 600-CA is preferred for most stuffing boxes with depth adequate to pressure involved.)

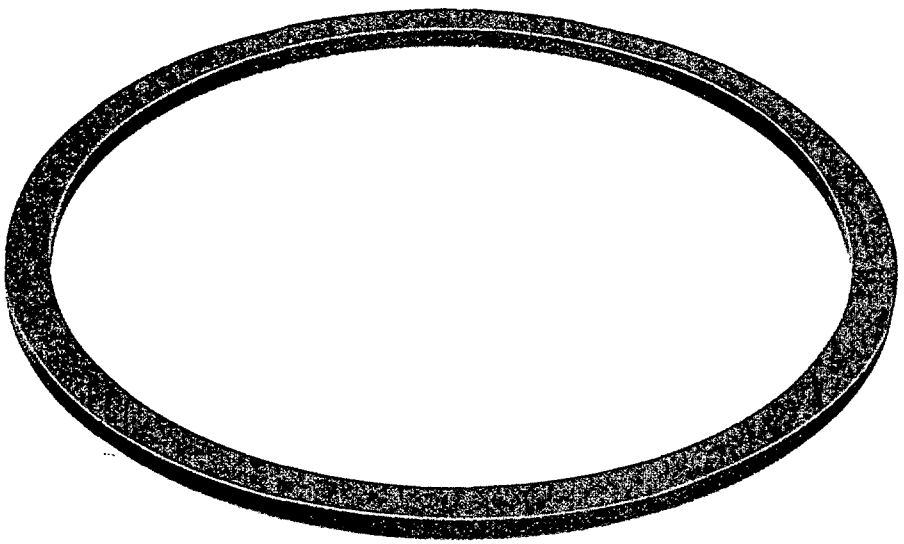
Stack height chart on page 75

CHESTERTON

STYLE 9000 BACK-UP RINGS

RIGID, NON-METALLIC CONSTRUCTION

Prevents Extrusion
Lengthens seal life at low cost . . .



THE PROBLEM

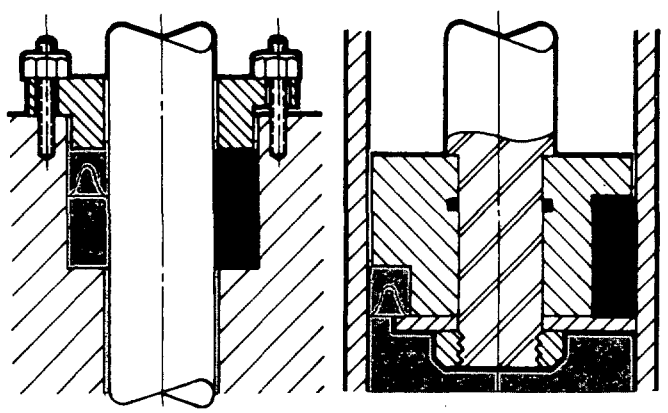
It has long been known that the principle cause of hydraulic/pneumatic seal failure is due to extrusion. Excessive clearances between rods (rams) and follower glands, and pistons and cylinders result in deformation or movement of seals into the clearance areas. This causes nibbling at the heel of the seal, resulting in reduced seal life.

THE SOLUTION

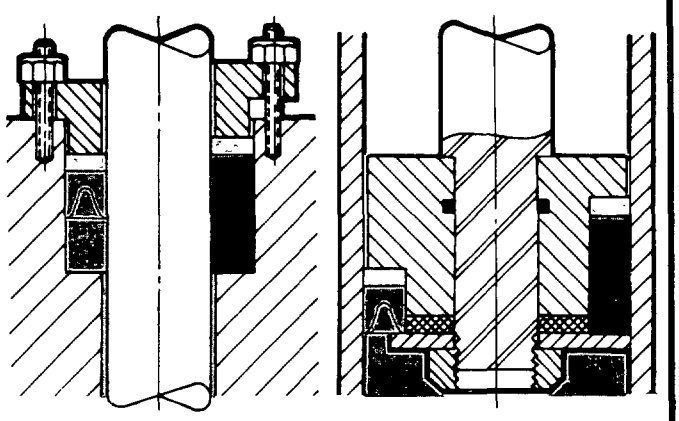
CHESTERTON Polymer and regular hydraulic products are extremely resistant to extrusion. In cases of extreme equipment clearances over .030 inches (0,7 mm) on a diameter some clearance control must be provided in order to achieve maximum service life. The rigid, high density, non-scoring dimensionally stable material from which STYLE 9000 is produced provides a seal back-up with closely controlled clearances. This low cost method of extending hydraulic seal life has proven extremely successful on worn equipment and in extreme pressure services.

The STYLE 9000 back-up ring is usable over the full range of fluids and temperatures for which CHESTERTON Polymer and regular hydraulic seals are recommended. Available up to 70″ (1780 mm) diameter. Standard ring thickness ⅜″ (9,5 mm).

SEAL EXTRUSION



SEAL EXTRUSION CONTROLLED BY BACK UP RING



CHESTERTON®

HYDRAULIC/PNEUMATIC SEAL APPLICATION GUIDE

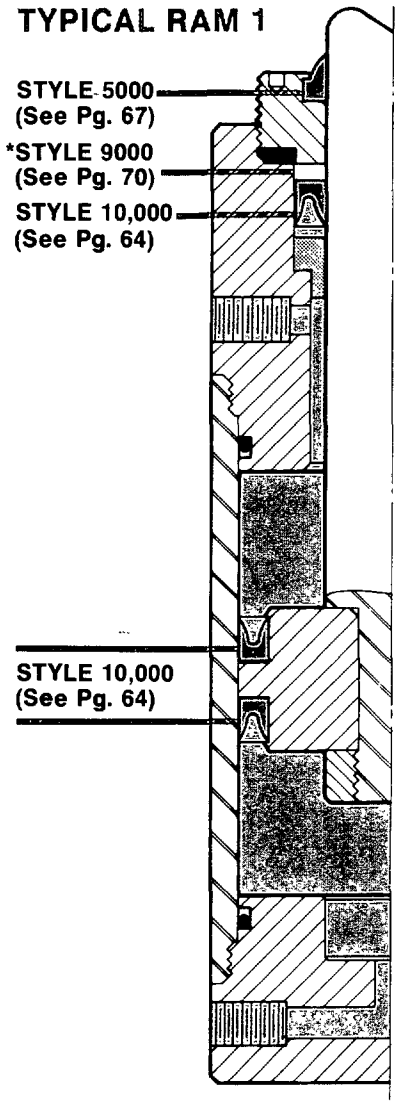
Shown below are typical mountings and equipment configurations for SUPER-WIPERS, SUPER-MONOSEALS,® MONOSEALS,® SUPER-PARACHUTE,® PARACHUTE,® 9000 BACK-UP RINGS, and SUPER-CUP™ seals. This guide is illustrated to show the flexibility and general uses of the various types of CHESTERTON hydraulic and pneumatic sealing devices.

1. Typical groove mounted STYLE 5000 SUPER-WIPER utilizing STYLE 10,000 SUPER-MONOSEAL as both rod and piston seals.

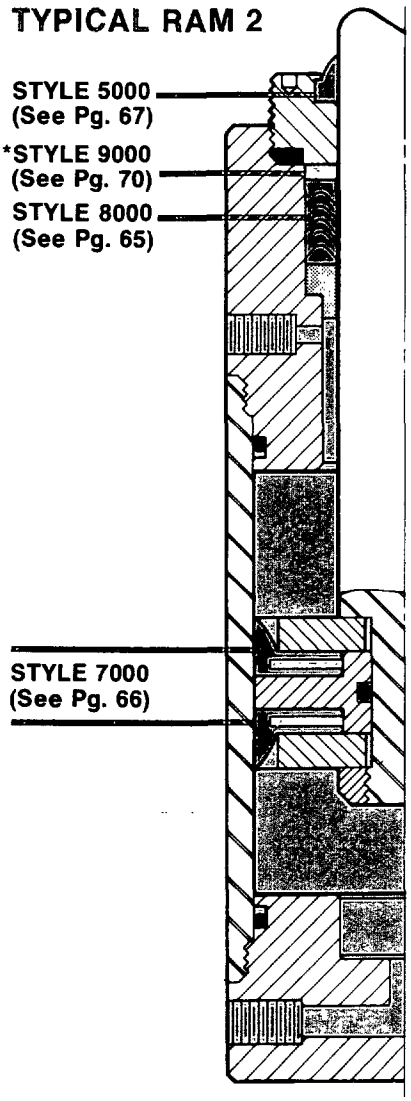
2. Typical groove mounted STYLE 5000 SUPER-WIPER using STYLE 8000 SUPER-PARACHUTE as the primary rod seal and STYLE 7000 SUPERCUP as the double-acting piston seal.

3. Typical groove mounted STYLE 5000 SUPER-WIPER employing STYLE 6000 MONOSEAL as the primary rod seal with STYLE 600 PARACHUTE used as a double-acting piston seal assembly.

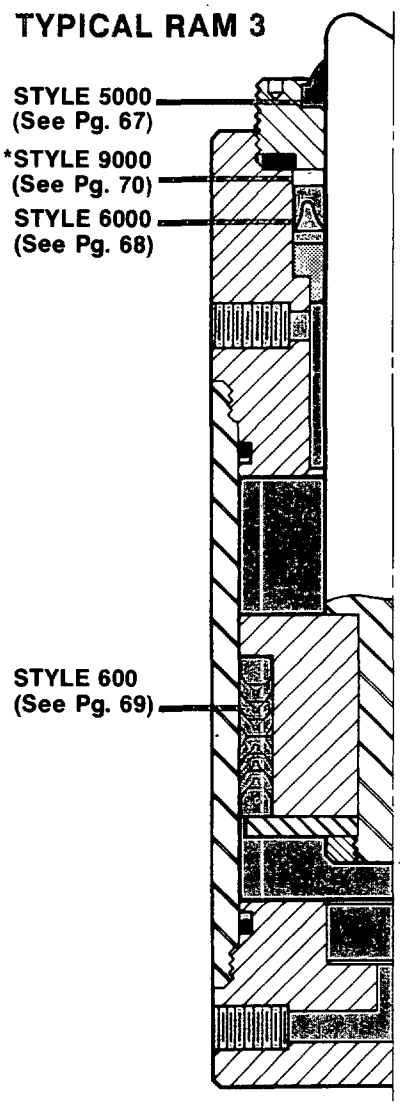
TYPICAL RAM 1



TYPICAL RAM 2



TYPICAL RAM 3



EQUIPMENT REQUIREMENTS FOR ALL SEALS

Finishes Recommended:
15-25 Micro-inch RMS (0,375-0,625 Micro-meter RMS)
(▽▽▽▽) — Dynamic Surfaces
30-45 Micro-inch RMS (0,75-1,125 Micro-meter RMS)
(▽▽▽) — Static Surfaces
Clearances: (Ram to gland or piston to cylinder)
STYLES 5000, 7000, 8000, 10,000 — .030" (0,75 mm)/dia. max.
STYLES 600, 6000 — .015" (0,38 mm)/dia. max.

* Required only to control excess clearances

STYLES OF CHESTERTON® PACKINGS

CONVENTIONAL MOUNT PISTON MOUNT

STYLE 10,000 SUPER-MONOSEAL®
Automatic sealing action
Non-absorbent polymer
High extrusion resistance
Responsive lip design
NOTE: See installation instructions.

STYLE 6,000 MONOSEAL®
Reinforced construction
Conforms to worn equipment
No adjustments
Proven design
NOTE: See installation instructions.

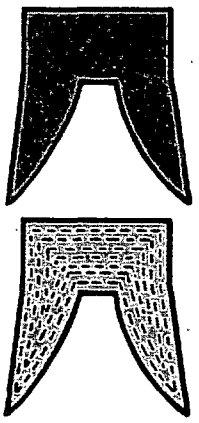


Fig. 1

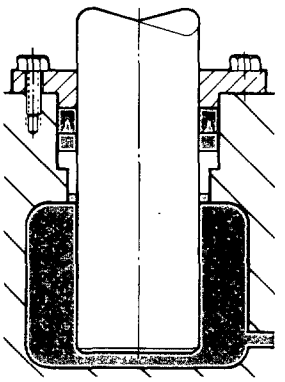
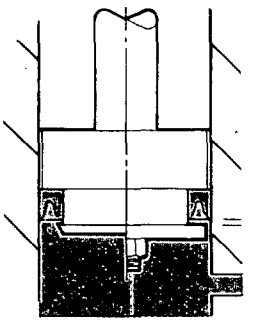


Fig. 4



STYLE 8,000 SUPER-PARACHUTE® PACKING
Easy installation
Near frictionless operation
Fully automatic
High extrusion resistance polymer



Fig. 2

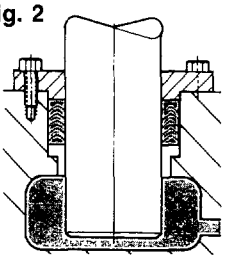
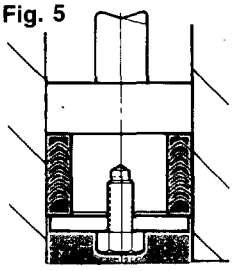


Fig. 5



STYLE 600 PARACHUTE® PACKING
Reinforced construction. No top adapter required. Heavy bottom adapter. Proven performance
HYDRAULIC: — It is suggested that STYLE 600F (with fillers) be used on oil or water if box depth is shallow in proportion to pressure; or if box holds fewer than 7 rings.

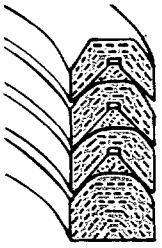


Fig. 3

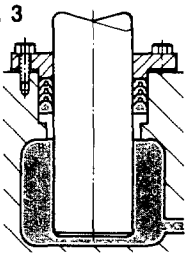
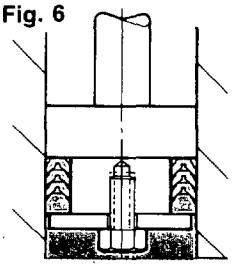


Fig. 6



STYLE 7,000 SUPERCUPS™
Positive sealing. High extrusion resistance polymer.
Will not dry out or oil soften.
Unique metallic reinforcement.
NOTE: See installation instructions.

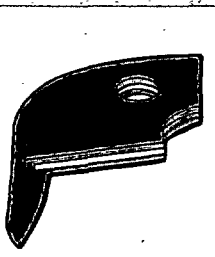
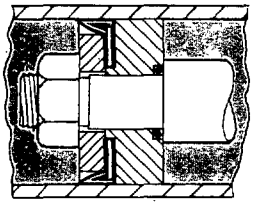
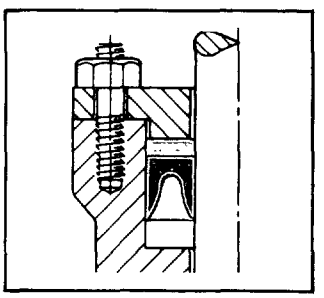


Fig. 7



STYLE 9000 BACK UP RING
Rigid, high density, non-scoring material. Provides back-up with closely controlled clearances. Successful low-cost method of extending hydraulic seal life.

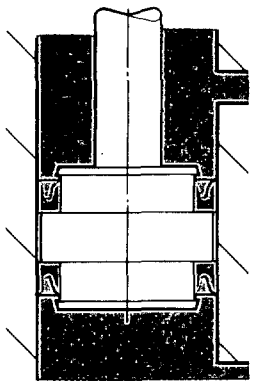




PISTON MOUNT DOUBLE ACTING

CHESTERTON® APPLICATION GUIDE–TYPES OF MOUNTINGS

Fig. 8



ADAPTING TO SHALLOW STUFFING BOXES
SUPER-MONOSEAL® remains stationary at the top of the box against the gland. 1/16" (1,6 mm) Minimum additional clearance at the bottom of stuffing box permits hydraulic fluid to actuate the response SUPER-MONOSEAL lips. No gland pressure or gland adjustment is required.

LIP SHORTENED
Allow for gland lip length in excess of depth of chamfer is possible.

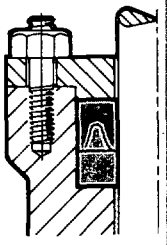
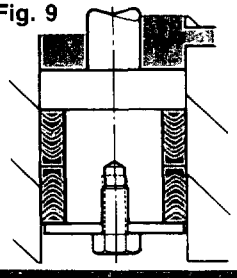


FIG. 1, 2 & 3 — Standard conventional stuffing box mounting in a typical hydraulic press. Note that this is the only type of application for which STYLE 6,000 is intended, while the installations shown in Figures 4 and 8 are for STYLE 10,000 SUPER-MONOSEALS only.

Fig. 9



FLAT GLAND
Lip removed to obtain additional depth. (Box chamfer can be a problem.)

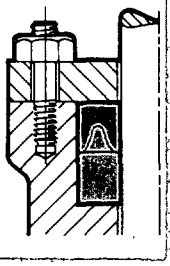
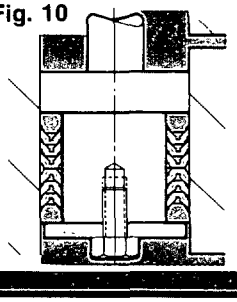


FIG. 4, 5, 6 & 7 — Simple single acting piston mounted design. In Figure 4 the left side shows a snap over ridge for retention of the SUPER-MONOSEAL. This is the preferred method for piston mounting. The right side shows the more conventional bolted cover plate design frequently found in existing equipment as shown in Figures 5 and 6.

Fig. 10



GLAND TURNED OVER
Excellent service will be obtained if I.D. and O.D. clearances are proper. (Box chamfer can be a problem.)

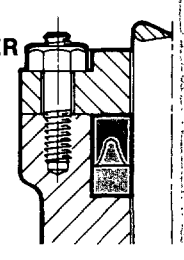
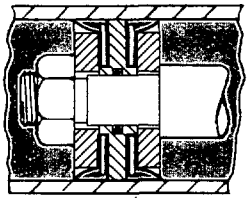
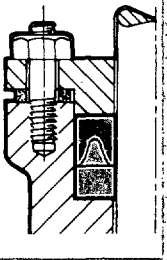


FIG. 8, 9, 10 & 11 — Conventional double-acting, piston mounted design with packing rings positioned back to back with a portion of the piston separating them. The method of retention shown is the preferred snap over ridge design per Figure 4 left, but other methods such as bolted cover plates, snap ring, retainer, etc. can be used.

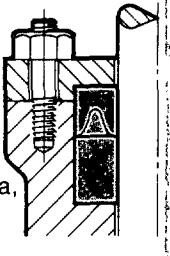
Fig. 11



SHIMMED GLAND
Attention should be given to thickness of shims. All should be the exact same thickness. Gland lip should enter beyond box chamfer.



COUNTERBORED GLAND
With sufficient gland thickness, this is a satisfactory method.
NOTE: When stuffing box chamfer becomes part of seal support area, said chamfer must not exceed .030" (.762 mm).



INSTALLATION:

CHESTERTON hydraulic seals are manufactured from only the finest materials available, under the most stringent, controlled conditions. However, to insure maximum service, it is suggested that the following points be adhered to when installing same:

- The stuffing box, groove or piston, and all contacting areas should be free of rough edges, nicks, or burrs, etc.
- Protective fixtures, materials or devices should be implemented whenever the seal is forced over threads, sharp edges, grooves and the like.
- Installation tools should be soft metal or plastic also free of rough edges. The use of screwdrivers and other similar tools should be avoided.
- Lubricants are acceptable and in most cases desirable. The same hydraulic medium can be used to lubricate the seal in installation. Only soft or light weight greases should be considered, if grease is to be used at all.

Because of the wide variety of applications of our products, and the wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of these products by the ultimate user, we do not encourage reliance on them without specific prior service experience.
For the reasons indicated, the A.W.CHESTERTON COMPANY makes no warranties, expressed or implied, that products described are guaranteed for any length of time, for any measure of service, or for any specific purpose.

Table of Style 8000 SUPER-PARACHUTE® Approximate Set Heights per number of Rings (Includes top and bottom adapters)

Basic Inch Measurement Sizes

CROSS SECTION — TOTAL NUMBER OF RINGS — ADD PER SEALING RING STACK HEIGHT OF TOP & BOTTOM ADAPTERS

Inches OVER–THRU	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	ins.	ins.
1/4–5/16	1 3/32	1 7/32	2 1/32	2 5/32	2 9/32	1 1/32	1 5/32	1 9/32	1 13/32	1 17/32	1 21/32	1 25/32	1 29/32	2 1/32	2 5/32	2 9/32	2 13/32	2 17/32	2 21/32	2 25/32	9/32	1/8
5/16–3/8	1/2	2 1/32	1 3/16	3 1/32	1 1/8	1 9/32	1 7/16	1 19/32	1 3/4	1 29/32	2 1/16	2 7/32	2 3/8	2 17/32	2 11/16	2 27/32	3	3 5/32	3 5/16	3 15/32	1 1/32	5/32
3/8–7/16	1 7/32	1 1/16	2 7/32	1	1 5/32	1 5/16	1 15/32	1 5/8	1 25/32	1 15/16	2 3/32	2 1/4	2 13/32	2 9/16	2 23/32	2 7/8	3 1/32	3 3/16	3 1/32	3 1/2	3/8	5/32
7/16–1/2	9/16	2 3/32	7/8	1 1/32	1 3/16	1 11/32	1 1/2	1 21/32	1 13/16	1 31/32	2 1/8	2 9/32	2 7/16	2 19/32	2 3/4	2 29/32	3 1/16	3 7/32	3 3/8	3 17/32	1 3/32	5/32
1/2–9/16	5/8	1 3/16	1	1 3/16	1 3/8	1 9/16	1 3/4	1 15/16	2 1/8	2 5/16	2 1/2	2 11/16	2 7/8	3 1/16	3 1/4	3 7/16	3 5/8	3 13/16	4	4 3/16	7/16	3/16
9/16–5/8	2 1/32	2 7/32	1 1/32	1 7/32	1 13/32	1 19/32	1 25/32	1 31/32	2 5/32	2 11/32	2 17/32	2 23/32	2 29/32	3 3/32	3 9/32	3 15/32	3 21/32	3 27/32	4 1/32	4 7/32	1 5/32	3/16
5/8–1 1/16	1 1/16	7/8	1 1/16	1 1/4	1 7/16	1 5/8	1 13/16	2	2 3/16	2 3/8	2 9/16	2 3/4	2 15/16	3 1/8	3 5/16	3 1/2	3 11/16	3 7/8	4 1/16	4 1/4	1/2	3/16
1 1/16–3/4	2 7/32	1 3/32	1 11/32	1 19/32	1 27/32	2 3/32	2 11/32	2 19/32	2 27/32	3 3/32	3 11/32	3 19/32	3 27/32	4 3/32	4 11/32	4 19/32	4 27/32	5 3/32	5 11/32	5 19/32	1 9/32	1/4
3/4–13/16	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8	4 7/8	5 1/8	5 3/8	5 5/8	5/8	1/4
13/16–7/8	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8	4 7/8	5 1/8	5 3/8	5 5/8	5/8	1/4
7/8–1 5/16	1	1 5/16	1 5/8	1 15/16	2 1/4	2 9/16	2 7/8	3 3/16	3 1/2	3 13/16	4 1/8	4 7/16	4 3/4	5 1/16	5 3/8	5 11/16	6	6 5/16	6 5/8	6 15/16	1 1/16	5/16
1 5/16–1	1	1 5/16	1 5/8	1 15/16	2 1/4	2 9/16	2 7/8	3 3/16	3 1/2	3 13/16	4 1/8	4 7/16	4 3/4	5 1/16	5 3/8	5 11/16	6	6 5/16	6 5/8	6 15/16	1 1/16	5/16
1	1 1/16	1 3/8	1 11/16	2	2 5/16	2 5/8	2 15/16	3 1/4	3 9/16	3 7/8	4 3/16	4 1/2	4 13/16	5 1/8	5 7/16	5 3/4	6 1/16	6 3/8	6 11/16	7	3/4	5/16

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

Basic Metric Measurement Sizes (mm)

CROSS SECTION — TOTAL NUMBER OF RINGS — ADD PER SEALING RING STACK HEIGHT OF TOP & BOTTOM ADAPTERS

mm OVER–THRU	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	mm	mm
6,4–7,9	10,3	13,5	16,7	19,8	23,0	26,2	29,4	32,5	35,7	38,9	42,1	45,2	48,4	51,6	54,8	57,9	61,1	64,3	67,5	70,6	7,1	3,2
7,9–9,5	12,7	16,7	20,6	24,6	28,6	32,5	36,5	40,5	44,5	48,4	52,4	56,4	60,3	64,3	59,5	72,2	76,2	80,2	84,1	88,1	8,7	4,0
9,5–11,1	13,5	17,5	21,4	25,4	29,4	33,3	37,3	41,3	45,2	49,2	53,2	57,2	61,1	65,1	69,1	73,0	76,9	80,9	84,9	88,9	9,5	4,0
11,1–12,7	14,3	18,3	22,2	26,2	30,2	34,1	38,1	42,1	46,0	50,0	54,0	57,9	61,9	65,9	69,9	73,8	77,8	81,8	85,7	89,7	10,3	4,0
12,7–14,3	15,9	20,6	25,4	30,2	34,9	39,7	44,5	49,2	54,0	58,7	63,5	59,5	72,0	77,8	82,6	87,3	92,1	96,8	101,6	106,4	11,1	4,8
14,3–15,9	16,7	21,4	26,2	31,0	35,7	40,5	45,2	50,0	54,8	59,5	64,3	69,1	73,8	78,6	83,3	88,1	92,9	97,6	102,4	107,2	11,9	4,8
15,9–17,5	17,5	22,2	27,0	31,8	36,5	41,3	46,0	50,8	55,6	60,3	65,1	69,9	74,6	79,4	84,1	88,9	93,6	98,4	103,2	107,9	12,7	4,8
17,5–19,1	21,4	27,8	34,1	40,5	46,8	53,2	59,5	65,9	72,2	78,6	84,9	91,3	97,6	104,0	110,3	116,7	123,0	129,4	135,7	142,1	15,1	6,4
19,1–20,6	22,2	28,6	34,9	41,3	47,6	54,0	60,3	66,7	73,0	79,4	85,7	92,1	98,4	104,8	111,1	117,5	123,8	130,2	136,5	142,9	15,9	6,4
20,6–22,2	22,2	28,6	34,9	41,3	47,6	54,0	60,3	66,7	73,0	79,4	85,7	92,1	98,4	104,8	111,1	117,5	123,8	130,2	136,5	142,9	15,9	6,4
22,2–23,8	25,4	33,3	41,3	49,2	57,2	65,1	73,0	81,0	88,9	96,8	104,8	112,7	120,7	128,6	136,5	144,5	152,4	160,3	168,3	176,2	17,5	7,9
23,8–25,4	25,4	33,3	41,3	49,2	57,2	65,1	73,0	81,0	88,9	96,8	104,8	112,7	120,7	128,6	136,5	144,5	152,4	160,3	168,3	176,2	17,5	7,9
25,4	27,0	34,9	42,9	50,8	58,7	66,7	74,6	82,6	90,5	98,4	106,4	114,3	122,2	130,2	138,1	146,1	153,9	161,9	169,8	177,8	19,1	7,9

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

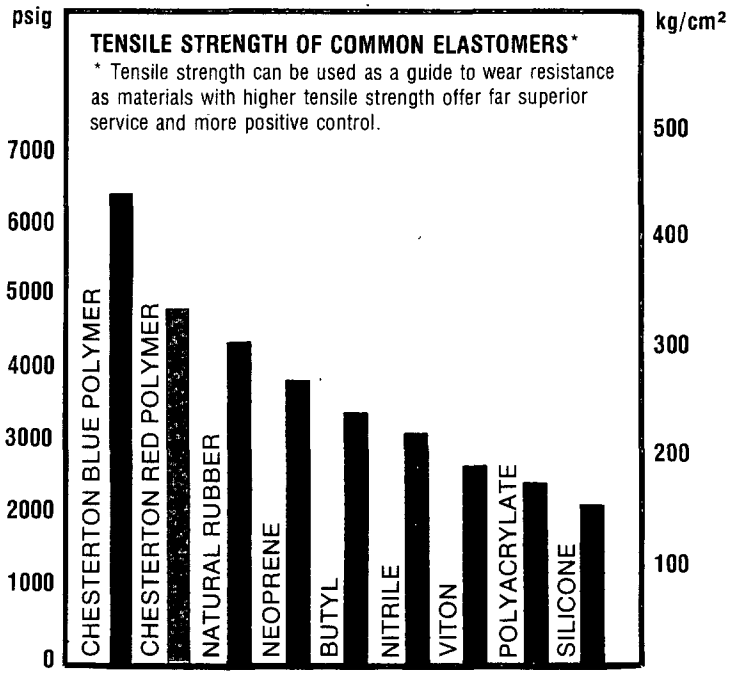
Table of Style 600 PARACHUTE® Approximate Set Heights
(Stack height per set, including one bottom ring rounded down to the nearest 1/16" (1,6 mm) per inch of depth)

	CROSS SECTION	2 RINGS	3 RINGS	4 RINGS	5 RINGS	6 RINGS	7 RINGS	8 RINGS	9 RINGS	10 RINGS	11 RINGS	12 RINGS	13 RINGS	14 RINGS	15 RINGS
INCH	3/16"	3/8	1/2	1 1/16	7/8	1	1 3/16	1 3/8	1 9/16	1 11/16	1 7/8	2 1/16	2 1/4	2 3/8	2 9/16
METRIC	4,8	9,5	12,7	17,5	22,2	25,4	30,2	34,9	39,7	42,9	47,6	52,4	57,2	60,3	65,1
INCH	1/4"	7/16	5/8	13/16	1 1/16	1 1/4	1 7/16	1 5/8	1 7/8	2 1/16	2 1/4	2 7/16	2 11/16	2 7/8	3 1/16
METRIC	6,4	11,1	15,9	20,6	27,0	31,8	36,5	41,3	47,6	52,4	57,2	61,9	68,3	73,0	77,8
INCH	5/16"	9/16	3/4	1	1 1/4	1 7/16	1 11/16	1 15/16	2 3/16	2 3/8	2 5/8	2 7/8	3 1/8	3 5/16	3 9/16
METRIC	7,9	14,3	19,1	25,4	31,8	36,5	42,9	49,2	55,6	60,3	66,7	73,0	79,4	84,12	90,5
INCH	3/8"	9/16	3/4	1	1 1/4	1 7/16	1 11/16	1 15/16	2 3/16	2 3/8	2 5/8	2 7/8	3 1/8	3 5/16	3 9/16
METRIC	9,5	14,3	19,1	25,4	31,8	36,5	42,9	49,2	55,6	60,3	66,7	73,0	79,4	84,12	90,5
INCH	7/16"	5/8	7/8	1 1/8	1 3/8	1 5/8	1 15/16	2 3/16	2 7/16	2 11/16	3	3 1/4	3 1/2	3 3/4	4 1/16
METRIC	11,1	15,9	22,2	28,6	34,9	41,3	49,2	55,6	61,9	68,3	76,2	82,6	88,9	95,3	103,2
INCH	1/2"	5/8	7/8	1 1/8	1 3/8	1 5/8	1 15/16	2 3/16	2 7/16	2 11/16	3	3 1/4	3 1/2	3 3/4	4 1/16
METRIC	12,7	15,9	22,2	28,6	34,9	41,3	49,2	55,6	61,9	68,3	76,2	82,6	88,9	95,3	103,2
INCH	9/16"	1 1/16	1	1 1/4	1 9/16	1 7/8	2 3/16	2 7/16	2 3/4	3 1/16	3 3/8	3 5/8	3 15/16	4 1/4	4 9/16
METRIC	14,3	17,5	25,4	31,8	39,7	47,6	55,6	61,9	69,9	77,8	85,7	92,1	100,0	108,0	115,9
INCH	5/8"	13/16	1 1/8	1 7/16	1 3/4	2 1/16	2 7/16	2 3/4	3 1/16	3 3/8	3 3/4	4 1/16	4 3/8	4 11/16	5 1/16
METRIC	15,9	20,6	28,6	36,5	44,5	52,4	61,9	69,9	77,8	85,7	95,3	103,2	111,1	119,1	128,6
INCH	1 1/16"	7/8	1 3/16	1 9/16	1 15/16	2 1/4	2 5/8	3	3 3/8	3 11/16	4 1/16	4 7/16	4 13/16	5 1/8	5 1/2
METRIC	17,5	22,2	30,2	39,7	49,2	57,2	66,7	76,2	85,7	93,7	103,2	112,7	122,2	130,2	139,7
INCH	3/4"	15/16	1 5/16	1 11/16	2 1/8	2 1/2	2 7/8	3 1/4	3 11/16	4 1/16	4 7/16	4 13/16	5 1/4	5 5/8	6
METRIC	19,1	23,8	33,3	42,9	54,0	63,5	73,0	82,6	93,7	103,2	112,7	122,2	133,4	142,9	152,4
INCH	13/16"	1	1 7/16	1 13/16	2 1/4	2 11/16	3 1/8	3 1/2	3 15/16	4 3/8	4 13/16	5 3/16	5 5/8	6 1/16	6 1/2
METRIC	20,6	25,4	36,5	46,0	57,2	68,3	79,4	88,9	100,0	111,1	122,2	131,8	142,9	154,0	165,1
INCH	7/8"	1 1/8	1 9/16	2	2 7/16	2 15/16	3 3/8	3 13/16	4 1/4	4 11/16	5 3/16	5 5/8	6 1/16	6 1/2	7
METRIC	22,2	28,6	39,7	50,8	61,9	74,6	85,7	96,8	108,0	119,1	131,8	142,9	154,0	165,1	177,8
INCH	15/16"	1 3/16	1 11/16	2 1/8	2 5/8	3 1/8	3 5/8	4 1/16	4 9/16	5 1/16	5 9/16	6	6 1/2	7	7 1/2
METRIC	23,8	30,2	42,9	54,0	66,7	79,4	92,1	103,2	115,9	128,6	141,3	152,4	165,1	177,8	190,5
INCH	1"	1 1/4	1 3/4	2 1/4	2 13/16	3 5/16	3 13/16	4 5/16	4 7/8	5 3/8	5 7/8	6 7/16	6 15/16	7 7/16	7 15/16
METRIC	25,4	31,8	44,5	57,2	71,4	84,1	96,8	109,5	123,8	136,5	149,2	163,5	176,2	188,9	201,6

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

Physical Properties

PHYSICAL PROPERTIES		CHESTERTON® BLUE POLYMER	CHESTERTON® RED POLYMER
Hardness Durometer A			95
Tensile psi			5000
Tensile Modulus psi at extension	50%		—
	100%		1900
	300%		3400
Compression Set Method B %22 hrs. @ 158°F (70°C)			26



CHEMICAL RESISTANCES

COMPATABILITY RATINGS

1. SATISFACTORY 2. FAIR
3. INSUFFICIENT DATA 4. UNSATISFACTORY

STYLES
600, 6000
5000, 7000, 8000, 9000, 10,000
600PE, 6000PE

Aero Lubriplate	1	1	4
Aero Shell IAC	2	1	4
Aero Shell 7A Grease	2	1	4
Aero Shell 17 Grease	2	1	4
Air,	1	1	1
200°F	1	1	1
Atlantic Utro Gear EP Lube.	2	1	4
Aluminum Bromide	1	1	1
Aluminum Chloride	1	1	1
Aluminum Fluoride	1	1	1
Aluminum Salts	1	1	1
Aluminum Sulphate	1	1	1
Alums—NH_3—CR—K	1	1	1
Ambrex 830 (Mobil)	2	1	3
Amyl Acetate	4	1	4
AN-O-3 Grade M	2	1	4
AN-O-6	2	1	4
ANO-366	2	1	4
Argon	1	1	1
Aurex 903R (Mobil)	2	1	4
ASTM Oil, No. 1	1	1	4
ASTM Reference Fuel A	2	1	4
Barium Chloride	1	1	1
Barium Salts	1	1	1
Barium Sulfide	1	1	1
Borax	4	1	1
Boric Acid	1	1	1
Brayco 885 (MIL-L-6085A)	4	1	4
Butter—Animal Fat	2	1	2
Calcium Bisulfite	1	1	4
Calcium Chloride	1	1	1
Calcium Nitrate	1	1	1
Calcium Phosphate	2	1	1
Calcium Salts	1	1	1
Calcium Sulfide	1	1	1
Calcium Sulfite	1	1	1
Calcium Thiosulfate	1	1	1
Caliche Liquors	1	1	1
Carbon Dioxide, Dry	2	1	2
Carbon Monoxide	2	1	1
Carbonic Acid	1	1	1
Castor Oil	1	1	2
Circo Light Process Oil	2	1	4
City Service Koolmotor-AP Gear Oil 140—E.P. lube	2	1	4
Cobalt Chloride	1	1	1
Cod Liver Oil	2	1	1
Copper Chloride	2	1	1
Copper Cyanide	1	1	1
Copper Salts	1	1	1
Copper Sulfate	1	1	2
Cutting Oil	2	1	4
Cyclohexane	3	1	4
Diethyl Ether	3	1	4
Dow Corning — 3	1	1	1
— 4	1	1	1
— 5	1	1	1
— 11	1	1	1
— 33	1	1	1
— 44	1	1	1
— 55	1	1	1
Dow Corning — 200	1	1	1
— 220	1	1	1
— 510	1	1	1
— 550	1	1	1
— 710	1	1	1
— 1208	1	1	1
— 4050	1	1	1
— 6620	1	1	1
— F60	1	1	1
— F61	1	1	1
— XF60	1	1	1
Elco 28—EP lubricant	3	1	4
Esso XP90-EP lubricant	2	1	4
Ethylcyclopentane	3	1	4
Ethylene Glycol	1	2	1
F-60 Fluid (Dow Corning)	1	1	1
F-61 Fluid (Dow Corning)	1	1	1
Ferric Chloride	2	1	1
Ferric Nitrate	1	1	1
Freon, 12	1	1	2
Freon, 14	1	1	1
Freon, 113	1	1	4
Freon, PCA	1	1	4
TF	1	1	4
Fyrquel A60	4	4	2
90, 100, 150, 220, 300, 500	4	4	1
Glycols	1	4	1
Green Sulphate Liquor	2	3	1
Gulfcrown Grease	2	1	4
Gulf Endurance Oils	2	1	4
Gulf FR Fluids (Emulsion)	2	1	4
Gulf Harmony Oils	2	1	4
Gulf High Temperature Grease	2	1	4
Gulf Legion Oils	2	1	4
Hannifin Lube A	1	1	4
Helium	1	1	1
Hydraulic Oil (Petroleum Base)	2	1	4
Hydrogen Gas, Cold	1	1	1
Hot	1	1	1
Hydrolube—Water/ Ethylene Glycol	2	4	2
Kerosene (Similar to RP-1 and JP-1)	2	1	4
Keystone #87HX—Grease	4	1	4
Lard, Animal Fat	2	1	2
Lehigh X1169	2	1	4
Lehigh X1170	2	1	4
Light Grease	4	1	4
Liquid Petroleum Gas (LPG)	2	1	4
Magnesium Chloride	1	1	1
Magnesium Salts	1	1	1
MIL-L-2104	2	1	4
MIL-S-3136, Type I Fuel	2	1	4
Type III Fuel	4	1	4
Type IV Oil, Low Swell	1	1	4
Type V Oil, Med. Swell	2	1	4
Type VI Oil, High Swell	4	1	4
MIL-O-3503	2	1	4
MIL-G-3545	2	1	4
MIL-L-4343	1	1	1
MIL-L-6081	2	1	4
MIL-L-6082	2	1	4
MIL-H-6083	1	1	4
MIL-L-6085	4	1	4
MIL-L-6387	4	1	4
MIL-C-7024	4	1	4
MIL-G-7118	2	1	4
MIL-G-7187	4	1	4
MIL-G-7711	4	1	4
MIL-H-8446 (MLO-8515)	1	1	4
MIL-L-9000	2	1	4
MIL-G-10924	4	1	4
MIL-L-15016	2	1	4
MIL-L-15017	2	1	4
MIL-G-15793	2	1	4
MIL-L-17331	2	1	4
MIL-L-21260	2	1	4
MIL-G-21568	1	1	1
MIL-G-25013	2	1	4
MIL-G-25537	2	1	4
MIL-F-25558 (RJ-1)	2	1	4
MIL-R-25576 (RP-1)	2	1	4
MIL-S-81087	1	1	1
Mineral Oils	2	1	3
MLO-8200 Hydr.	1	1	4
MLO-8515	1	1	4
Mobiloil SAE 20	2	1	4
Neatsfoot Oil	4	1	2
Neon	1	1	1
Niter Cake	1	1	1
Nitrogen	1	1	1
Octadecane	2	1	4
Olive Oil	2	1	2
Oronite 8200	1	1	4
Oronite 8515	1	1	4
Oxygen, Cold (1)	1	1	1
Ozone	3	1	2
Parker O Lube	1	1	4
Petrolatum	2	1	4
Petroleum Oil, Crude	2	1	4
Pneumatic Service	1	1	1
Potassium Chloride	1	1	1
Potassium Cupro Cyanide	1	1	1
Potassium Cyanide	1	1	1
Potassium Nitrate	1	1	1
Potassium Salts	1	1	1
Potassium Sulphate	1	1	1
Potassium Sulphite or Nitrate	1	1	1
Producer Gas	2	1	4
Pydraul, 10E, 29ELT	4	4	1
30E, 50E, 65E, 90E	4	4	1
115E	4	4	1
230E, 312C, 540C	4	4	4
Pyrogard 42, 43, 53, 55	4	4	1
Pyrogard C, D	2	4	4
Red Oil (MIL-H-5606)	2	1	4
Red Line 100 Oil	2	1	4
RJ-I (MIL-F-25558)	2	1	4
RP-I (MIL-R-25576)	2	1	4
Sal Ammoniac	1	1	1
Shell Alvania Grease #2	2	1	4
Shell Iris 905	2	1	4
Tellus #27, Pet, Base	2	1	4
Tellus #33	2	1	4
UMF (5% Aromatic)	2	1	4
Silicate Esters	1	1	4
Silicone Greases	1	1	1
Silicone Oils	1	1	1
Silver Nitrate	1	1	1
Sinclair Opaline CX-EP Lube	2	1	4
Skydrol 500	4	4	2
Skydrol 7000	4	4	1
Socony Mobile Type A Vacuum PD959B	2	1	4
Sodium Chloride	1	1	1
Sodium Phosphate (Mono)	2	1	1
Sodium Phosphate (Dibasic)	2	1	1
Sodium Phosphate (Tribasic)	2	1	1
Sodium Salts	2	1	1
Sodium Sulphate	1	1	1
Sodium Sulphide and Sulfite	1	1	1
Sodium Thiosulfate	1	1	1
Spry	2	1	2
Standard Oil Mobilube GX90-EP Lube	2	1	4
Stoddard Solvent	2	1	4
Sunoco SAE 10	2	1	4
#3661	2	1	4
All purpose grease	2	1	4
Swan Finch EP Lube	4	1	4
Hypoid-90	2	1	4
Texaco 3450 Gear Oil	4	1	4
Texaco Regal B	4	1	4
Texaco Uni-Temp. Grease	2	1	4
Texas 1500 Oil	2	1	4
Tidewater Oil—Beedol Multigear 140, EP Lube	2	1	4
Transformer Oil	2	1	4
Transmission Fluid Type A	2	1	4
Turbine Oil	4	1	4
Turbo Oil #35	2	1	4
Type I Fuel (MIL-S-3136)	2	1	4
Univis 40 (Hydr. Fluid)	2	1	4
Univolt #35 (Mineral Oil)	2	1	4
Versilube F-50	1	1	1
Wemco C	2	1	4
White Oil	2	1	4
Wolmar Salt	2	1	1
Xenon	1	1	1
Zinc Salts	1	1	1

(1) Compounds are suggested only. Customer should evaluate carefully for specific application.

6 SPECIALIZED PRODUCTS

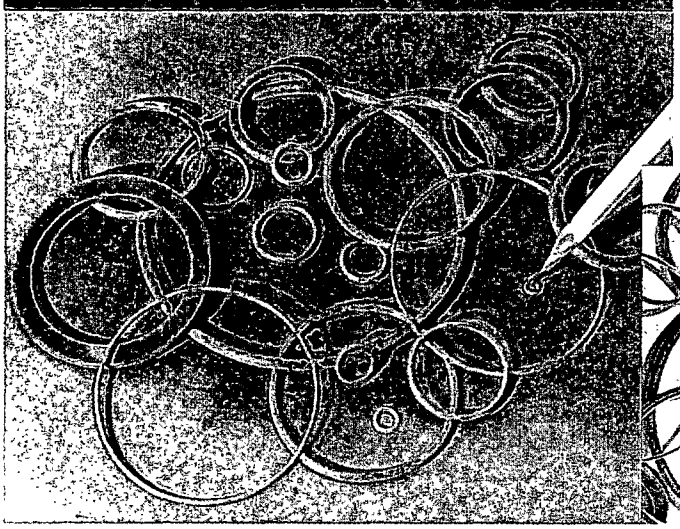
CHESTERTON®

CHESTERTON VANWAY® O-RING

U.S. Patents 3,549,166 and 3,586,566—Foreign Patents Applied For.
Complies with FDA regulation 121.2555

A totally different O-Ring having a resilient, synthetic rubber core which is encased in a continuous, thick Teflon* encapsulation.

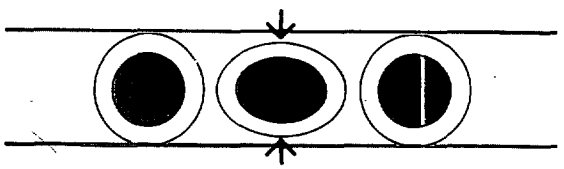
Vanway O-Ring — 1968 Top Honor John C. Vaaler Award Winner



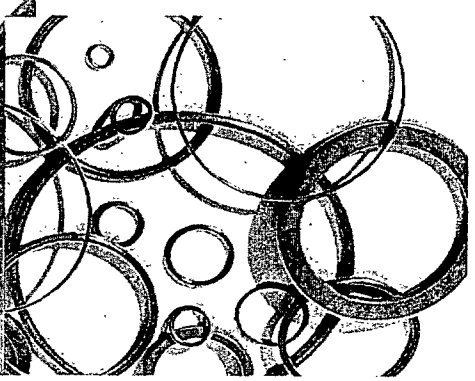
The VANWAY O-RING provides the simple, one-piece solution for chemical, bio-medical, industrial, aircraft and hazardous fluid handling applications.

Repeated flexing without deterioration, handling of constant lateral movement, and resistance to corrosive liquids are some of the service conditions that the composite VANWAY O-RING can withstand in extended use in normal service. It acts as a virtually universal seal in applications now filled by elastomeric O-Rings or by solid Teflon materials where performance is frequently less than satisfactory.

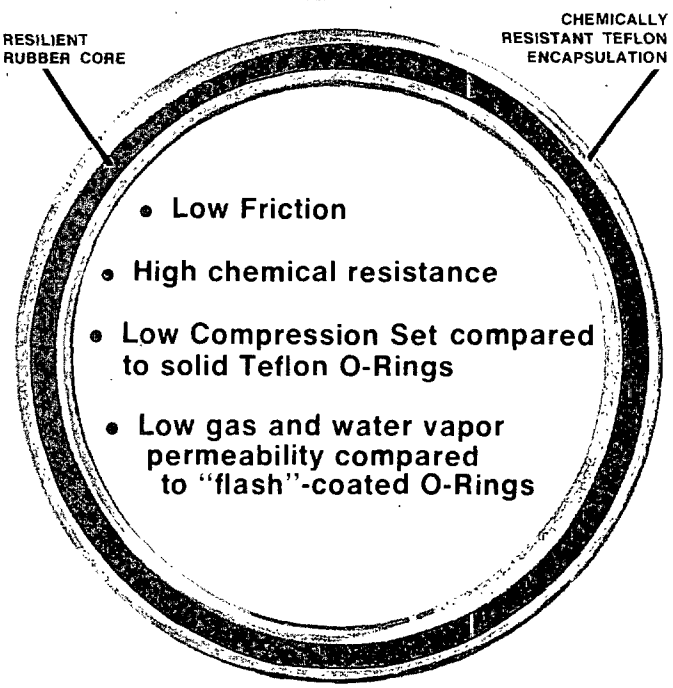
CROSS SECTION



BEFORE COMPRESSION | UNDER COMPRESSION | AFTER COMPRESSION



VANWAY O-RINGS are available with either Viton* or silicone rubber core.



Vanway O-Ring with silicone rubber core is authorized by the United States Department of Agriculture (USDA) for use in federally inspected meat and poultry plants.

SERVICES

Provides fluid sealing in O-Ring applications for harsh chemicals and for temperatures to 400°F. (205°C.); non-sticking gaskets for glass, metal, plastic, Teflon systems; and in filters; pipelines; valves; instruments and mechanical seals.

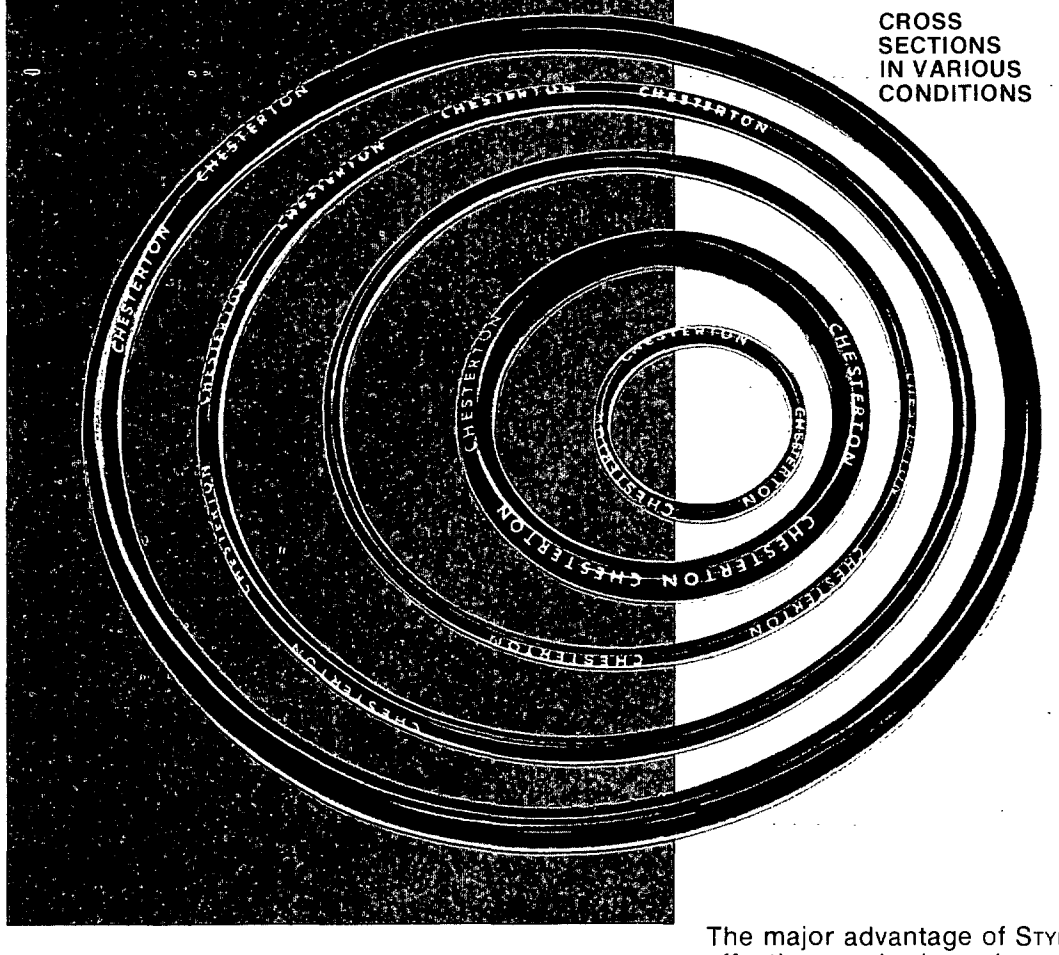
The CHESTERTON VANWAY® O-RING is the ideal answer to the classic problem requiring a "rubbery" Teflon. This unique O-Ring solves the sealing problems where the chemical inertness of Teflon is a MUST and where maintenance-free dependability and long service life are required.

* DuPont's registered trademark

CHESTERTON

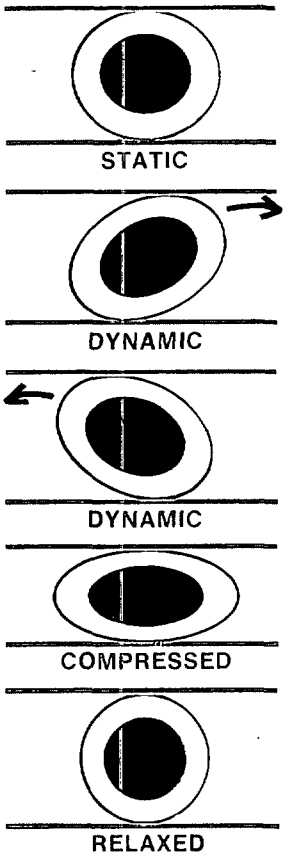
CHESTERTON STYLE 76 O-RINGS

Exclusive CHESTERTON O-ring for either static or dynamic applications where both chemical resistance and resilience are required.



The CHESTERTON STYLE 76 O-RING is a low friction Teflon* encapsulated o-ring manufactured in standard (AS-568A) 1/16", 3/32", 1/8", 3/16", and 1/4" nominal cross section sizes. In manufacturing the Viton* core is first made by joining its ends together; secondly, the Teflon film is joined and flowed together over the Viton core ring forming a unique Teflon encapsulated yet resilient rubber type o-ring. This unique construction gives CHESTERTON the capability of producing nonstandard, odd size diameter rings for special customer requirements up to 10' in diameter and also the capability to quickly provide sizes required, thus avoiding long lead time delays.

CROSS SECTIONS IN VARIOUS CONDITIONS



SERVICE:

Provides maximum sealing capability in static and dynamic conditions in mechanical seals, and for chemical or nonsticking gaskets for glass, metal, plastic, Teflon systems; and in filters, pipelines, valves and instruments.

The major advantage of STYLE 76 O-RINGS is their effectiveness in dynamic seal applications, primarily due to the thin film thickness of the Teflon which allows greater flexibility and resiliency. The higher rubber to Teflon ratio increases the contact area in both static and dynamic operating condition, reducing the possibility of compression set failure.

CHESTERTON STYLE 76 O-RINGS are easily identifiable (the inner core is marked with the word CHESTERTON) offering the flexibility of a rubber type seal and the corrosion resistance of solid Teflon

* DuPont's registered trademark.
USDA Authorization applied for.

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-001	1/32	3/32	1/32	.029	.003	.040	.003	0.74	.08	1.02	.08				-001
-002	3/64	9/64	3/64	.042	.003	.050	.003	1.07	.08	1.27	.08				-002
-003	1/16	3/16	1/16	.056	.003	.060	.003	1.42	.08	1.52	.08				-003
-004	5/64	7/64	1/16	.070	.005	.070	.003	1.78	.13	1.78	.08				-004
-005	3/32	1/32	1/16	.101	.005	.070	.003	2.57	.13	1.78	.08				-005
-006	1/8	1/4	1/16	.114	.005	.070	.003	2.90	.13	1.78	.08				-006
-007	5/32	9/32	1/16	.145	.005	.070	.003	3.68	.13	1.78	.08				-007
-008	3/16	5/16	1/16	.176	.005	.070	.003	4.47	.13	1.78	.08				-008
-009	7/32	11/32	1/16	.208	.005	.070	.003	5.28	.13	1.78	.08				-009
-010	1/4	3/8	1/16	.239	.005	.070	.003	6.07	.13	1.78	.08	VW-01000	VW-01099		-010
-011	5/16	7/18	1/16	.301	.005	.070	.003	7.65	.13	1.78	.08	VW-01100	VW-01199		-011
-012	3/8	1/2	1/16	.364	.005	.070	.003	9.25	.13	1.78	.08	VW-01200	VW-01299		-012
-013	7/16	9/16	1/16	.426	.005	.070	.003	10.82	.13	1.78	.08				-013
-014	1/2	5/8	1/16	.489	.005	.070	.003	12.42	.13	1.78	.08				-014
-015	9/16	11/16	1/16	.551	.007	.070	.003	14.00	.18	1.78	.08				-015
-016	5/8	3/4	1/16	.614	.009	.070	.003	15.60	.23	1.78	.08				-016
-017	11/16	13/16	1/16	.676	.009	.070	.003	17.17	.23	1.78	.08				-017
-018	3/4	7/8	1/16	.739	.009	.070	.003	18.77	.23	1.78	.08				-018
-019	13/16	15/16	1/16	.801	.009	.070	.003	20.35	.23	1.78	.08				-019
-020	7/8	1	1/16	.864	.009	.070	.003	21.95	.23	1.78	.08	VW-02000	VW-02099	76-02098	-020
-021	15/16	1 1/8	1/16	.926	.009	.070	.003	23.52	.23	1.78	.08			76-02198	-021
-022	1	1 1/8	1/16	.989	.010	.070	.003	25.12	.25	1.78	.08	VW-02200	VW-02299	76-02298	-022
-023	1 1/16	1 3/16	1/16	1.051	.010	.070	.003	26.70	.25	1.78	.08			76-02398	-023
-024	1 1/8	1 1/4	1/16	1.114	.010	.070	.003	28.30	.25	1.78	.08			76-02498	-024
-025	1 3/16	1 5/16	1/16	1.176	.011	.070	.003	29.87	.28	1.78	.08	VW-02500	VW-02599	76-02598	-025
-026	1 1/4	1 3/8	1/16	1.239	.011	.070	.003	31.47	.28	1.78	.08			76-02698	-026
-027	1 5/16	1 7/16	1/16	1.301	.011	.070	.003	33.05	.28	1.78	.08			76-02798	-027
-028	1 3/8	1 1/2	1/16	1.364	.013	.070	.003	34.65	.33	1.78	.08	VW-02800	VW-02899	76-02898	-028
-029	1 1/2	1 5/8	1/16	1.489	.013	.070	.003	37.82	.33	1.78	.08			76-02998	-029
-030	1 5/8	1 3/4	1/16	1.614	.013	.070	.003	41.00	.33	1.78	.08			76-03098	-030
-031	1 3/4	1 7/8	1/16	1.739	.015	.070	.003	44.17	.38	1.78	.08			76-03198	-031
-032	1 7/8	2	1/16	1.864	.015	.070	.003	47.35	.38	1.78	.08			76-03298	-032
-033	2	2 1/8	1/16	1.989	.018	.070	.003	50.52	.46	1.78	.08			76-03398	-033
-034	2 1/8	2 1/4	1/16	2.114	.018	.070	.003	53.70	.46	1.78	.08			76-03498	-034
-035	2 1/4	2 3/8	1/16	2.239	.018	.070	.003	56.87	.46	1.78	.08			76-03598	-035
-036	2 3/8	2 1/2	1/16	2.364	.018	.070	.003	60.05	.46	1.78	.08			76-03698	-036
-037	2 1/2	2 5/8	1/16	2.489	.018	.070	.003	63.22	.46	1.78	.08			76-03798	-037
-038	2 5/8	2 3/4	1/16	2.614	.020	.070	.003	66.40	.51	1.78	.08			76-03898	-038
-039	2 3/4	2 7/8	1/16	2.739	.020	.070	.003	69.57	.51	1.78	.08			76-03998	-039
-040	2 7/8	3	1/16	2.864	.020	.070	.003	72.75	.51	1.78	.08			76-04098	-040
-041	3	3 1/8	1/16	2.989	.024	.070	.003	75.92	.61	1.78	.08			76-04198	-041
-042	3 1/4	3 3/8	1/16	3.239	.024	.070	.003	82.27	.61	1.78	.08			76-04298	-042
-043	3 1/2	3 5/8	1/16	3.489	.024	.070	.003	88.62	.61	1.78	.08			76-04398	-043
-044	3 3/4	3 7/8	1/16	3.739	.027	.070	.003	94.97	.69	1.78	.08			76-04498	-044
-045	4	4 1/8	1/16	3.989	.027	.070	.003	101.32	.69	1.78	.08			76-04598	-045
-046	4 1/4	4 3/8	1/16	4.239	.030	.070	.003	107.67	.76	1.78	.08			76-04698	-046
-047	4 1/2	4 5/8	1/16	4.489	.030	.070	.003	114.02	.76	1.78	.08			76-04798	-047
-048	4 3/4	4 7/8	1/16	4.739	.030	.070	.003	120.37	.76	1.78	.08			76-04898	-048
-049	5	5 1/8	1/16	4.989	.037	.070	.003	126.72	.94	1.78	.08			76-04998	-049
-050	5 1/4	5 3/8	1/16	5.239	.037	.070	.003	133.07	.94	1.78	.08			76-05098	-050
*051 THRU *101				*O-RING SIZES NOT ASSIGNED											
-102	1/16	1/4	3/32	.049	.004	.103	.003	1.24	.10	2.62	.08				-102
-103	3/32	5/32	3/32	.081	.005	.103	.003	2.06	.13	2.62	.08				-103
-104	1/8	5/16	3/32	.112	.005	.103	.003	2.84	.13	2.62	.08				-104
-105	5/32	11/32	3/32	.143	.005	.103	.003	3.63	.13	2.62	.08				-105
-106	3/16	3/8	3/32	.174	.005	.103	.003	4.42	.13	2.62	.08				-106
-107	7/32	13/32	3/32	.206	.005	.103	.003	5.23	.13	2.62	.08				-107
-108	1/4	7/16	3/32	.237	.005	.103	.003	6.02	.13	2.62	.08				-108
-109	5/16	1/2	3/32	.299	.005	.103	.003	7.50	.13	2.62	.08				-109
-110	3/8	9/16	3/32	.362	.005	.103	.003	9.19	.13	2.62	.08	VW-11000	VW-11099		-110
-111	7/16	5/8	3/32	.424	.005	.103	.003	10.77	.13	2.62	.08	VW-11100	VW-11199		-111
-112	1/2	11/16	3/32	.487	.005	.103	.003	12.37	.13	2.62	.08	VW-11200	VW-11299		-112
-113	9/16	3/4	3/32	.549	.007	.103	.003	13.94	.18	2.62	.08	VW-11300	VW-11399		-113
-114	5/8	13/16	3/32	.612	.009	.103	.003	15.54	.23	2.62	.08	VW-11400	VW-11499		-114
-115	11/16	7/8	3/32	.674	.009	.103	.003	17.12	.23	2.62	.08	VW-11500	VW-11599		-115
-116	3/4	15/16	3/32	.737	.009	.103	.003	18.72	.23	2.62	.08	VW-11600	VW-11699		-116
-117	13/16	1	3/32	.799	.010	.103	.003	20.30	.25	2.62	.08	VW-11700	VW-11799		-117
-118	7/8	1 1/16	3/32	.862	.010	.103	.003	21.89	.25	2.62	.08	VW-11800	VW-11899		-118
-119	15/16	1 1/8	3/32	.924	.010	.103	.003	23.47	.25	2.62	.08	VW-11900	VW-11999	76-11998	-119
-120	1	1 3/16	3/32	.987	.010	.103	.003	25.07	.25	2.62	.08	VW-12000	VW-12099	76-12098	-120
-121	1 1/16	1 1/4	3/32	1.049	.010	.103	.003	26.64	.25	2.62	.08	VW-12100	VW-12199	76-12198	-121
-122	1 1/8	1 5/16	3/32	1.112	.010	.103	.003	28.24	.25	2.62	.08	VW-12200	VW-12299	76-12298	-122
-123	1 3/16	1 3/8	3/32	1.174	.012	.103	.003	29.82	.30	2.62	.08	VW-12300	VW-12399	76-12398	-123
-124	1 1/4	1 7/16	3/32	1.237	.012	.103	.003	31.42	.30	2.62	.08	VW-12400	VW-12499	76-12498	-124
-125	1 5/16	1 1/2	3/32	1.299	.012	.103	.003	32.99	.30	2.62	.08	VW-12500	VW-12599	76-12598	-125
-126	1 3/8	1 9/16	3/32	1.362	.012	.103	.003	34.59	.30	2.62	.08	VW-12600	VW-12699	76-12698	-126
-127	1 7/16	1 5/8	3/32	1.424	.012	.103	.003	36.17	.30	2.62	.08	VW-12700	VW-12799	76-12798	-127
-128	1 1/2	1 11/16	3/32	1.487	.012	.103	.003	37.77	.30	2.62	.08	VW-12800	VW-12899	76-12898	-128
-129	1 9/16	1 3/4	3/32	1.549	.015	.103	.003	39.34	.38	2.62	.08	VW-12900	VW-12999	76-12998	-129
-130	1 5/8	1 13/16	3/32	1.612	.015	.103	.003	40.94	.38	2.62	.08	VW-13000	VW-13099	76-13098	-130
-131	1 11/16	1 7/8	3/32	1.674	.015	.103	.003	42.52	.38	2.62	.08	VW-13100	VW-13199	76-13198	-131
-132	1 3/4	1 15/16	3/32	1.737	.015	.103	.003	44.12	.38	2.62	.08	VW-13200	VW-13299	76-13298	-132
-133	1 13/16	2	3/32	1.799	.015	.103	.003	45.69	.38	2.62	.08	VW-13300	VW-13399	76-13398	-133
-134	1 7/8	2 1/16	3/32	1.862	.015	.103	.003	47.29	.38	2.62	.08	VW-13400	VW-13499	76-13498	-134
-135	1 15/16	2 1/16	3/32	1.925	.017	.103	.003	48.90	.43	2.62	.08	VW-13500	VW-13599	76-13598	-135
-136	2	2 1/16	3/32	1.987	.017	.103	.003	50.47	.43	2.62	.08	VW-13600	VW-13699	76-13698	-136

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-137	2 1/16	2 1/4	3/32	2.050	.017	.103	.003	52.07	.43	2.62	.08	VW-13700	VW-13799	76-13798	-137
-138	2 1/8	2 5/16	3/32	2.112	.017	.103	.003	53.64	.43	2.62	.08	VW-13800	VW-13899	76-13898	-138
-139	2 3/16	2 3/8	3/32	2.175	.017	.103	.003	55.25	.43	2.62	.08	VW-13900	VW-13999	76-13998	-139
-140	2 1/4	2 7/16	3/32	2.237	.017	.103	.003	56.82	.43	2.62	.08	VW-14000	VW-14099	76-14098	-140
-141	2 5/16	2 1/2	3/32	2.300	.020	.103	.003	58.42	.51	2.62	.08	VW-14100	VW-14199	76-14198	-141
-142	2 3/8	2 9/16	3/32	2.362	.020	.103	.003	59.99	.51	2.62	.08	VW-14200	VW-14299	76-14298	-142
-143	2 7/16	2 5/8	3/32	2.425	.020	.103	.003	61.60	.51	2.62	.08	VW-14300	VW-14399	76-14398	-143
-144	2 1/2	2 11/16	3/32	2.487	.020	.103	.003	63.17	.51	2.62	.08	VW-14400	VW-14499	76-14498	-144
-145	2 5/8	2 3/4	3/32	2.550	.020	.103	.003	64.77	.51	2.62	.08	VW-14500	VW-14599	76-14598	-145
-146	2 3/4	2 13/16	3/32	2.612	.020	.103	.003	66.34	.51	2.62	.08	VW-14600	VW-14699	76-14698	-146
-147	2 13/16	2 7/8	3/32	2.675	.022	.103	.003	67.95	.56	2.62	.08	VW-14700	VW-14799	76-14798	-147
-148	2 7/8	2 15/16	3/32	2.737	.022	.103	.003	69.52	.56	2.62	.08	VW-14800	VW-14899	76-14898	-148
-149	2 15/16	3	3/32	2.800	.022	.103	.003	71.12	.56	2.62	.08	VW-14900	VW-14999	76-14998	-149
-150	2 7/8	3 1/16	3/32	2.862	.022	.103	.003	72.69	.56	2.62	.08	VW-15000	VW-15099	76-15098	-150
-151	3	3 1/16	3/32	2.987	.024	.103	.003	75.87	.61	2.62	.08	VW-15100	VW-15199	76-15198	-151
-152	3 1/4	3 5/16	3/32	3.237	.024	.103	.003	82.22	.61	2.62	.08	VW-15200	VW-15299	76-15298	-152
-153	3 1/2	3 1/16	3/32	3.487	.024	.103	.003	88.57	.61	2.62	.08	VW-15300	VW-15399	76-15398	-153
-154	3 3/4	3 15/16	3/32	3.737	.028	.103	.003	94.92	.71	2.62	.08	VW-15400	VW-15499	76-15498	-154
-155	4	4 3/16	3/32	3.987	.028	.103	.003	101.27	.71	2.62	.08	VW-15500	VW-15599	76-15598	-155
-156	4 1/4	4 7/16	3/32	4.237	.030	.103	.003	107.62	.76	2.62	.08	VW-15600	VW-15699	76-15698	-156
-157	4 1/2	4 11/16	3/32	4.487	.030	.103	.003	113.97	.76	2.62	.08	VW-15700	VW-15799	76-15798	-157
-158	4 3/4	4 15/16	3/32	4.737	.030	.103	.003	120.32	.76	2.62	.08	VW-15800	VW-15899	76-15898	-158
-159	5	5 3/16	3/32	4.987	.035	.103	.003	126.67	.89	2.62	.08	VW-15900	VW-15999	76-15998	-159
-160	5 1/4	5 7/16	3/32	5.237	.035	.103	.003	133.02	.89	2.62	.08	VW-16000	VW-16099	76-16098	-160
-161	5 1/2	5 11/16	3/32	5.487	.035	.103	.003	139.37	.89	2.62	.08			76-16198	-161
-162	5 3/4	5 15/16	3/32	5.737	.035	.103	.003	145.72	.89	2.62	.08			76-16298	-162
-163	6	6 3/16	3/32	5.987	.035	.103	.003	152.07	.89	2.62	.08			76-16398	-163
-164	6 1/4	6 7/16	3/32	6.237	.040	.103	.003	158.42	1.02	2.62	.08			76-16498	-164
-165	6 1/2	6 11/16	3/32	6.487	.040	.103	.003	164.77	1.02	2.62	.08			76-16598	-165
-166	6 3/4	6 15/16	3/32	6.737	.040	.103	.003	171.12	1.02	2.62	.08			76-16698	-166
-167	7	7 3/16	3/32	6.987	.040	.103	.003	177.47	1.02	2.62	.08			76-16798	-167
-168	7 1/4	7 7/16	3/32	7.237	.045	.103	.003	183.82	1.14	2.62	.08			76-16898	-168
-169	7 1/2	7 11/16	3/32	7.487	.045	.103	.003	190.17	1.14	2.62	.08			76-16998	-169
-170	7 3/4	7 15/16	3/32	7.737	.045	.103	.003	196.52	1.14	2.62	.08			76-17098	-170
-171	8	8 3/16	3/32	7.987	.045	.103	.003	202.87	1.14	2.62	.08			76-17198	-171
-172	8 1/4	8 7/16	3/32	8.237	.050	.103	.003	209.22	1.27	2.62	.08			76-17298	-172
-173	8 1/2	8 11/16	3/32	8.487	.050	.103	.003	215.57	1.27	2.62	.08			76-17398	-173
-174	8 3/4	8 15/16	3/32	8.737	.050	.103	.003	221.92	1.27	2.62	.08			76-17498	-174
-175	9	9 3/16	3/32	9.987	.050	.103	.003	228.27	1.27	2.62	.08			76-17598	-175
-176	9 1/4	9 7/16	3/32	9.237	.055	.103	.003	234.62	1.40	2.62	.08			76-17698	-176
-177	9 1/2	9 11/16	3/32	9.487	.055	.103	.003	240.97	1.40	2.62	.08			76-17798	-177
-178	9 3/4	9 15/16	3/32	9.737	.055	.103	.003	247.32	1.40	2.62	.08			76-17898	-178
-179 THRU -200	O-RING SIZES NOT ASSIGNED														
-201	3/16	7/16	1/16	.171	.005	.139	.004	4.34	.13	3.53	.10				-201
-202	1/4	1/2	1/16	.234	.005	.139	.004	5.94	.13	3.53	.10				-202
-203	5/16	9/16	1/16	.296	.005	.139	.004	7.52	.13	3.53	.10				-203
-204	3/8	5/8	1/16	.359	.005	.139	.004	9.12	.13	3.53	.10				-204
-205	7/16	11/16	1/16	.421	.005	.139	.004	10.69	.13	3.53	.10				-205
-206	1/2	3/4	1/16	.484	.005	.139	.004	12.29	.13	3.53	.10				-206
-207	5/16	13/16	1/16	.546	.007	.139	.004	13.87	.18	3.53	.10				-207
-208	5/8	7/8	1/16	.609	.009	.139	.004	15.47	.23	3.53	.10				-208
-209	11/16	15/16	1/16	.671	.009	.139	.004	17.04	.23	3.53	.10				-209
-210	3/4	1	1/16	.734	.010	.139	.004	18.64	.25	3.53	.10	VW-21000	VW-21099		-210
-211	13/16	1 1/16	1/16	.796	.010	.139	.004	20.22	.25	3.53	.10	VW-21100	VW-21199		-211
-212	7/8	1 1/8	1/16	.859	.010	.139	.004	21.82	.25	3.53	.10	VW-21200	VW-21299		-212
-213	15/16	1 3/16	1/16	.921	.010	.139	.004	23.39	.25	3.53	.10	VW-21300	VW-21399		-213
-214	1	1 1/4	1/16	.984	.010	.139	.004	24.99	.25	3.53	.10	VW-21400	VW-21499	76-21498	-214
-215	1 1/16	1 5/16	1/16	1.046	.010	.139	.004	26.57	.25	3.53	.10	VW-21500	VW-21599	76-21598	-215
-216	1 1/8	1 3/8	1/16	1.109	.012	.139	.004	28.17	.30	3.53	.10	VW-21600	VW-21699	76-21698	-216
-217	1 3/16	1 7/16	1/16	1.171	.012	.139	.004	29.74	.30	3.53	.10	VW-21700	VW-21799	76-21798	-217
-218	1 1/4	1 1/2	1/16	1.234	.012	.139	.004	31.34	.30	3.53	.10	VW-21800	VW-21899	76-21898	-218
-219	1 5/16	1 9/16	1/16	1.296	.012	.139	.004	32.92	.30	3.53	.10	VW-21900	VW-21999	76-21998	-219
-220	1 3/8	1 5/8	1/16	1.359	.012	.139	.004	34.52	.30	3.53	.10	VW-22000	VW-22099	76-22098	-220
-221	1 7/16	1 11/16	1/16	1.421	.012	.139	.004	36.09	.30	3.53	.10	VW-22100	VW-22199	76-22198	-221
-222	1 1/2	1 3/4	1/16	1.484	.015	.139	.004	37.69	.38	3.53	.10	VW-22200	VW-22299	76-22298	-222
-223	1 5/8	1 7/8	1/16	1.609	.015	.139	.004	40.87	.38	3.53	.10	VW-22300	VW-22399	76-22398	-223
-224	1 3/4	2	1/16	1.734	.015	.139	.004	44.04	.38	3.53	.10	VW-22400	VW-22499	76-22498	-224
-225	1 7/8	2 1/8	1/16	1.859	.018	.139	.004	47.22	.46	3.53	.10	VW-22500	VW-22599	76-22598	-225
-226	2	2 1/4	1/16	1.984	.018	.139	.004	50.39	.46	3.53	.10	VW-22600	VW-22699	76-22698	-226
-227	2 1/8	2 3/8	1/16	2.109	.018	.139	.004	53.57	.46	3.53	.10	VW-22700	VW-22799	76-22798	-227
-228	2 1/4	2 1/2	1/16	2.234	.020	.139	.004	56.74	.51	3.53	.10	VW-22800	VW-22899	76-22898	-228
-229	2 3/8	2 5/8	1/16	2.359	.020	.139	.004	59.92	.51	3.53	.10	VW-22900	VW-22999	76-22998	-229
-230	2 1/2	2 3/4	1/16	2.484	.020	.139	.004	63.09	.51	3.53	.10	VW-23000	VW-23099	76-23098	-230
-231	2 5/8	2 7/8	1/16	2.609	.020	.139	.004	66.27	.51	3.53	.10	VW-23100	VW-23199	76-23198	-231
-232	2 3/4	3	1/16	2.734	.024	.139	.004	69.44	.61	3.53	.10	VW-23200	VW-23299	76-23298	-232
-233	2 7/8	3 1/8	1/16	2.859	.024	.139	.004	72.62	.61	3.53	.10	VW-23300	VW-23399	76-23398	-233
-234	3	3 1/4	1/16	2.984	.024	.139	.004	75.79	.61	3.53	.10	VW-23400	VW-23499	76-23498	-234
-235	3 1/8	3 3/8	1/16	3.109	.024	.139	.004	78.97	.61	3.53	.10	VW-23500	VW-23599	76-23598	-235
-236	3 1/4	3 1/2	1/16	3.234	.024	.139	.004	82.14	.61	3.53	.10	VW-23600	VW-23699	76-23698	-236
-237	3 3/8	3 5/8	1/16	3.359	.024	.139	.004	85.32	.61	3.53	.10	VW-23700	VW-23799	76-23798	-237
-238	3 1/2	3 3/4	1/16	3.484	.024	.139	.004	88.49	.61	3.53	.10	VW-23800	VW-23899	76-23898	-238
-239	3 5/8	3 7/8	1/16	3.609	.028	.139	.004	91.67	.71	3.53	.10	VW-23900	VW-23999	76-23998	-239
-240	3 3/4	4	1/16	3.734	.028	.139	.004	94.84	.71	3.53	.10	VW-24000	VW-24099	76-24098	-240
-241	3 7/8	4 1/8	1/16	3.859	.028	.139	.004	98.02	.71	3.53	.10	VW-24100	VW-24199	76-24198	-241
-242	4	4 1/4	1/16	3.984	.028	.139	.004	101.19	.71	3.53	.10	VW-24200	VW-24299	76-24298	-242
-243	4 1/8	4 3/8	1/16	4.109	.028	.139	.004	104.37	.71	3.53	.10	VW-24300	VW-24399	76-24398	-243

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-244	4¼	4½	1/8	4.234	.030	.139	.004	107.54	.76	3.53	.10	VW-24400	VW-24499	76-24498	-244
-245	4⅜	4⅝	1/8	4.359	.030	.139	.004	110.72	.76	3.53	.10	VW-24500	VW-24599	76-24598	-245
-246	4½	4¾	1/8	4.484	.030	.139	.004	113.89	.76	3.53	.10	VW-24600	VW-24699	76-24698	-246
-247	4⅝	4⅞	1/8	4.609	.030	.139	.004	117.07	.76	3.53	.10	VW-24700	VW-24799	76-24798	-247
-248	4¾	5	1/8	4.734	.030	.139	.004	120.24	.76	3.53	.10	VW-24800	VW-24899	76-24898	-248
-249	4⅞	5⅛	1/8	4.859	.035	.139	.004	123.42	.89	3.53	.10	VW-24900	VW-24999	76-24998	-249
-250	5	5¼	1/8	4.984	.035	.139	.004	126.59	.89	3.53	.10	VW-25000	VW-25099	76-25098	-250
-251	5⅛	5⅜	1/8	5.109	.035	.139	.004	129.77	.89	3.53	.10	VW-25100	VW-25199	76-25198	-251
-252	5¼	5½	1/8	5.234	.035	.139	.004	132.94	.89	3.53	.10	VW-25200	VW-25299	76-25298	-252
-253	5⅜	5⅝	1/8	5.359	.035	.139	.004	136.12	.89	3.53	.10	VW-25300	VW-25399	76-25398	-253
-254	5½	5¾	1/8	5.484	.035	.139	.004	139.29	.89	3.53	.10	VW-25400	VW-25499	76-25498	-254
-255	5⅝	5⅞	1/8	5.609	.035	.139	.004	142.47	.89	3.53	.10	VW-25500	VW-25599	76-25598	-255
-256	5¾	6	1/8	5.734	.035	.139	.004	145.64	.89	3.53	.10	VW-25600	VW-25699	76-25698	-256
-257	5⅞	6⅛	1/8	5.859	.035	.139	.004	148.82	.89	3.53	.10	VW-25700	VW-25799	76-25798	-257
-258	6	6¼	1/8	5.984	.035	.139	.004	151.99	.89	3.53	.10	VW-25800	VW-25899	76-25898	-258
-259	6¼	6½	1/8	6.234	.040	.139	.004	158.34	1.02	3.53	.10	VW-25900	VW-25999	76-25998	-259
-260	6½	6¾	1/8	6.484	.040	.139	.004	164.69	1.02	3.53	.10	VW-26000	VW-26099	76-26098	-260
-261	6¾	7	1/8	6.734	.040	.139	.004	171.04	1.02	3.53	.10	VW-26100	VW-26199	76-26198	-261
-262	7	7¼	1/8	6.984	.040	.139	.004	177.39	1.02	3.53	.10	VW-26200	VW-26299	76-26298	-262
-263	7¼	7½	1/8	7.234	.045	.139	.004	183.74	1.14	3.53	.10	VW-26300	VW-26399	76-26398	-263
-264	7½	7¾	1/8	7.484	.045	.139	.004	190.09	1.14	3.53	.10	VW-26400	VW-26499	76-26498	-264
-265	7¾	8	1/8	7.734	.045	.139	.004	196.44	1.14	3.53	.10	VW-26500	VW-26599	76-26598	-265
-266	8	8¼	1/8	7.984	.045	.139	.004	202.79	1.14	3.53	.10	VW-26600	VW-26699	76-26698	-266
-267	8¼	8½	1/8	8.234	.050	.139	.004	209.14	1.27	3.53	.10	VW-26700	VW-26799	76-26798	-267
-268	8½	8¾	1/8	8.484	.050	.139	.004	215.49	1.27	3.53	.10	VW-26800	VW-26899	76-26898	-268
-269	8¾	9	1/8	8.734	.050	.139	.004	221.84	1.27	3.53	.10	VW-26900	VW-26999	76-26998	-269
-270	9	9¼	1/8	8.984	.050	.139	.004	228.19	1.27	3.53	.10	VW-27000	VW-27099	76-27098	-270
-271	9¼	9½	1/8	9.234	.055	.139	.004	234.54	1.40	3.53	.10	VW-27100	VW-27199	76-27198	-271
-272	9½	9¾	1/8	9.484	.055	.139	.004	240.89	1.40	3.53	.10	VW-27200	VW-27299	76-27298	-272
-273	9¾	10	1/8	9.734	.055	.139	.004	247.24	1.40	3.53	.10	VW-27300	VW-27399	76-27398	-273
-274	10	10¼	1/8	9.984	.055	.139	.004	253.59	1.40	3.53	.10			76-27498	-274
-275	10½	10¾	1/8	10.484	.055	.139	.004	266.29	1.40	3.53	.10			76-27598	-275
-276	11	11¼	1/8	10.984	.065	.139	.004	278.99	1.65	3.53	.10			76-27698	-276
-277	11½	11¾	1/8	11.484	.065	.139	.004	291.69	1.65	3.53	.10			76-27798	-277
-278	12	12¼	1/8	11.984	.065	.139	.004	304.39	1.65	3.53	.10			76-27898	-278
-279	13	13¼	1/8	12.984	.065	.139	.004	329.79	1.65	3.53	.10			76-27998	-279
-280	14	14¼	1/8	13.984	.065	.139	.004	355.19	1.65	3.53	.10			76-28098	-280
-281	15	15¼	1/8	14.984	.065	.139	.004	380.59	1.65	3.53	.10			76-28198	-281
-282	16	16¼	1/8	15.955	.075	.139	.004	405.26	1.91	3.53	.10			76-28298	-282
-283	17	17¼	1/8	16.955	.080	.139	.004	430.66	2.03	3.53	.10			76-28398	-283
-284	18	18¼	1/8	17.955	.085	.139	.004	456.06	2.16	3.53	.10			76-28498	-284
*285 THRU *308				* O-RING SIZES NOT ASSIGNED											
-309	7/16	1 3/16	3/16	.412	.005	.210	.005	10.46	.13	5.33	.13				-309
-310	½	⅞	3/16	.475	.005	.210	.005	12.07	.13	5.33	.13				-310
-311	9/16	1 5/16	3/16	.537	.007	.210	.005	13.64	.18	5.33	.13				-311
-312	⅝	1	3/16	.600	.009	.210	.005	15.24	.23	5.33	.13				-312
-313	1 1/16	1 1/16	3/16	.662	.009	.210	.005	16.81	.23	5.33	.13				-313
-314	¾	1 1/16	3/16	.725	.009	.210	.005	18.42	.23	5.33	.13				-314
-315	1 1/16	1 3/16	3/16	.787	.009	.210	.005	19.99	.23	5.33	.13				-315
-316	⅞	1¼	3/16	.850	.009	.210	.005	21.59	.23	5.33	.13				-316
-317	1 5/16	1 5/16	3/16	.912	.009	.210	.005	23.16	.23	5.33	.13	VW-31700	VW-31799		-317
-318	1	1 3/16	3/16	.975	.010	.210	.005	24.77	.25	5.33	.13	VW-31800	VW-31899		-318
-319	1 1/16	1 7/16	3/16	1.037	.010	.210	.005	26.34	.25	5.33	.13				-319
-320	1 1/8	1½	3/16	1.100	.010	.210	.005	27.94	.25	5.33	.13	VW-32000	VW-32099		-320
-321	1 3/16	1 9/16	3/16	1.162	.011	.210	.005	29.51	.28	5.33	.13				-321
-322	1¼	1 5/8	3/16	1.225	.011	.210	.005	31.12	.28	5.33	.13	VW-32200	VW-32299		-322
-323	1 5/16	1 11/16	3/16	1.287	.011	.210	.005	32.69	.28	5.33	.13				-323
-324	1⅜	1¾	3/16	1.350	.011	.210	.005	34.29	.28	5.33	.13	VW-32400	VW-32499		-324
-325	1½	1⅞	3/16	1.475	.015	.210	.005	37.47	.38	5.33	.13	VW-32500	VW-32599		-325
-326	1⅝	2	3/16	1.600	.015	.210	.005	40.64	.38	5.33	.13	VW-32600	VW-32699		-326
-327	1¾	2⅛	3/16	1.725	.015	.210	.005	43.82	.38	5.33	.13	VW-32700	VW-32799		-327
-328	1⅞	2¼	3/16	1.850	.015	.210	.005	46.99	.38	5.33	.13	VW-32800	VW-32899		-328
-329	2	2⅜	3/16	1.975	.018	.210	.005	50.17	.46	5.33	.13	VW-32900	VW-32999		-329
-330	2⅛	2½	3/16	2.100	.018	.210	.005	53.34	.46	5.33	.13	VW-33000	VW-33099		-330
-331	2¼	2⅝	3/16	2.225	.018	.210	.005	56.52	.46	5.33	.13	VW-33100	VW-33199		-331
-332	2⅜	2¾	3/16	2.350	.018	.210	.005	59.69	.46	5.33	.13	VW-33200	VW-33299		-332
-333	2½	2⅞	3/16	2.475	.020	.210	.005	62.87	.51	5.33	.13	VW-33300	VW-33399	76-33398	-333
-334	2⅝	3	3/16	2.600	.020	.210	.005	66.04	.51	5.33	.13	VW-33400	VW-33499	76-33498	-334
-335	2¾	3⅛	3/16	2.725	.020	.210	.005	69.22	.51	5.33	.13	VW-33500	VW-33599	76-33598	-335
-336	2⅞	3¼	3/16	2.850	.020	.210	.005	72.39	.51	5.33	.13	VW-33600	VW-33699	76-33698	-336
-337	3	3⅜	3/16	2.975	.024	.210	.005	75.57	.61	5.33	.13	VW-33700	VW-33799	76-33798	-337
-338	3⅛	3½	3/16	3.100	.024	.210	.005	78.74	.61	5.33	.13	VW-33800	VW-33899	76-33898	-338
-339	3¼	3⅝	3/16	3.225	.024	.210	.005	81.92	.61	5.33	.13	VW-33900	VW-33999	76-33998	-339
-340	3⅜	3¾	3/16	3.350	.024	.210	.005	85.09	.61	5.33	.13	VW-34000	VW-34099	76-34098	-340
-341	3½	3⅞	3/16	3.475	.024	.210	.005	88.27	.61	5.33	.13	VW-34100	VW-34199	76-34198	-341
-342	3⅝	4	3/16	3.600	.028	.210	.005	91.44	.71	5.33	.13	VW-34200	VW-34299	76-34298	-342
-343	3¾	4⅛	3/16	3.725	.028	.210	.005	94.62	.71	5.33	.13	VW-34300	VW-34399	76-34398	-343
-344	3⅞	4¼	3/16	3.850	.028	.210	.005	97.79	.71	5.33	.13	VW-34400	VW-34499	76-34498	-344
-345	4	4⅜	3/16	3.975	.028	.210	.005	100.97	.71	5.33	.13	VW-34500	VW-34599	76-34598	-345
-346	4⅛	4½	3/16	4.100	.028	.210	.005	104.14	.71	5.33	.13	VW-34600	VW-34699	76-34698	-346
-347	4¼	4⅝	3/16	4.225	.030	.210	.005	107.32	.76	5.33	.13	VW-34700	VW-34799	76-34798	-347
-348	4⅜	4¾	3/16	4.350	.030	.210	.005	110.49	.76	5.33	.13	VW-34800	VW-34899	76-34898	-348
-349	4½	4⅞	3/16	4.475	.030	.210	.005	113.67	.76	5.33	.13	VW-34900	VW-34999	76-34998	-349
-350	4⅝	5	3/16	4.600	.030	.210	.005	116.84	.76	5.33	.13	VW-35000	VW-35099	76-35098	-350
-351	4¾	5⅛	3/16	4.725	.030	.210	.005	120.02	.76	5.33	.13	VW-35100	VW-35199	76-35198	-351
-352	4⅞	5¼	3/16	4.850	.030	.210	.005	123.19	.76	5.33	.13	VW-35200	VW-35299	76-35298	-352

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-353	5	5⅜	3/16	4.975	.037	.210	.005	126.37	.94	5.33	.13			76-35398	-353
-354	5⅛	5½	3/16	5.100	.037	.210	.005	129.54	.94	5.33	.13			76-35498	-354
-355	5¼	5⅝	3/16	5.225	.037	.210	.005	132.72	.94	5.33	.13			76-35598	-355
-356	5⅜	5¾	3/16	5.350	.037	.210	.005	135.89	.94	5.33	.13			76-35698	-356
-357	5½	5⅞	3/16	5.475	.037	.210	.005	139.07	.94	5.33	.13			76-35798	-357
-358	5⅝	6	3/16	5.600	.037	.210	.005	142.24	.94	5.33	.13			76-35898	-358
-359	5¾	6⅛	3/16	5.725	.037	.210	.005	145.42	.94	5.33	.13			76-35998	-359
-360	5⅞	6¼	3/16	5.850	.037	.210	.005	148.59	.94	5.33	.13			76-36098	-360
-361	6	6⅜	3/16	5.975	.037	.210	.005	151.77	.94	5.33	.13			76-36198	-361
-362	6¼	6⅝	3/16	6.225	.040	.210	.005	158.12	1.02	5.33	.13			76-36298	-362
-363	6½	6⅞	3/16	6.475	.040	.210	.005	164.47	1.02	5.33	.13			76-36398	-363
-364	6¾	7⅛	3/16	6.725	.040	.210	.005	170.82	1.02	5.33	.13			76-36498	-364
-365	7	7⅜	3/16	6.975	.040	.210	.005	177.17	1.02	5.33	.13			76-36598	-365
-366	7¼	7⅝	3/16	7.225	.045	.210	.005	183.52	1.14	5.33	.13			76-36698	-366
-367	7½	7⅞	3/16	7.475	.045	.210	.005	189.87	1.14	5.33	.13			76-36798	-367
-368	7¾	8⅛	3/16	7.725	.045	.210	.005	196.22	1.14	5.33	.13			76-36898	-368
-369	8	8⅜	3/16	7.975	.045	.210	.005	202.57	1.14	5.33	.13			76-36998	-369
-370	8¼	8⅝	3/16	8.225	.050	.210	.005	208.92	1.27	5.33	.13			76-37098	-370
-371	8½	8⅞	3/16	8.475	.050	.210	.005	215.27	1.27	5.33	.13			76-37198	-371
-372	8¾	9⅛	3/16	8.725	.050	.210	.005	221.62	1.27	5.33	.13			76-37298	-372
-373	9	9⅜	3/16	8.975	.050	.210	.005	227.97	1.27	5.33	.13			76-37398	-373
-374	9¼	9⅝	3/16	9.225	.055	.210	.005	234.32	1.40	5.33	.13			76-37498	-374
-375	9½	9⅞	3/16	9.475	.055	.210	.005	240.67	1.40	5.33	.13			76-37598	-375
-376	9¾	10⅛	3/16	9.725	.055	.210	.005	247.02	1.40	5.33	.13			76-37698	-376
-377	10	10⅜	3/16	9.975	.055	.210	.005	253.37	1.40	5.33	.13			76-37798	-377
-378	10½	10⅞	3/16	10.475	.060	.210	.005	266.07	1.52	5.33	.13			76-37898	-378
-379	11	11⅜	3/16	10.975	.060	.210	.005	278.77	1.52	5.33	.13			76-37998	-379
-380	11½	11⅞	3/16	11.475	.065	.210	.005	291.47	1.65	5.33	.13			76-38098	-380
-381	12	12⅜	3/16	11.975	.065	.210	.005	304.17	1.65	5.33	.13			76-38198	-381
-382	13	13⅜	3/16	12.975	.065	.210	.005	329.57	1.65	5.33	.13			76-38298	-382
-383	14	14⅜	3/16	13.975	.070	.210	.005	354.97	1.78	5.33	.13			76-38398	-383
-384	15	15⅜	3/16	14.975	.070	.210	.005	380.37	1.78	5.33	.13			76-38498	-384
-385	16	16⅜	3/16	15.955	.075	.210	.005	405.26	1.91	5.33	.13			76-38598	-385
-386	17	17⅜	3/16	16.955	.080	.210	.005	430.66	2.03	5.33	.13			76-38698	-386
-387	18	18⅜	3/16	17.955	.085	.210	.005	456.06	2.16	5.33	.13			76-38798	-387
-388	19	19⅜	3/16	18.955	.090	.210	.005	481.41	2.29	5.33	.13			76-38898	-388
-389	20	20⅜	3/16	19.955	.095	.210	.005	506.81	2.41	5.33	.13			76-38998	-389
-390	21	21⅜	3/16	20.955	.095	.210	.005	532.21	2.41	5.33	.13			76-39098	-390
-391	22	22⅜	3/16	21.955	.100	.210	.005	557.61	2.54	5.33	.13			76-39198	-391
-392	23	23⅜	3/16	22.940	.105	.210	.005	582.68	2.67	5.33	.13			76-39298	-392
-393	24	24⅜	3/16	23.940	.110	.210	.005	608.08	2.79	5.33	.13			76-39398	-393
-394	25	25⅜	3/16	24.940	.115	.210	.005	633.48	2.92	5.33	.13			76-39498	-394
-395	26	26⅜	3/16	25.940	.120	.210	.005	658.88	3.05	5.33	.13			76-39598	-395
-396 THRU -424	O-RING SIZES NOT ASSIGNED														
-425	4½	5	1/4	4.475	.033	.275	.006	113.67	.84	6.99	.15	VW-42500	VW-42599	76-42598	-425
-426	4⅝	5⅛	1/4	4.600	.033	.275	.006	116.84	.84	6.99	.15			76-42698	-426
-427	4¾	5¼	1/4	4.725	.033	.275	.006	120.02	.84	6.99	.15			76-42798	-427
-428	4⅞	5⅜	1/4	4.850	.033	.275	.006	123.19	.84	6.99	.15	VW-42800	VW-42899	76-42898	-428
-429	5	5½	1/4	4.975	.037	.275	.006	126.37	.94	6.99	.15			76-42998	-429
-430	5⅛	5⅝	1/4	5.100	.037	.275	.006	129.54	.94	6.99	.15			76-43098	-430
-431	5¼	5¾	1/4	5.225	.037	.275	.006	132.72	.94	6.99	.15			76-43198	-431
-432	5⅜	5⅞	1/4	5.350	.037	.275	.006	135.89	.94	6.99	.15			76-43298	-432
-433	5½	6	1/4	5.475	.037	.275	.006	139.07	.94	6.99	.15			76-43398	-433
-434	5⅝	6⅛	1/4	5.600	.037	.275	.006	142.24	.94	6.99	.15			76-43498	-434
-435	5¾	6¼	1/4	5.725	.037	.275	.006	145.42	.94	6.99	.15	VW-43500	VW-43599	76-43598	-435
-436	5⅞	6⅜	1/4	5.850	.037	.275	.006	148.59	.94	6.99	.15			76-43698	-436
-437	6	6½	1/4	5.975	.037	.275	.006	151.77	.94	6.99	.15			76-43798	-437
-438	6¼	6¾	1/4	6.225	.037	.275	.006	158.12	.94	6.99	.15	VW-43800	VW-43899	76-43898	-438
-439	6½	7	1/4	6.475	.040	.275	.006	164.47	1.02	6.99	.15			76-43998	-439
-440	6¾	7¼	1/4	6.725	.040	.275	.006	170.82	1.02	6.99	.15			76-44098	-440
-441	7	7½	1/4	6.975	.040	.275	.006	177.17	1.02	6.99	.15	VW-44100	VW-44199	76-44198	-441
-442	7¼	7¾	1/4	7.225	.045	.275	.006	183.52	1.14	6.99	.15	VW-44200	VW-44299	76-44298	-442
-443	7½	8	1/4	7.475	.045	.275	.006	189.87	1.14	6.99	.15	VW-44300	VW-44399	76-44398	-443
-444	7¾	8¼	1/4	7.725	.045	.275	.006	196.22	1.14	6.99	.15			76-44498	-444
-445	8	8½	1/4	7.975	.045	.275	.006	202.57	1.14	6.99	.15	VW-44500	VW-44599	76-44598	-445
-446	8½	9	1/4	8.475	.045	.275	.006	215.27	1.14	6.99	.15	VW-44600	VW-44699	76-44698	-446
-447	9	9½	1/4	8.975	.055	.275	.006	227.97	1.40	6.99	.15			76-44798	-447
-448	9½	10	1/4	9.475	.055	.275	.006	240.67	1.40	6.99	.15	VW-44800	VW-44899	76-44898	-448
-449	10	10½	1/4	9.975	.055	.275	.006	253.37	1.40	6.99	.15	VW-44900	VW-44999	76-44998	-449
-450	10½	11	1/4	10.475	.060	.275	.006	266.07	1.52	6.99	.15			76-45098	-450
-451	11	11½	1/4	10.975	.060	.275	.006	278.77	1.52	6.99	.15			76-45198	-451
-452	11½	12	1/4	11.475	.060	.275	.006	291.47	1.52	6.99	.15			76-45298	-452
-453	12	12½	1/4	11.975	.060	.275	.006	304.17	1.52	6.99	.15			76-45398	-453
-454	12½	13	1/4	12.475	.060	.275	.006	316.87	1.52	6.99	.15			76-45498	-454
-455	13	13½	1/4	12.975	.060	.275	.006	329.57	1.52	6.99	.15			76-45598	-455
-456	13½	14	1/4	13.475	.070	.275	.006	342.27	1.78	6.99	.15			76-45698	-456
-457	14	14½	1/4	13.975	.070	.275	.006	354.97	1.78	6.99	.15			76-45798	-457
-458	14½	15	1/4	14.475	.070	.275	.006	367.67	1.78	6.99	.15			76-45898	-458
-459	15	15½	1/4	14.975	.070	.275	.006	380.37	1.78	6.99	.15			76-45998	-459
-460	15½	16	1/4	15.475	.070	.275	.006	393.07	1.78	6.99	.15			76-46098	-460
-461	16	16½	1/4	15.955	.075	.275	.006	405.26	1.91	6.99	.15			76-46198	-461
-462	16½	17	1/4	16.455	.075	.275	.006	417.96	1.91	6.99	.15			76-46298	-462
-463	17	17½	1/4	16.955	.080	.275	.006	430.66	2.03	6.99	.15			76-46398	-463
-464	17½	18	1/4	17.455	.085	.275	.006	443.36	2.16	6.99	.15			76-46498	-464
-465	18	18½	1/4	17.955	.085	.275	.006	456.06	2.16	6.99	.15			76-46598	-465
-466	18½	19	1/4	18.455	.085	.275	.006	468.76	2.16	6.99	.15			76-46698	-466

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-467	19	19½	¼	18.955	.090	.275	.006	481.46	2.29	6.99	.15			76-46798	-467
-468	19½	20	¼	19.455	.090	.275	.006	494.16	2.29	6.99	.15			76-46898	-468
-469	20	20½	¼	19.955	.095	.275	.006	506.86	2.41	6.99	.15			76-46998	-469
-470	21	21½	¼	20.955	.095	.275	.006	532.26	2.41	6.99	.15			76-47098	-470
-471	22	22½	¼	21.955	.100	.275	.006	557.66	2.54	6.99	.15			76-47198	-471
-472	23	23½	¼	22.940	.105	.275	.006	582.68	2.67	6.99	.15			76-47298	-472
-473	24	24½	¼	23.940	.110	.275	.006	608.08	2.79	6.99	.15			76-47398	-473
-474	25	25½	¼	24.940	.115	.275	.006	633.48	2.92	6.99	.15			76-47498	-474
-475	26	26½	¼	25.940	.120	.275	.006	658.88	3.05	6.99	.15			76-47598	-475

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.
* DuPont's Registered Trademark

CUSTOM SIZE VANWAY® O-RING CROSS REFERENCE CHART — TABLE C2

VW-CUSTOM DASH NO.	NOMINAL SIZE I.D.	W.	ACTUAL SIZE* INCHES I.D.	±	W.	±	MILLIMETERS I.D.	±	W.	±	REORDER NUMBER VANWAY® SILICONE	VANWAY® VITON	VW-CUSTOM DASH NO.
-28 mm	1 5/64	3/16	1.077	.010	.210	.005	27.36	.25	5.33	.13	VW-28 mm 00	VW-28 mm 99	-28 mm
-30 mm	1 3/32	3/16	1.156	.011	.210	.005	29.36	.28	5.33	.13	VW-30 mm 00	VW-30 mm 99	-30 mm
-32 mm	1 5/64	3/16	1.235	.011	.210	.005	31.37	.28	5.33	.13	VW-32 mm 00	VW-32 mm 99	-32 mm
-40 mm	1 35/64	3/16	1.550	.015	.210	.005	39.37	.38	5.33	.13	VW-40 mm 00	VW-40 mm 99	-40 mm
-45 mm	1 47/64	3/16	1.747	.015	.210	.005	44.37	.38	5.33	.13	VW-45 mm 00	VW-45 mm 99	-45 mm
-50 mm	1 15/16	3/16	1.944	.018	.210	.005	49.38	.46	5.33	.13	VW-50 mm 00	VW-50 mm 99	-50 mm
-55 mm	2 5/64	3/16	2.145	.018	.210	.005	54.48	.46	5.33	.13	VW-55 mm 00	VW-55 mm 99	-55 mm
-65 mm	2 17/32	3/16	2.534	.020	.210	.005	64.36	.51	5.33	.13	VW-65 mm 00	VW-65 mm 99	-65 mm
-11.250	1 1/4	3/32	1.128	.030	.103	.003	286.5	1.52	2.62	.08	VW-11.25000	VW-11.25099	-11.250
-66 × 4 mm	2 19/32	5/32	2.598	.020	.158	.005	66	51	4	11	VW-66 × 4 mm	VW-66 × 4 mm	-66 × 4 mm
-70 × 4 mm	2 3/4	5/32	2.756	.020	.158	.005	70	61	4	11	VW-70 × 4 mm	VW-70 × 4 mm	-70 × 4 mm
-90 × 4 mm	3 35/64	5/32	3.543	.028	.158	.005	90	71	4	11	VW-90 × 4 mm	VW-90 × 4 mm	-90 × 4 mm
-95.3 × 4 mm	3 3/4	5/32	3.752	.028	.158	.005	95.3	71	4	11	VW-95.3 × 4 mm	VW-95.3 × 4 mm	-95.3 × 4 mm
-130 × 5 mm	5 1/64	3/16	5.118	.037	.210	.005	130	89	5.33	.13	VW-130 × 5 mm	VW-130 × 5 mm	-130 × 5 mm
-146 × 5 mm	5 3/4	3/16	5.748	.037	.210	.005	146	94	5.33	.13	VW-146 × 5 mm	VW-146 × 5 mm	-146 × 5 mm
-150 × 5 mm	5 29/32	3/16	5.906	.037	.210	.005	150	94	5.33	.13	VW-150 × 5 mm	VW-150 × 5 mm	-150 × 5 mm
-160 × 5 mm	6 7/32	3/16	6.299	.040	.210	.005	160	102	5.33	.13	VW-160 × 5 mm	VW-160 × 5 mm	-160 × 5 mm
-170 × 5 mm	6 45/64	3/16	6.693	.040	.210	.005	170	102	5.33	.13	VW-170 × 5 mm	VW-170 × 5 mm	-170 × 5 mm
-195 × 5 mm	7 43/64	3/16	7.677	.045	.210	.005	195	114	5.33	.13	VW-195 × 5 mm	VW-195 × 5 mm	-195 × 5 mm

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

CHESTERTON® VANWAY® GASKET CROSS REFERENCE CHART — TABLE C3

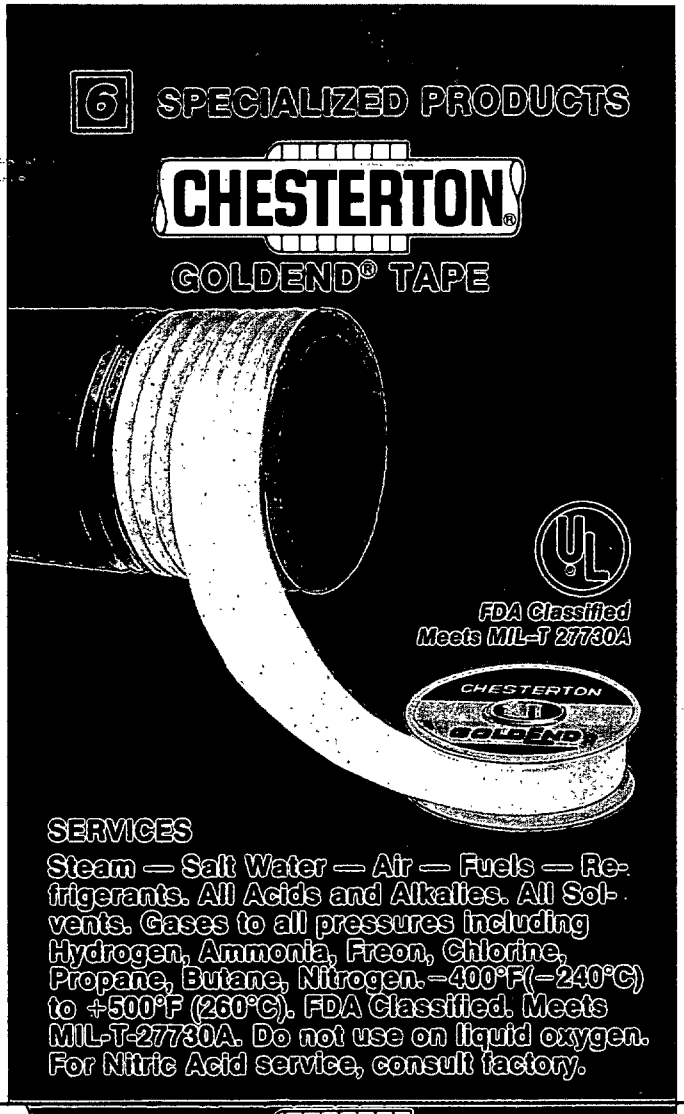
VANWAY® GASKET DASH NO.	ACTUAL SIZE INCHES I.D.	O.D.	W.	MILLIMETERS I.D.	O.D.	W.	REORDER NUMBER
-2" GASKET	2	2⅝	¼	50.80	66.675	6.35	VW-2" GASKET SILICONE
-2 ⅜" GASKET	2⅜	3⅛	¼	60.325	79.375	6.35	VW-2 ⅜ GAS. SILICONE
-4" GASKET	3¾	4⅞	¼	95.25	123.825	6.35	VW-4" GASKET SILICONE

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

CUSTOM SIZE STYLE 76 O-RING CROSS REFERENCE CHART SERIES 76-7xxx TABLE C4

STD. -7xxx SIZE	I.D.	+	W	+	METRIC -7xxx SIZE	I.D.	+	W	+	RE-ORDER NO.
-7505	3.475	.024	.275	.006	-7505	88.27	.61	6.99	.15	50598
-7509	4.350	.033	.275	.006	-7509	110.49	.84	6.99	.15	50998
-7504	8.225	.045	.275	.006	-7504	208.92	1.14	6.99	.15	50498
-7507	8.717	.045	.275	.006	-7507	221.40	1.14	6.99	.15	50598
-7501	10.234	.005	.139	.004	-7501	259.94	1.40	3.53	.10	50198
-7503	10.725	.060	.275	.006	-7503	272.42	1.52	6.99	.15	50398
-7502	22.225	.100	.275	.006	-7502	564.52	2.54	6.99	.15	50298
-7506	39.370	.185	.275	.006	-7506	1000.00	4.70	6.99	.15	50698
-7508	71.740	.100	.210	.005	-7508	1822.20	2.54	5.33	.13	50898

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.



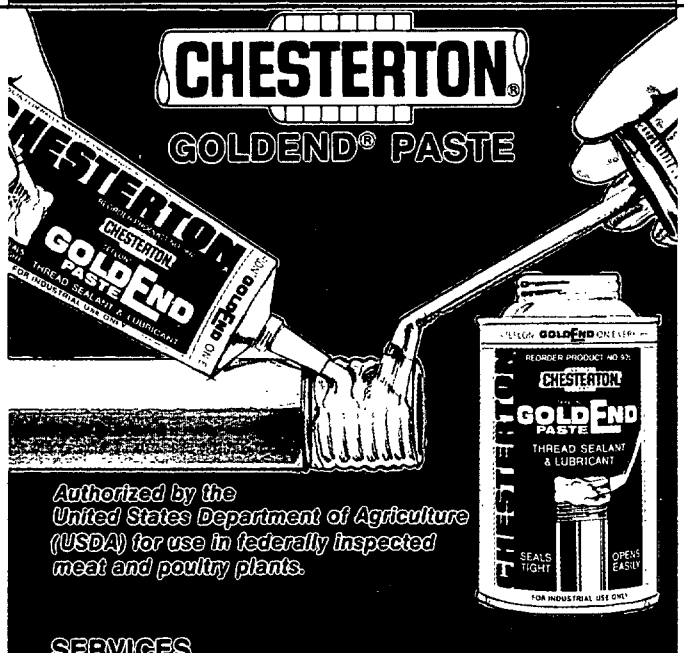
CHESTERTON GOLDEND® thread seal tape is manufactured to the highest tape specifications. As such, it is the highest quality P.T.F.E. tape available which results in savings at the user level. It is easier to install, usually requires only one layer to effect a seal, will not leak due to vibration or severe chemical contact, yet releases easily when joints need to be removed.

CHESTERTON GOLDEND TAPE will withstand pressures to 2500 psig. (170 kg/cm²). It is effective from −400°F. to +500°F. (−240°C. to +260°C.).

CHESTERTON GOLDEND TAPE is UL listed, meets MIL-T-27730A

PACKAGED			
Size	Reorder Prod. No.	Spools/ Ctn.	Ctn./ Master
½" × 180" (12,7 mm × 4,57M)	801[1]	12	12
½" × 540" (12,7 mm × 13,72M)	802[1]	12	12
½" × 1296" (12,7 mm × 32,92M)	803[1]	12	12

[1] Reorder Product Number is for individual item.



CHESTERTON GOLDEND® PASTE is a non-corrosive, non-toxic, odorless paste that stops leakage thru threads. Mouldable Teflon* particles crush to form a continuous, vibration-proof seal. GOLDEND PASTE doesn't harden; joints are easily made, easily opened thus saving fittings for reuse. GOLDEND PASTE is not messy and will not drip or run.

CHESTERTON GOLDEND PASTE is classified by Underwriters Laboratories, Inc., as to fire hazard only.

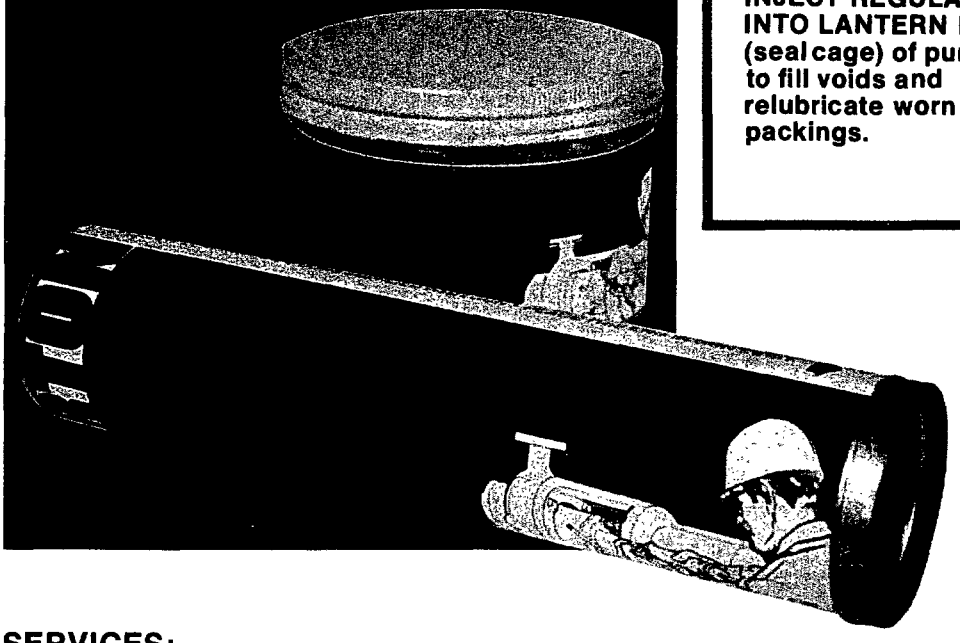
CHESTERTON GOLDEND PASTE classed 10 to 20 with paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oil, natural gas (pressure not over 100 P.S.I.G.), butane or propane. See UL Index of Classified Products.

CHESTERTON GOLDEND PASTE may be used on steam, salt water, air, fuels, refrigerants, all acids, alkalies, and solvents. It may also be used on gases such as hydrogen, ammonia, freon, chlorine, propane, butane and nitrogen. CHESTERTON GOLDEND PASTE will operate from −400°F. to +500°F. (−240°C. to +260°C.). Do not use on liquid or gaseous oxygen.

PACKAGED			
REORDER PRODUCT NO.	INDIV. NET CONTENTS	QUANTITY PER CARTON	CARTONS PER MASTER CARTON
901[1]	Cans 1 lb. (454 gms.)	12	6
902[1]	Tubes 8 oz. (227 gms.)	24	6

[1]Reorder Product Number is for individual item.

CHESTERTON®

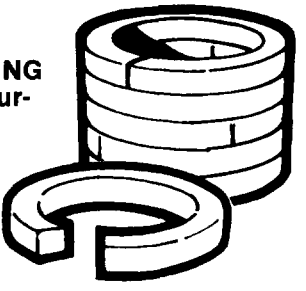


1. A high temperature, nonglazing special lubricant protects shaft and packing during start-up, break-in, and normal running operation.

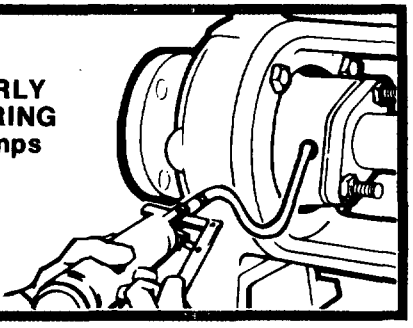
2. Graphite flake particles provide nonmigrating lubricant and act as a blocking agent.

3. Extreme high pressure, high temperature molybdenum disulphide lubricates even when contact pressure between packing and shaft (or stem) is excessive.

PRELUBRICATE PACKING RINGS for protection during critical breaking-in period.



INJECT REGULARLY INTO LANTERN RING (seal cage) of pumps to fill voids and relubricate worn packings.



SERVICES:
Protects packings, pump shafts, sleeves and valve stems against undue friction. Blocks water and other fluids. Reduces packing wear on shafts or sleeves. Unique three-stage lubrication compound was developed by CHESTERTON, America's oldest manufacturer of mechanical packings.

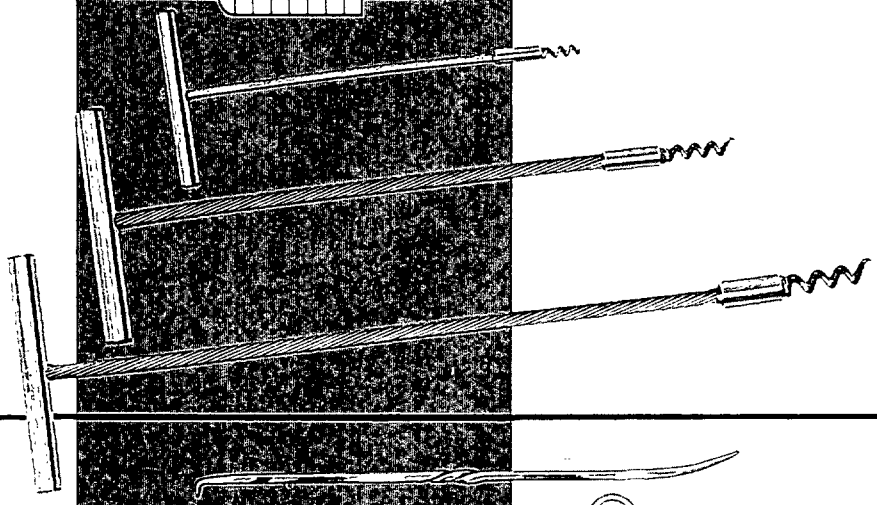
This lubricant is formulated for packing lubrication only. It is not intended as a metal to metal lubricant. Not for use in nitric acid applications.

PACKAGED			
Reorder Product No.	Individual Net Contents	Quantity per Carton	Cartons per Master Carton
3601 3603	Cartridge 21 ozs. (595 gms.) Plastic Container 2 lbs. (908 gms.)	12 6	12 6

6 SPECIALIZED PRODUCTS

CHESTERTON

CHESTERTON PACKING TOOLS

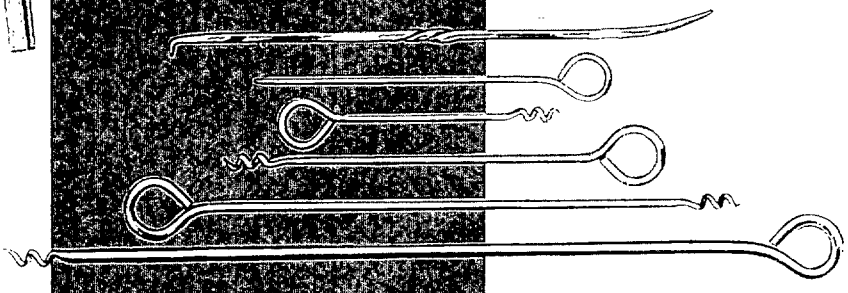


FLEXIBLE PACKING EXTRACTORS

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, easily removable. Large, smooth, easy-grip handle. Furnished in sets of 3 tools.

Reorder Product No. 2500

For charts see page 89



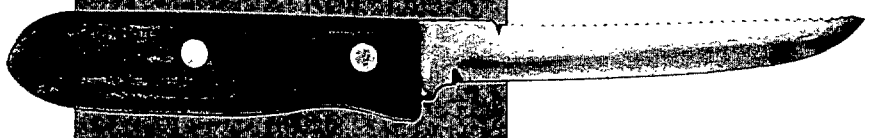
STIFF PACKING TOOLS

Made of special tool steel. Warranted not to break when removing packing from any type of stuffing box. Will withstand the roughest usage.

SOLD IN COMPLETE SETS ONLY

Reorder Product No. 2401 (4)
Reorder Product No. 2402 (6)

For charts see page 89

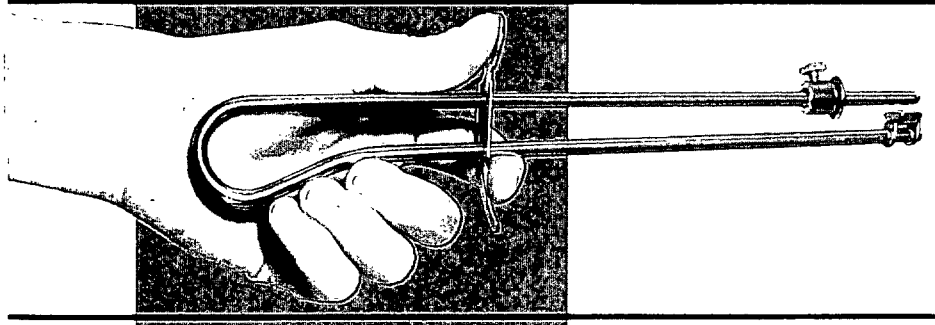


PACKING CUTTING KNIFE

Fine bevelled blade cuts braided packings
Serrated blade cuts moulded items

Blade 5"—127 mm Overall 10"—254 mm
Case included.
Fits Chesterton Ring Cutter

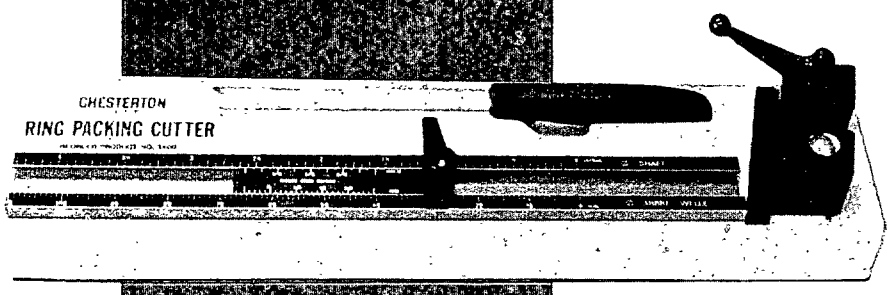
Reorder Product No. 2300



CHESTERTON GAUGE GLASS CUTTER

In this cutter, recognized by leading engineers everywhere as the outstanding gauge glass cutter, the sliding lever can be placed close to the work, and thus more power obtained than in any other cutter. The steel cutting wheel can be used much longer than in ordinary cutters. Will cut the hardest type of glasses.

Reorder Product No. 2700



CHESTERTON RING PACKING CUTTER

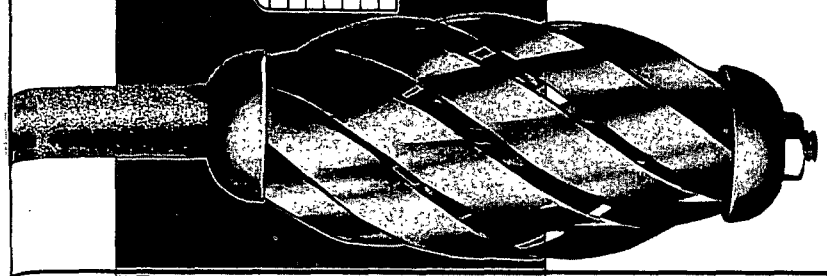
This new device permits accurate cutting of rings from spiral or flat coil packings. The SCALE reads directly in terms of shaft sizes, either in inches or in millimeters. To operate, simply set one scale to correspond with cross-sectional size of packing, set other scale for shaft diameter, and cut ring. Handles packing sizes ⅛" through 1" and shaft sizes up to 4". Avoid delays, cut your own rings, and save up to $10.00 per pound of packing cost. Accommodates the Chesterton Packing Cutting Knife.

Reorder Product No. 3400

6 SPECIALIZED PRODUCTS

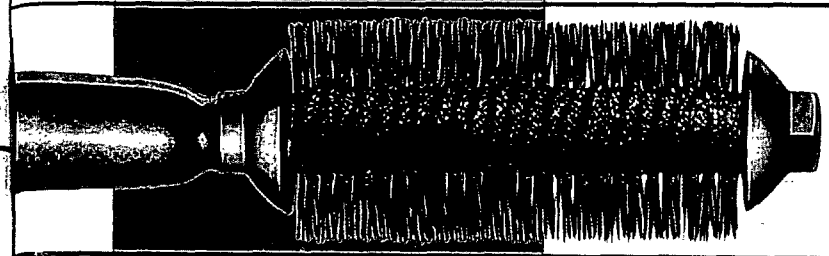
CHESTERTON®

CHESTERTON BOILER TUBE CLEANERS



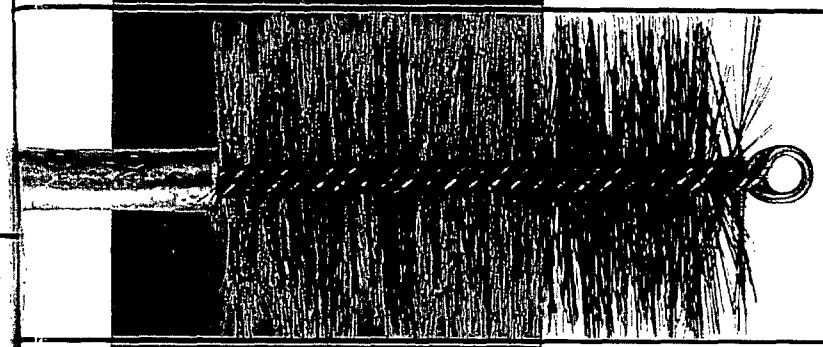
TUBE SCRAPER

Effectively removes hard deposits because of its flexibility and bias-cutting operation. During normal operation the cutting steels are practically self-sharpening. Sizes 1¼, 1½, 1¾, 2, 2½, 3, 3½, and 4 inches, boiler tube sizes (O.D. of tubes). Threads: — 1¼"–⅛" male; 1½" thru 1¾"–¼" male; 2" thru 3½"–⅜" female; 4"–½" female.



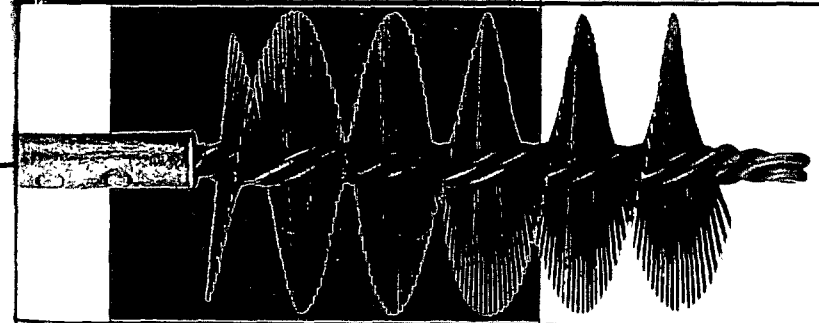
TUBE BRUSH

Stiff flat wires will not pull out or lay back, are dense to remove accumulated matter, but spaced to permit scale to drop, facilitating freedom of movement and easy removal. Sizes 2, 2½, 3, 3½, 4 inches, boiler tube sizes (O.D. of tube). All threads are ⅜" female, pipe.



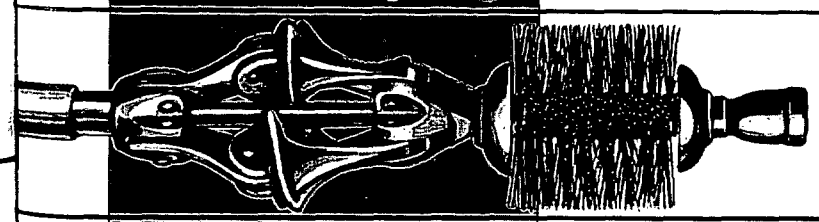
FINE WIRE BRUSH

Made of fine, round, tempered steel wire. A good brush to be used in connection with a scraper, or in low pressure boilers. Sizes 1 to 4 inches. Thread, all sizes, ¼" male.



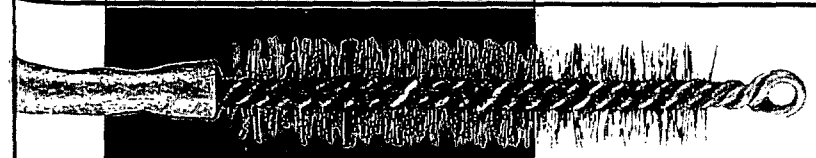
SPIRAL TUBE BRUSH

A durable, stiff, flat wire brush for cleaning tubes of either marine or stationary boilers. Sizes 1 to 4 inches. Thread, all sizes, ¼" male.



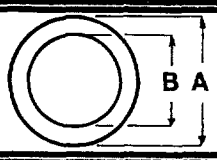
COMBINATION SCRAPER

The self-adjusting combination scraper has specially hardened scraping arms. Spring expands arms to required diameter. With rugged, flatwire brush attached, the COMBINATION SCRAPER is "Two Tools in One." Sizes 2, 2½, 3, 3½, 4 inches, boiler tube sizes (O.D. of tubes). All threads are ⅜" female, pipe.



CONDENSER TUBE BRUSH

Made of fine round steel wire with ⅛" nipple in sizes ½, ⅝, ¾, ⅞, and 1", *actual diameter* of brushes. Condenser tubes are measured I.D. instead of O.D. Thread, all sizes, ⅛" male.



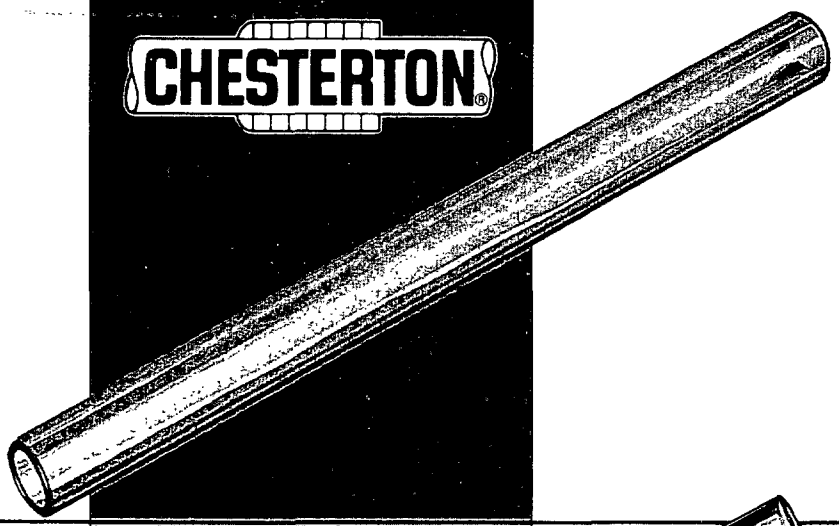
HOW TO ORDER

"A" is the O.D. of boiler tube. This is the size to order for all cleaners except the Condenser Tube Brush which is ordered by I.D. dimension "B".

For charts see page **89**

SPECIALIZED PRODUCTS

CHESTERTON®



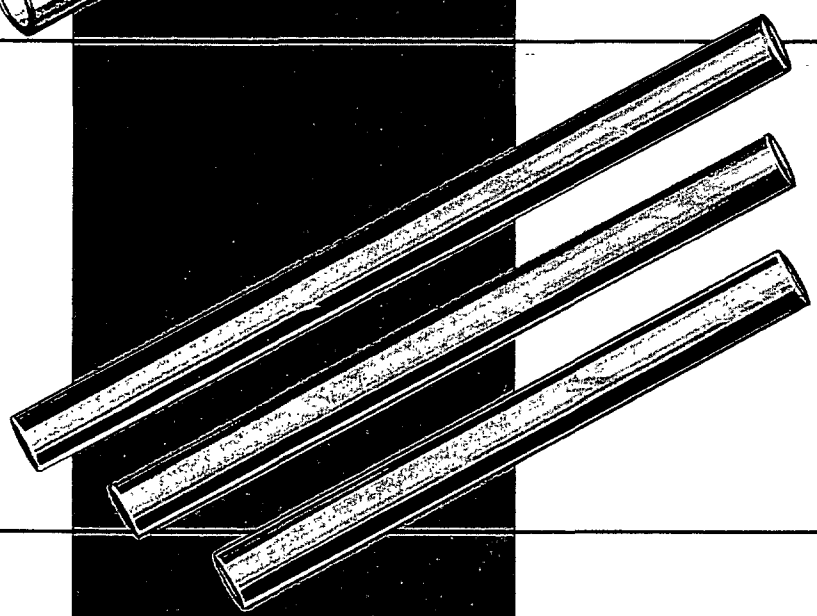
HIGH PRESSURE GAUGE GLASS

Since this first borosilicate-type glass was introduced many years ago, thus pioneering the high pressure gauge glass industry, it has steadily maintained its recognition as the standard of comparison for all gauge glasses.

CHESTERTON HIGH PRESSURE GLASS is hard, clear, and resistant to acid corrosion and thermal shock. Its low coefficient of expansion helps to maintain pressure and temperature stresses within reasonable but undefined limits.

SIZES: O.D. ½", ⅝", ¾", ⅞", 1". Standard packages of half dozen glasses in standard lengths: 8", 10", 12", 14", 15", 16", 18", 20", 22", 24", 30", 36", 48", 60", 72". Over 72" to order. Can be supplied to any length. ½" O.D. supplied in standard package of one dozen.

WASHERS AVAILABLE



LOW PRESSURE GAUGE GLASSES

Chesterton low pressure Gauge Glasses are designed to fit all applications where low pressures are involved. Chesterton low pressure Gauge Glass is clear, non-colored, and it is easy to read the liquid level.

SIZES: O.D. ½", ⅝", ¾". Standard packages of half dozen glasses in standard lengths: 8", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 22", 24", 30", 36", 48", 60", 72". ½" O.D. supplied in standard packages of one dozen.



CHESTERTON FLAT GAUGE GLASSES

CHESTERTON FLAT GLASSES are in two types. The Plain, or Type A, are transparent and are generally used in pairs with the liquid column enclosed between the glasses. The liquid level is observed by looking through the two glasses which must be illuminated from the rear. Usual practice against steam is to use a mica shield on the pressure side in addition to the regular gaskets.

The Reflex, or Fluted Type B, is used singly. Vertical prisms show the water level and the appearance is black below the level, bright silver above. Two gaskets are used with each glass.

SIZE	LENGTH	
	inches	mm
9	13⅜	340
8	12⅝	320
7	11	280
6	9⅞	250
5	8⅝	220
4	7½	190
3	6½	165
2	5½	140

Width: $15/16$"; Thickness: $11/16$"; Type B Reflex has 5 flutes.

CHESTERTON®

BOILER TUBE CLEANERS

APPROXIMATE DATA			
Type	Sizes Inch	Sizes mm	Reorder Product No.
TUBE SCRAPERS	1¼	31.7	1720
	1½	38.1	1724
	1¾	44.4	1728
	2	50.8	1732
	2½	63.5	1740
	3	76.2	1748
	3½	88.9	1756
	4	101.6	1764
TUBE BRUSHES	2	50.8	1632
	2½	63.5	1640
	3	76.2	1648
	3½	88.9	1656
	4	101.6	1664
COMBINATION SCRAPERS	2	50.8	1832
	2½	63.5	1840
	3	76.2	1848
	3½	88.9	1856
	4	101.6	1864
FINE WIRE BRUSHES	1	25.4	1216
	1¼	31.7	1220
	1½	38.1	1224
	1¾	44.4	1228
	2	50.8	1232
	2¼	57.1	1236
	2½	63.5	1240
	2¾	69.8	1244
	3	76.2	1248
	3¼	82.5	1252
	3½	88.9	1256
	3¾	95.2	1260
	4	101.6	1264
SPIRAL TUBE BRUSHES	1	25.4	1316
	1¼	31.7	1320
	1½	38.1	1324
	1¾	44.4	1328
	2	50.8	1332
	2¼	57.1	1336
	2½	63.5	1340
	2¾	69.8	1344
	3	76.2	1348
	3¼	82.5	1352
	3½	88.9	1356
	3¾	95.2	1360
	4	101.6	1364
CONDENSER TUBE BRUSHES	½	12.7	1408
	⅝	15.9	1410
	¾	19.1	1412
	⅞	22.2	1414
	1	25.4	1416
COMBINATION SCRAPERS BRUSHES	2	50.8	1932
	2½	57.1	1940
	3	76.2	1948
	3½	88.9	1956
	4	101.6	1964

STYLE 364-T

APPROXIMATE DATA						
Size Inches	Size mm	Packaged ± 10% lbs.	Packaged ± 10% kg.	Reorder Product No.	Lengths per Weight Ft./lb.	Lengths per Weight M/kg.
¼	6.4	2.00	0.91	36404	20.00	13.45
5/16	8.0	2.50	1.13	36405	13.60	9.13
⅜	9.5	2.75	1.25	36406	11.00	7.40
7/16	11.1	3.25	1.48	36407	8.60	5.76
½	12.7	3.75	1.70	36408	6.00	4.03
9/16	14.3	5.50	2.50	36409	4.90	3.30
⅝	15.9	5.75	2.61	36410	4.40	2.94
11/16	17.5	6.90	3.13	36411	3.60	2.42
¾	19.1	6.90	3.13	36412	2.90	1.94
13/16	20.6	6.90	3.13	36413	2.47	1.66
⅞	22.2	8.50	3.85	36414	2.00	1.34
15/16	23.8	8.50	3.85	36415	1.88	1.26
1	25.4	9.12	4.14	36416	1.75	1.18
1 1/16	27.0	To order		36417	1.33	0.89
1⅛	28.6	To order		36418	1.23	0.83
1 3/16	30.2	To order		36419	1.15	0.77
1¼	31.7	To order		36420	1.10	0.74
1 5/16	33.3	To order		36421	1.00	0.67
1⅜	34.9	To order		36422	0.90	0.61
1½	38.1	To order		36424	0.73	0.49

STYLE 322 TWIST

APPROXIMATE DATA						
Size Inches	Size mm	Packaged ± 10% lbs.	Packaged ± 10% kg.	Reorder Product No.	Lengths/Weight Ft./lb.	Lengths/Weight M/kg.
⅛	3.2	2	0.908	32360	80.00	53.75
¼	6.4	2	0.908	32364	33.68	22.63
⅜	9.5	2	0.908	32366	13.30	8.94
Half Kit		1 Spool Each		32302		
Full Kit		2 Spools Each		32301		

FLEXIBLE PACKING TOOLS

Type	Length in.	Length mm	Stock in.	Stock mm	Worm in.	Worm mm
Double End Hook	12	305.0	¼	6.4	—	—
Worm	8	203.2	3/16	4.8	—	—
Worm	6	152.4	3/16	4.8	5/16	7.9
Worm	10	254.0	¼	6.4	7/16	11.1
Worm	14	356.0	¼	6.4	½	12.7
Worm	18	457.0	5/16	7.9	½	12.7

Set of four eliminates second and last items.

STIFF PACKING TOOLS

One Set	Length Inches	Length mm	For Min. Packing Size Inch	For Min. Packing Size mm	Reorder Product No.
Small	7	178	5/16	7.9	2501
Medium	11	279	⅜	9.5	2502
Large	14	356	½	12.7	2503

CHESTERTON®

STYLES 80, 81, 82, 84, 85 and 87

APPROXIMATE DATA											
Sizes		Packaging		Reorder Product No.						Length per Weight	
Inches	mm	Lbs.	Kg.	Style 80	Style 81	Style 82	Style 84	Style 85	Style 87	Ft./lb.	M/kg.
1/8	3.2	2	0.908	8060	NA	8260	NA	NA	8760	145.00	97.30
		5	2.270	8002	NA	NA	NA	NA	NA	145.00	97.30
3/16	4.8	2	0.908	8062	NA	8262	NA	NA	8762	64.00	42.90
		5	2.270	8003	NA	NA	NA	NA	NA	64.00	42.90
1/4	6.4	2	0.908	8064	NA	8264	NA	NA	NA	36.00	24.20
		5	2.270	8073	8173	8273	8473	NA	8773	36.00	24.20
5/16	8.0	2	0.908	8065	NA	8265	NA	NA	NA	21.50	14.40
		5	2.270	8074	8174	8274	8474	NA	8774	21.50	14.40
3/8	9.5	2	0.908	8066	NA	8266	NA	NA	NA	16.00	10.70
		5	2.270	8075	8175	8275	8475	8575	8775	16.00	10.70
		10	4.540	8081	8181	8281	8481	8581	8781	16.00	10.70
7/16	11.1	2	0.908	8068	NA	8268	NA	NA	NA	10.70	7.20
		5	2.270	8077	8177	8277	8477	8577	8777	10.70	7.20
1/2	12.7	2	0.908	8070	NA	8270	NA	NA	NA	9.00	6.00
		5	2.270	8079	8179	8279	8479	8579	8779	9.00	6.00
		10	4.540	8083	8183	8283	8483	8583	8783	9.00	6.00
9/16	14.3	5	2.270	8080	8180	8280	8480	8580	8780	7.00	4.70
		10	4.540	8084	8184	8284	8484	8584	8784	7.00	4.70
5/8	15.9	10	4.540	8085	8185	8285	8485	8585	8785	5.70	3.80
11/16	17.5	10	4.540	8086	8186	8286	8486	8586	8786	4.80	3.23
3/4	19.1	10	4.540	8087	8187	8287	8487	8587	8787	4.00	2.70
13/16	20.6	10	4.540	8088	8188	8288	8488	8588	8788	3.40	2.29
7/8	22.2	10	4.540	8089	8189	8289	8489	8589	8789	2.70	1.80
15/16	23.8	10	4.540	8093	8193	8293	8493	8593	8793	2.50	1.68
1	25.4	10	4.540	8094	8194	8294	8494	8594	8794	2.30	1.50
1 1/16	27.0	To order		8017	8117	8217	8417	8517	8717	1.90	1.28
1 1/8	28.6	To order		8018	8118	8218	8418	8518	8718	1.75	1.18
1 3/16	30.2	To order		8019	8119	8219	8419	8519	8719	1.43	0.96
1 1/4	31.7	To order		8020	8120	8220	8420	8520	8720	1.40	0.94
1 5/16	33.3	To order		8021	8121	8221	8421	8521	8721	1.30	0.87
1 3/8	34.9	To order		8022	8122	8222	8422	8522	8722	1.20	0.81
1 1/2	38.1	To order		8024	8124	8224	8424	8524	8724	1.00	0.67
1 5/8	41.2	To order		8026	8126	8226	8426	8526	8726	0.85	0.57
1 3/4	44.4	To order		8028	8128	8228	8428	8528	8728	0.68	0.45
1 7/8	47.6	To order		8030	8130	8230	8430	8530	8730	0.63	0.42
2	50.8	To order		8032	8132	8232	8432	8532	8732	0.56	0.38

NA = Not Available

CHESTERTON STYLE 240

STYLE 240 is manufactured into a hard-woven asbestos cloth incorporating an insertion of fine brass wire twisted into each strand for reinforcement. This sheet is treated with a special white heat-resistant compound which has adhesive qualities.

APPROXIMATE DATA								
Thickness		Reorder	Length per Roll		Weights (± 10%)		Approx. Weight per Roll	
inches	mm	Product No.	yds.	M	lbs per yd.	kg./m²	lbs.	kg.
1/16"	1.6	24001	50	45.7	5	2.77	250	113.4
1/8"	3.2	24002	25	22.8	10	5.55	250	113.4

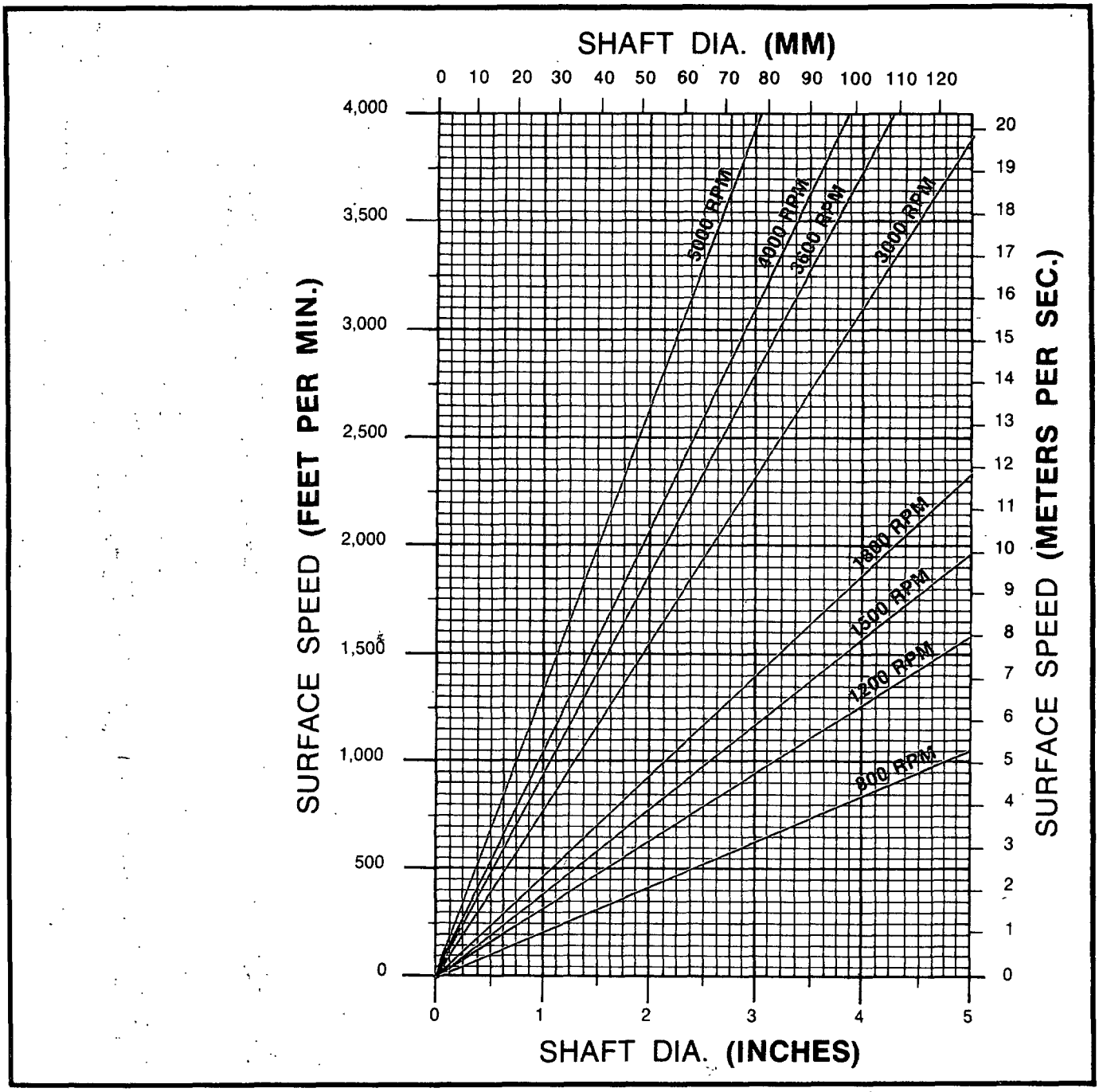
STYLE 90

APPROXIMATE DATA							
Size		Packaged ± 10%		Reorder	Lengths per Weight		Coils
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	m/kg.	per Box
3/16	4.8	2.43	1.100	9003	37.00	24.81	6
1/4	6.4	3.96	1.800	9004	22.70	15.22	6
5/16	8.0	5.32	2.420	9005	14.10	9.45	5
3/8	9.5	6.06	2.750	9006	9.90	6.64	4
7/16	11.1	7.06	3.210	9007	6.40	4.29	3
1/2	12.7	7.92	3.600	9008	5.70	3.82	3
9/16	14.3	7.20	3.270	9009	4.20	2.82	2
5/8	15.9	8.16	3.710	9010	3.70	2.48	2
11/16	17.5	9.87	4.490	9011	3.04	2.04	2
3/4	19.1	11.67	5.300	9012	2.60	1.74	2
13/16	20.6	14.88	6.760	9013	2.02	1.35	2
7/8	22.2	15.96	7.250	9014	1.90	1.27	2
15/16	23.8	19.80	9.000	9015	1.52	1.02	2
1	25.4	20.25	9.200	9016	1.50	1.00	2

No. 93 is cut rings of No. 90

CHESTERTON

CHESTERTON SHAFT SPEED CONVERSION CHART



DECIMAL EQUIVALENTS

1/64"	0.0156"	9/64"	0.1406"	17/64"	0.2656"	25/64"	0.3906"	33/64"	0.5156"	41/64"	0.6406"	49/64"	0.7656"	57/64"	0.8906"
1/32"	0.03125"	5/32"	0.15625"	9/32"	0.28125"	13/32"	0.40625"	17/32"	0.53125"	21/32"	0.65625"	25/32"	0.78125"	29/32"	0.90625"
3/64"	0.0469"	11/64"	0.1719"	19/64"	0.2969"	27/64"	0.4219"	35/64"	0.5469"	43/64"	0.6719"	51/64"	0.7969"	59/64"	0.9219"
1/16"	0.0625"	3/16"	0.1875"	5/16"	0.3125"	7/16"	0.4375"	9/16"	0.5625"	11/16"	0.6875"	13/16"	0.8125"	15/16"	0.9375"
5/64"	0.0781"	13/64"	0.2031"	21/64"	0.3281"	29/64"	0.4531"	37/64"	0.5781"	45/64"	0.7031"	53/64"	0.8281"	61/64"	0.9531"
3/32"	0.09375"	7/32"	0.21875"	11/32"	0.34375"	15/32"	0.46875"	19/32"	0.59375"	23/32"	0.71875"	27/32"	0.84375"	31/32"	0.96875
7/64"	0.1094"	15/64"	0.2344"	23/64"	0.3594"	31/64"	0.4844"	39/64"	0.6094"	47/64"	0.7344"	55/64"	0.8594"	63/64"	0.9844"
1/8"	0.1250"	1/4"	0.2500"	3/8"	0.3750"	1/2"	0.5000"	5/8"	0.6250"	3/4"	0.7500"	7/8"	0.8750"	1"	1.0000"

CHESTERTON®

CONVERSION TABLES — FEET AND INCHES TO MILLIMETERS

	0″	1″	2″	3″	4″	5″	6″	7″	8″	9″	10″	11″
1′	305	330	356	381	406	432	457	483	508	533	559	584
2′	610	635	660	686	711	737	762	787	813	838	864	889
3′	914	940	965	991	1016	1041	1067	1092	1118	1143	1168	1194
4′	1219	1245	1270	1295	1321	1346	1372	1397	1422	1448	1473	1499
5′	1524	1549	1575	1600	1626	1651	1676	1702	1727	1753	1778	1803
6′	1829	1854	1880	1905	1930	1956	1981	2007	2032	2057	2083	2108

CONVERSION TABLES — INCHES TO MILLIMETERS

	0″	1/16″	1/8″	3/16″	1/4″	5/16″	3/8″	7/16″	1/2″	9/16″	5/8″	11/16″	3/4″	13/16″	7/8″	15/16″
0″	—	1,6	3,2	4,8	6,4	7,9	9,5	11,1	12,7	14,3	15,9	17,5	19,1	20,6	22,2	23,8
1″	25,4	27,0	28,6	30,2	31,75	33,3	34,9	36,5	38,1	39,7	41,27	42,9	44,45	46,0	47,6	49,2
2″	50,8	52,4	54,0	55,6	57,15	58,7	60,3	61,9	63,5	65,1	66,7	68,3	69,85	71,4	73,0	74,6
3″	76,2	77,8	79,4	81,0	82,55	84,1	85,7	87,3	88,9	90,5	92,1	93,66	95,25	96,8	98,4	100,0
4″	101,6	103,2	104,8	106,4	108,0	109,5	111,1	112,7	114,3	115,9	117,5	119,1	120,7	122,2	123,8	125,4
5″	127,0	128,6	130,2	131,8	133,4	134,9	136,5	138,1	139,7	141,3	142,9	144,5	146,1	147,6	149,2	150,8
6″	152,4	154,0	155,6	157,2	158,8	160,3	161,9	163,5	165,1	166,7	168,3	169,9	171,5	173,0	174,6	176,2
7″	177,8	179,4	181,0	182,6	184,2	185,7	187,3	188,9	190,5	192,1	193,7	195,3	196,9	198,4	200,0	201,6
8″	203,2	204,8	206,4	208,0	209,6	211,1	212,7	214,3	215,9	217,5	219,1	220,7	222,3	223,8	225,4	227,0
9″	228,6	230,2	231,8	233,4	235,0	236,5	238,1	239,7	241,3	242,9	244,5	246,1	247,7	249,2	250,8	252,4
10″	254,0	255,6	257,2	258,8	260,4	261,9	263,5	265,1	266,7	268,3	269,9	271,5	273,1	274,6	276,2	277,8
11″	279,4	281,0	282,6	284,2	285,75	287,3	288,9	290,5	292,1	293,7	295,3	296,9	298,45	300,0	301,6	303,2
12″	304,8															

CONVERSION TABLE MILLIMETERS TO INCHES

mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches
02 =	.00078	62 =	.0244	12 =	.4724	42 =	1.6535	72 =	2.8346
04 =	.00157	64 =	.0252	13 =	.5118	43 =	1.6929	73 =	2.8740
06 =	.00236	66 =	.02598	14 =	.55118	44 =	1.73228	74 =	2.91338
08 =	.0031	68 =	.02677	15 =	.59055	45 =	1.77165	75 =	2.95265
10 =	.0039	70 =	.02755	16 =	.6299	46 =	1.8110	76 =	2.9921
12 =	.0047	72 =	.0283	17 =	.66929	47 =	1.85039	77 =	3.03549
14 =	.0055	74 =	.0291	18 =	.70866	48 =	1.88976	78 =	3.07086
16 =	.0063	76 =	.0299	19 =	.7480	49 =	1.9295	79 =	3.1102
18 =	.00708	78 =	.0307	20 =	.7874	50 =	1.9685	80 =	3.1496
20 =	.0078	80 =	.0315	21 =	.82677	51 =	2.00787	81 =	3.18897
22 =	.00866	82 =	.03228	22 =	.8661	52 =	2.0472	82 =	3.2283
24 =	.0094	84 =	.0330	23 =	.9055	53 =	2.0866	83 =	3.2677
26 =	.0102	86 =	.03385	24 =	.94488	54 =	2.12598	84 =	3.30708
28 =	.0110	88 =	.0346	25 =	.98425	55 =	2.16535	85 =	3.34645
30 =	.0118	90 =	.0354	26 =	1.0236	56 =	2.2047	86 =	3.3858
32 =	.0126	92 =	.0362	27 =	1.06299	57 =	2.24409	87 =	3.42519
34 =	.01338	94 =	.0370	28 =	1.10236	58 =	2.28346	88 =	3.46456
36 =	.01419	96 =	.0378	29 =	1.1417	59 =	2.3228	89 =	3.5039
38 =	.0149	98 =	.03858	30 =	1.1811	60 =	2.3622	90 =	3.5433
40 =	.0157	100 =	.03937	31 =	1.22047	61 =	2.40157	91 =	3.58267
42 =	.0165	2 =	.0787	32 =	1.2598	62 =	2.4409	92 =	3.6220
44 =	.0173	3 =	.1181	33 =	1.2992	63 =	2.4803	93 =	3.6614
46 =	.0181	4 =	.15748	34 =	1.33858	64 =	2.51968	94 =	3.70078
48 =	.0189	5 =	.19685	35 =	1.37795	65 =	2.55905	95 =	3.74015
50 =	.01968	6 =	.2362	36 =	1.4173	66 =	2.5984	96 =	3.7795
52 =	.02047	7 =	.27559	37 =	1.45669	67 =	2.63779	97 =	3.81889
54 =	.02125	8 =	.31496	38 =	1.49606	68 =	2.67716	98 =	3.85826
56 =	.0220	9 =	.3543	39 =	1.5354	69 =	2.7165	99 =	3.8976
58 =	.0228	10 =	.3937	40 =	1.5748	70 =	2.7559	100 =	3.9370
60 =	.0236	11 =	.43307	41 =	1.61417	71 =	2.79527	200 =	7.874
								300 =	11.811
								400 =	15.748
								500 =	19.685
								1000 =	39.370

PRESSURE AND TEMPERATURE OF SATURATED STEAM

Gage Pressure	Absolute Pressure psi	Saturated Temp. Deg. F	Saturated Temp. Deg. C
-13.7	1	101.76	38.72
-12.7	2	126.10	52.23
-11.7	3	141.40	60.72
-10.7	4	152.99	67.15
-9.7	5	162.25	72.29
-8.7	6	170.07	76.63
-7.7	7	176.85	80.39
-6.7	8	182.87	83.73
-5.7	9	188.28	86.74
-4.7	10	193.21	89.47
0.3	15	213.03	100.47
5.3	20	227.96	108.76
15.3	30	250.34	121.18
25.3	40	267.24	130.56
35.3	50	281.01	138.20
45.3	60	292.71	144.69
55.3	70	302.92	150.36
65.3	80	312.03	155.42
75.3	90	320.27	160.15
85.3	100	327.83	164.19
105.3	120	341.25	171.63
115.3	130	347.32	175.00
125.3	140	353.02	178.17
135.3	150	358.42	181.16
185.3	200	381.79	194.13
235.3	250	400.95	204.77
285.3	300	417.33	213.86
485.3	500	467.01	241.43
585.3	600	486.21	252.09
685.3	700	503.10	261.46
885.3	900	531.98	277.49
1185.3	1200	567.22	297.05
1985.3	2000	635.82	335.12
2985.3	3000	695.36	368.16
3211.3	3226	706.10	374.12

CHESTERTON®

AREAS OF CIRCLES

Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area
1/64	.00019	35/64	.3068	2	3.142	1/2	15.90	8	50.27	13	132.7	18	254.5	23	415.5
1/32	.00077	41/64	.3223	1/16	3.341	9/16	16.35	1/8	51.85	1/8	135.3	1/8	258.0	1/8	420.0
3/64	.00173	21/32	.3382	1/8	3.547	5/8	16.80	1/4	53.46	1/4	137.9	1/4	261.6	1/4	424.6
		43/64	.3545	3/16	3.758	11/16	17.26	3/8	55.09	3/8	140.5	3/8	265.2	3/8	429.1
1/16	.00307														
5/64	.00479	11/16	.3712	1/4	3.976	3/4	17.72	1/2	56.74	1/2	143.1	1/2	268.8	1/2	433.7
3/32	.00690	45/64	.3883	5/16	4.200	13/16	18.19	5/8	58.43	5/8	145.8	5/8	272.4	5/8	438.4
7/64	.00940	23/32	.4057	3/8	4.430	7/8	18.67	1/4	60.13	3/4	148.5	3/4	276.1	3/4	443.0
		47/64	.4236	7/16	4.666	15/16	19.15	7/8	61.86	7/8	151.2	7/8	279.8	7/8	447.7
1/8	.01227														
9/64	.01553	3/4	.4418	1/2	4.909	5	19.63	9	63.62	14	153.9	19	283.5	24	452.4
5/32	.01917	49/64	.4604	9/16	5.157	1/16	20.13	1/8	65.40	1/8	156.7	1/8	287.3	1/4	461.9
11/64	.02320	25/32	.4794	5/8	5.412	1/8	20.63	1/4	67.20	1/4	159.5	1/4	291.0	1/2	471.4
		51/64	.4987	11/16	5.673	3/16	21.14	3/8	69.03	3/8	162.3	3/8	294.8	3/4	481.1
3/16	.02761														
13/64	.03241	13/16	.5185	3/4	5.940	1/4	21.65	1/2	70.88	1/2	165.1	1/2	298.6	25	490.9
7/32	.03758	53/64	.5386	13/16	6.213	5/16	22.17	5/8	72.76	5/8	168.0	5/8	302.5	1/4	500.7
15/64	.04314	27/32	.5591	7/8	6.492	3/8	22.69	3/4	74.66	3/4	170.9	3/4	306.4	1/2	510.7
		55/64	.5800	15/16	6.777	7/16	23.22	7/8	76.59	7/8	173.8	7/8	310.2	3/4	520.8
1/4	.04909														
17/64	.05542	7/8	.6013	3	7.069	1/2	23.76	10	78.54	15	176.7	20	314.2	26	530.9
9/32	.06213	57/64	.6230	1/16	7.366	9/16	24.30	1/8	80.52	1/8	179.7	1/8	318.1	1/4	541.2
19/64	.06922	29/32	.6540	1/8	7.670	5/8	24.85	1/4	82.52	1/4	182.7	1/4	322.1	1/2	551.5
		59/64	.6675	3/16	7.980	11/16	25.41	3/8	84.54	3/8	185.7	3/8	326.1	3/4	562.0
5/16	.07670														
21/64	.08456	15/16	.6903	1/4	8.296	3/4	25.97	1/2	86.59	1/2	188.7	1/2	330.1	27	572.6
11/32	.09281	61/64	.7135	5/16	8.618	13/16	26.53	5/8	88.66	5/8	191.7	5/8	334.1	1/4	583.2
23/64	.1014	31/32	.7371	3/8	8.946	7/8	27.11	3/4	90.76	3/4	194.8	3/4	338.2	1/2	594.0
		63/64	.7610	7/16	9.281	15/16	27.69	7/8	92.89	7/8	197.9	7/8	342.2	3/4	604.8
3/8	.1104														
25/64	.1198	1	.7854	1/2	9.621	6	28.27	11	95.03	16	201.1	21	346.4	28	615.8
13/32	.1296	1/16	.8866	9/16	9.968	1/8	29.46	1/8	97.21	1/8	204.2	1/8	350.5	1/4	626.8
27/64	.1398	1/8	.9940	5/8	10.32	1/4	30.68	1/4	99.40	1/4	207.4	1/4	354.7	1/2	637.9
		3/16	1.108	11/16	10.68	3/8	31.92	3/8	101.6	3/8	210.6	3/8	358.8	3/4	649.2
7/16	.1503														
29/64	.1613	1/4	1.227	3/4	11.04	1/2	33.18	1/2	103.9	1/2	213.8	1/2	363.1	29	660.5
15/32	.1726	5/16	1.353	13/16	11.42	5/8	34.47	5/8	106.1	5/8	217.1	5/8	367.3	1/4	672.0
31/64	.1843	3/8	1.485	7/8	11.79	3/4	35.78	3/4	108.4	3/4	220.4	3/4	371.5	1/2	683.5
		7/16	1.623	15/16	12.18	7/8	37.12	7/8	110.8	7/8	223.7	7/8	375.8	3/4	695.1
1/2	.1963														
33/64	.2088	1/2	1.767	4	12.57	7	38.48	12	113.1	17	227.0	22	380.1	30	706.9
17/32	.2217	9/16	1.917	1/16	12.96	1/8	39.87	1/8	115.5	1/8	230.3	1/8	384.5	1/4	718.7
35/64	.2349	5/8	2.074	1/8	13.36	1/4	41.28	1/4	117.9	1/4	233.7	1/4	388.8	1/2	730.6
		11/16	2.237	3/16	13.77	3/8	42.72	3/8	120.3	3/8	237.1	3/8	393.2	3/4	742.6
9/16	.2485														
37/64	.2625	3/4	2.405	1/4	14.19	1/2	44.18	1/2	122.7	1/2	240.5	1/2	397.6	31	754.8
19/32	.2769	13/16	2.580	5/16	14.61	5/8	45.66	5/8	125.2	5/8	244.0	5/8	402.0	1/4	767.0
39/64	.2916	7/8	2.761	3/8	15.03	3/4	47.17	3/4	127.7	3/4	247.4	3/4	406.5	1/2	779.3
		15/16	2.948	7/16	15.47	7/8	48.71	7/8	130.2	7/8	250.9	7/8	411.0	3/4	791.7

CHESTERTON®

SEALING RECOMMENDATIONS FOR YOUR PLANT

REFER TO PAGE NUMBERS FOR DETAILS

Equipment	Chesterton Style	Name of Product	Size	Catalog Page

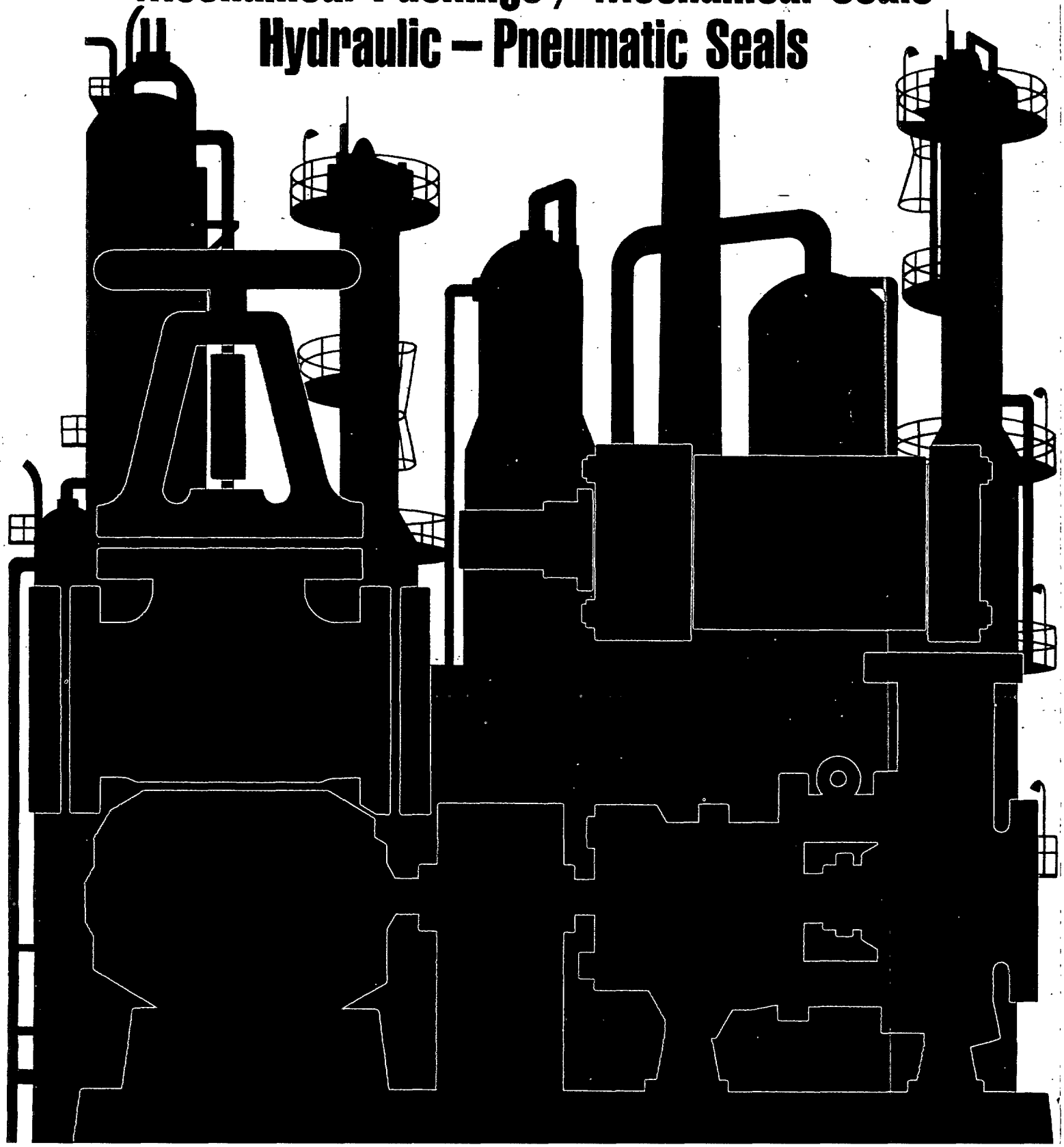
Suggested Buying Source

KIEFABERS

CHESTERTON®

PLAINTIFF'S EXHIBIT
CH-55

Mechanical Packings / Mechanical Seals
Hydraulic – Pneumatic Seals



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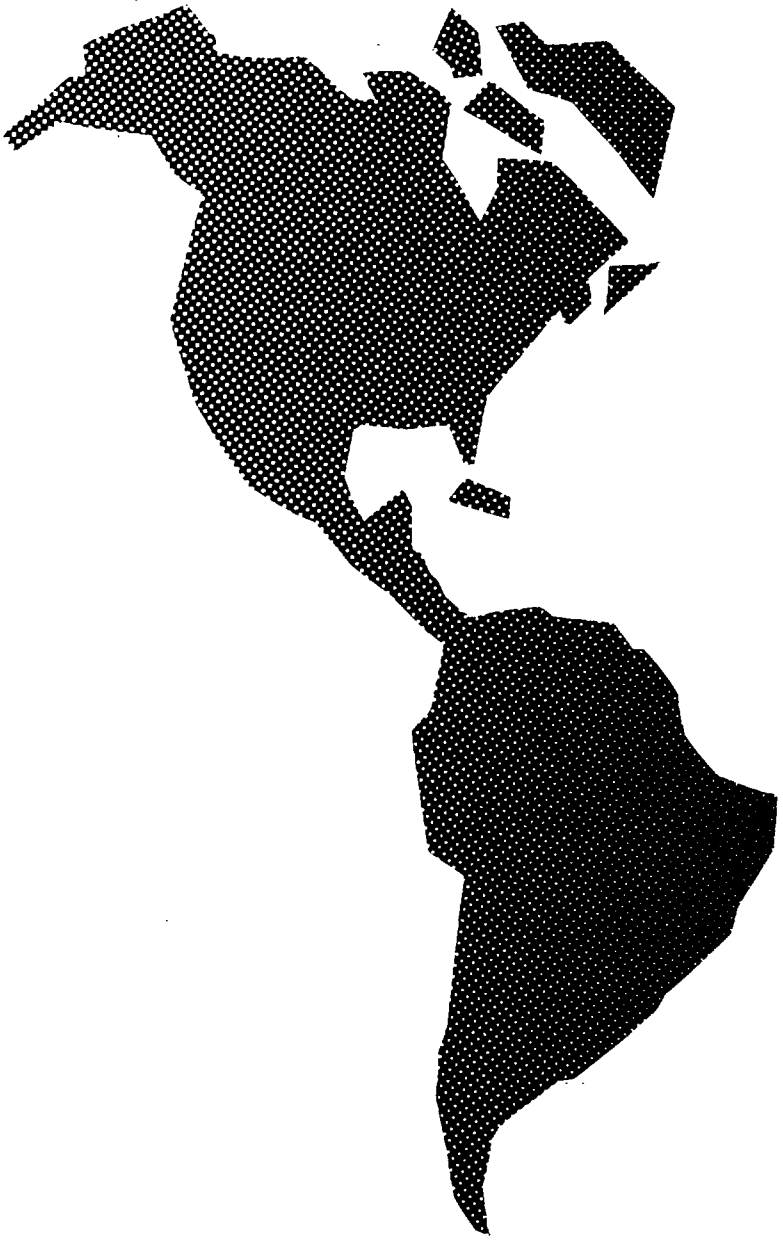

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Manufacturer of Mechanical Packings, Mechanical Seals, Hydraulic/Pneumatic Seals.
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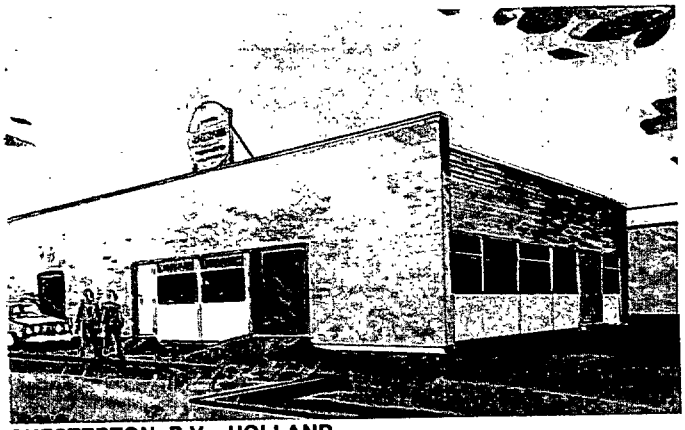

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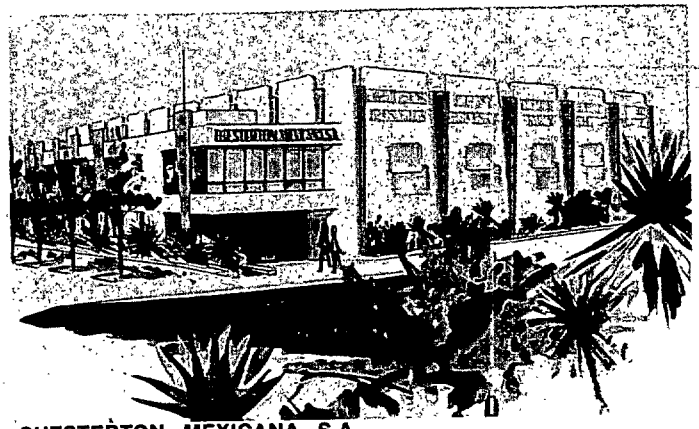

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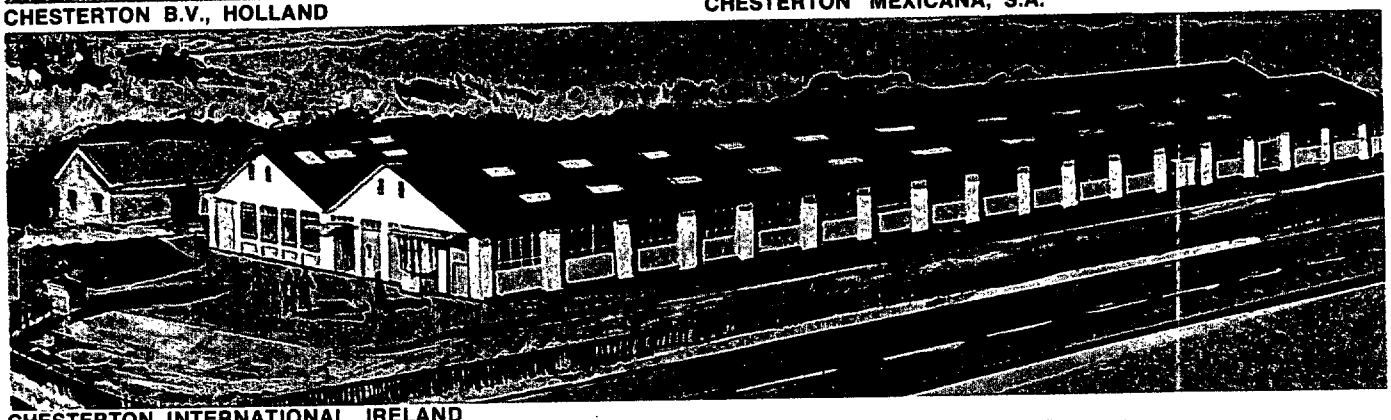

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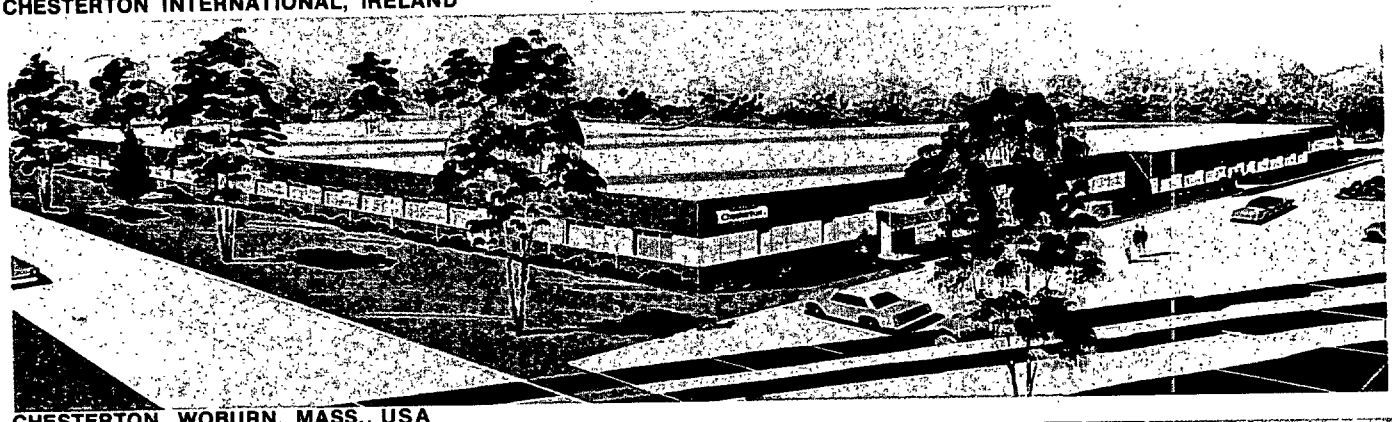

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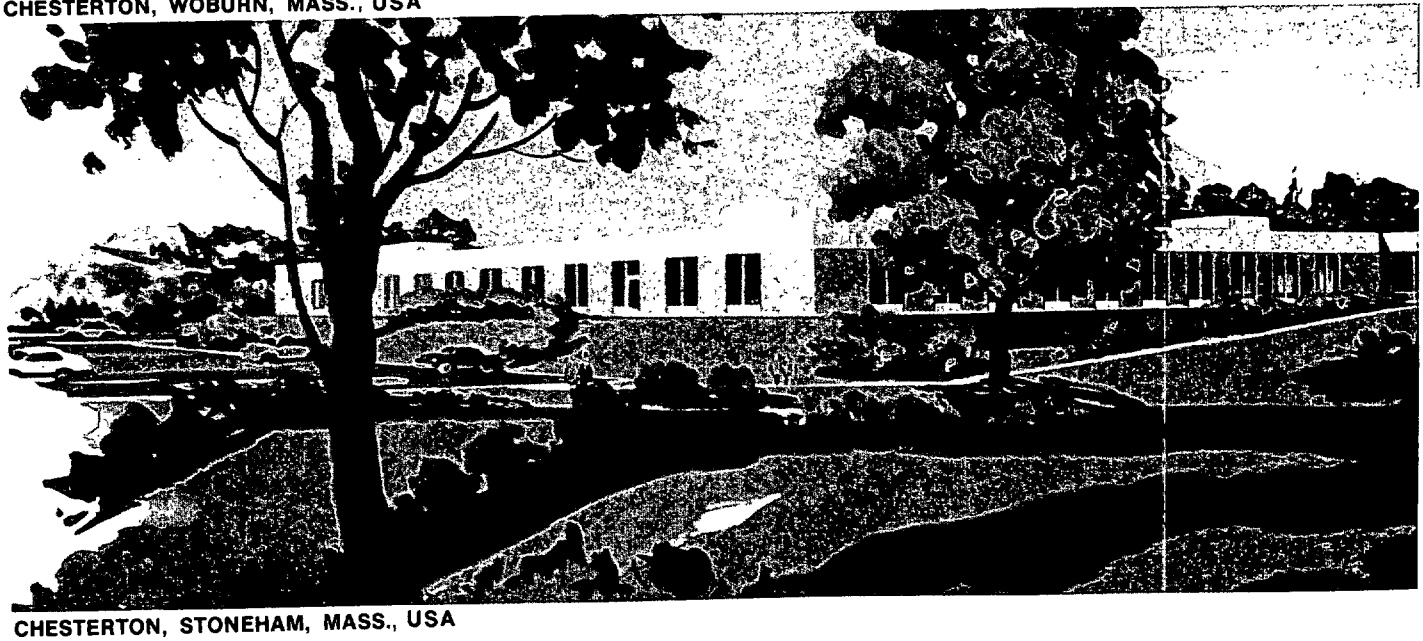

CHESTERTON, STONEHAM, MASS., USA

"It has always seemed uneconomical to us, particularly with today's high labor maintenance costs, to install other than the longest wearing, most serviceable packings and seals."

JOHN RUSKIN, the eminent philosopher, once wrote, "It is unwise to pay too much but worse to pay too little. When you pay too much, you lose a little money. That is all. When you pay too little, you sometimes lose all, because the thing you bought was incapable of doing the thing it was bought to do."

The philosophy of our family company, as it approaches its first one hundred years, is to place quality above price. We are not trying to produce the cheapest packings and seals, nor the most. Only the finest. It has always seemed uneconomical to us, particularly with today's high labor maintenance costs, to install other than the longest wearing, most serviceable packings and seals. For this reason we fabricate from only the longest and costliest of staples, from the most effective alloys; and with proven specialized lubricants developed through research. That is why CHESTERTON® MECHANICAL PACKINGS AND SEALS are universally recognized as the "World's Finest".

If you are not now using CHESTERTON PACKINGS, SEALS, or other of our fine products, we cordially invite you to join the large group of thoughtful users who have found our quality-controlled products outstanding in the field.

CHESTERTON Products are stocked locally by your Industrial Supply Distributor. This Distributor offers you a cheerful source of information on thousands of products he catalogs and carries for your convenience. He thereby reduces your inventory costs and provides a fast means of replenishing your supplies. He is one of the most important institutions in the structure of World Wide marketing. We are honored by our association with him and other recognized Industrial Supply Distributors throughout the world.

CHESTERTON is a participant in the following national and international organizations:

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National Fluid Power Association
Fluid Sealing Association
International Organization for Standardization
National Coatings and Paint Association
American Supply and Machinery Manufacturers Association
Technical Association of the Pulp and Paper Industry
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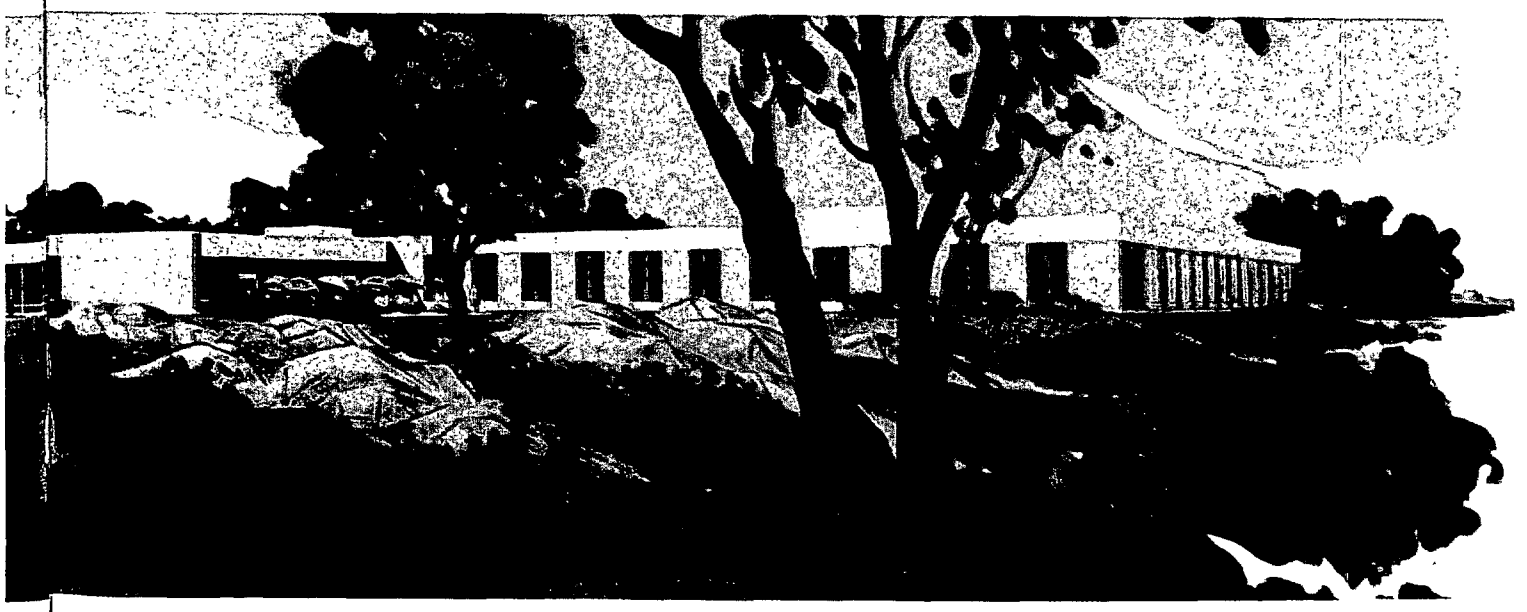

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Sizes — Contents — Availability
All products in this catalog are subject to change without notice.

Critical material shortages and other factors beyond our control may necessitate minor changes in the design of products described herein. Careful records are kept of these changes, and any customer needing critical information regarding a particular product is encouraged to contact CHESTERTON.

Caution as to Recommendations
All statements in this catalog pertaining to pressures, temperatures, speeds, and service ratings are based on general service experience. Because of the wide variety of applications of our products, and the wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of these products by the ultimate user, we do not encourage reliance on them without specific prior service experience.
For the reasons indicated, the A. W. Chesterton Company makes no warranties, expressed or implied, that products described are guaranteed for any length of time, for any measure of service, or for any specific purpose.

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CHESTERTON®

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7000	Supercup T.M.	66
8000	Super Parachute® — nested v-ring sets	65 & 74
9000	Back Up Rings	70
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500	Mechanical Seal	21
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880	Mechanical Seal	10 & 11
1210	Mechanical Seal	20
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Valvelon®	36
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* DuPont's registered trademark.

CHESTERTON®

CHESTERTON MAINTENANCE PRODUCT PACKAGING CHART

Product Name	Spray Can	Pint	Quart	Gallon	5 Gallon	25 Gallon	30 Gallon	42.5 Gallon	55 Gallon
Acrylic Floor Finish				84005	84006				84007
All Purpose Cleaner	80402	80403		80404	80405		80406		80407
All Purpose Cleaner No. 2					80415		80416		80417
Ammoniated Stripper & Cleaner				83904	83906		83908		83907
Anti-Seize Compound Nickel	82351				82354		82355		
Anti-Seize Compound	82301				82304		82305		
Belt-Flo®		80303	80304	80305	80306		80316		80307
Blue Layout Fluid	83402								
Carbon & Varnish Remover					82901	82911	82916	82912	82902
Chain Drive Pin & Bushing Lubricant	81902			81904	81906		81916		81907
Clear Acrylic Lacquer				86705	86706		86716		86707
Clear Protective Coating	84901				84906		84916		84907
Cold Galvanizing Compound	82601		82603	82604	82606	82607			
Color Coding Enamel — White	88920								
Color Coding Enamel — Purple	88921								
Color Coding Enamel — Blue	88922								
Color Coding Enamel — Green	88923								
Color Coding Enamel — Yellow	88924								
Color Coding Enamel — Orange	88925								
Color Coding Enamel — Red	88926								
Color Coding Enamel — Black	88927								
Concrete Curing Aid				86103	86104		86106		86105
Cutting Oil	80102			80104	80106		80116		80107
Descaler & Chemical Cleaner				88404			88416		88407
Detergent Lubricating Oil	81102	81103	81104	81105	81106		81116		81107
Disinfectant Cleaner #480	84802								
Dry Descaler & Chemical Cleaner									
Dry Lubricant	80708								
Dry Rust Remover									
Electric Motor Cleaner	80502			80515	80516		80518		80517
Electro Contact Cleaner	82501				82505		82506		82507
Freeze Spray	83101								
Furniture Polish	84602								
Gear Reducer Oil		80903	80904	80905	80906		80916		80907
Germicidal Foaming Cleaner #061				89505	89506		89516		89507
Glass Cleaner	84501	84502		84503					
Hand Cleaner		88903		88904	88905		88906		
Hand Scrubber		88913		88914	88915		88916		
Heavy Duty Emulsion Solvent				83505	83506		83516		83507
Heavy Duty Rust Guard	87702			87705	87706		87716		87707
Industrial & Marine Solvent				83203	83204		83206		83205
Industrial & Marine Paint — Light Grey	88928								
Industrial & Marine Paint — Blue Grey	88929								
Industrial & Marine Paint — Grey Primer	88940								
Industrial Solvent Degreaser Cleaner #262				86205	86206	86217	86216	86218	86207
Layout Fluid Remover	83302								
Low Foaming Cleaner & Wax Remover				83805	83806		83816		83807
Metal Cleaner & Corrosion Inhibitor					80206		80216		80207
Moisture Cured Urethane				85005	85006				
Moisture Cured Urethane Thinner				85405	85406				85407
Moisture Shield	82102			82104	82106		82116		82107
Mold Release	81801			81805	81806		81817		81807
Motor Degreaser				80505	80506	80527	80526	80528	80507
Multi-Purpose Industrial Solvent #208				83104	83105		83106		83107

For information on individual products see Industrial and Marine Maintenance Products Catalog '77.

CHESTERTON®

CHESTERTON MAINTENANCE PRODUCT PACKAGING CHART *(continued)*

Product Name	Spray Can	Pint	Quart	Gallon	5 Gallon	25 Gallon	30 Gallon	425 Gallon	55 Gallon
Paint Stripper			88704	88705	88706		88716		88707
Paintable Release Agent	81802				81809		81819		81811
Penetrant & Lubricant	82706			82703	82704		82716		82705
Penetrating Oil #620	86200								
Phosphate Free Cleaner #360				83604	83605		83606		83607
Pine Air Refresher	86300								
Pump & Valve Machinery Cleaner	88802			88804	88805	88815	88806	88817	88807
Rustsolvo®		81303	81304	81305	81306		81316		81307
Safety Solvent Cleaner #261	85602			85605	85606	85617	85616	85618	85607
Silicone Lubricant	81502			81504	81505		81515		81506
Silicone Spray Compound	81507								
Solvent Emulsion Degreaser #253				85705	85706		85716		85707
Spot Remover	84702								
Spraflex®	81702			81704	81706		81716		81707
Spragrip®	80308								
Sprasolvo®	81308								
Stainless Steel Cleaner	84302								
Super Rust Remover					85906		85916		85907
Tapping Compound — Aluminum	85201	85203	85204	85205	85206		85216		85207
Tapping Compound	85101	85103	85104	85105	85106		85116		85107
Teflon*Coating	82808			82804	82805		82806		82807
Universal Primer**				88505	88507				88508
Urethane Floor Enamel — Clear				87305	87306				87307
Urethane Floor Enamel — Black				87205	97206				87207
Urethane Floor Enamel — Medium Brown				87805	87806				87807
Urethane Floor Enamel — Forest Green				87905	87906				87907
Urethane Floor Enamel — Light Grey				87605	87606				87607
Urethane Floor Enamel — Medium Grey				87505	87506				87507
Urethane Floor Enamel — Tile Red				87405	87406				87407
Urethane Floor Enamel — Raw Sienna				88605	88606				88607
Urethane Floor Enamel — White				87408	87409				87410
Urethane Floor Enamel — Yellow				87808	87809				87810
Vinyl, Leather & Plastic Cleaner	83702								
White Grease**		85302		85303	85304				
Wood Panel Cleaner	84202								

* DuPont's Registered Trademark

Product Name	Container Size	Product Reorder No.
Anti-Seize Compound-Nickel	8 oz. Tube	82356
Anti-Seize Compound Nickel	1 lb. Can	82352
Anti-Seize Compound	8 oz. Tube	82306
Anti-Seize Compound	1 lb. Can	82302
Cold Galvanizing Compound	½ Pint (1½ lb.)	82602
Dry Descaler & Chemical Cleaner	5 lb. Can	84406
Dry Descaler & Chemical Cleaner	50 lb. Drum	84407
Dry Rust Remover	5 lb. Can	84106
Dry Rust Remover	50 lb. Drum	84107
Universal Primer**	2 gal. Can	88506
White Grease**	6 oz. Tube	85306
White Grease**	14½ oz. Cartridge	85301
Equipment Maintenance Kit	Kit	80005
Pump & Valve Maintenance Kit	Kit	80003
Color Coding Enamel Kit	Kit	80004

For information on individual products see Industrial and Marine Maintenance Products Catalog '77.

MAKE THIS SIMPLIFIED CHART YOUR GUIDE

ROTARY OR CENTRIFUGAL SHAFTS

CHESTERTON® MECHANICAL SEALS are available for all shaft services

For single inside seals we suggest styles 500, 770, 880
For outside seals we suggest styles ..... 440 or 500
For double seals we suggest styles ..... 241, 500, or 1210
For proper method of handling each pumped media we suggest you consult AWC Co.

SERVICE	RECOMMENDED PACKINGS
Water up to 212°F. (100°C.)	One, 200, 322, 328, 370, 375, 1722
Water over 212°F. (100°C.)	One, 200, 322, 328, 370, 375, 1722
Ammonia and other refrigerants	200, 320, 555
Oil, gasoline, solvents: —	
Up to 450°F. (230°C.)	One, 200, 322, 328, 370, 375, 555, 1722
Over 450°F. (230°C.)	One, 370, 375, 666
Chemicals: —	
The milder acids and alkalies, pH values 5–9**	One, 200, 322, 328, 370, 375, 1722
Strong acids, pH values 1–4**	One, 200, 328, 370, 375
Strong caustics, pH values 10–14	One, 200, 326, 328, 370, 375
Food Processing	1725

RECIPROCATING RODS/VALVES

SERVICE	RECOMMENDED PACKINGS
Hot or cold water	
Rods, general service	200, 322, 324, 600-W, 1722, 1724, G.T.P.
Pistons, inside packed pumps	90
Plungers and Rams, outside packed	600, 6000, G.T.P.
Steam to 115 P.S.I. (8 Kg/cm²)	64, 200, 324, 350, 600-W, 1724, G.T.P.
Steam over 115 P.S.I. (8 Kg/cm²)	
For either moving rods or stationary valves	ONE, 64, 200, 324, 364-T, 370, 375, 600-S, 1724, 5010, G.T.P.
Stationary valve stems: —	
Up to 300 P.S.I. (21 Kg/cm²) 500°F. (260°C.)	64, 324, 1000, 1500, 1724, G.T.P.
Valves over 500°F. (260°C.)	1000, 1500, G.T.P.
Compressed air and hot gases	ONE, 64, 350, 5010, G.T.P.
Ammonia and other refrigerants	200, 320, 555
Oil, gasoline, solvents: —	
Up to 450°F. (230°C.)	ONE, 200, 322, 324, 370, 375, 555, 1722, 1724, G.T.P.
Over 450°F. (230°C.)	ONE, 370, 375, 666, G.T.P.

Chemicals: — Same recommendations as for Chemicals listed above under Rotary Shafts.

SHEET PACKINGS

SERVICE	RECOMMENDED PACKINGS
Hot or cold water	100
Steam to 115 P.S.I. (8 Kg/cm²)	100
Steam over 115 P.S.I. (8 Kg/cm²) including superheat, compressed air, hot gases	210, 211, 225, 235, 281
Chemicals: —	
Up to 212°F. (100°C.) — Cold oils, greases, gasoline, hydrocarbons, alcohols, ketones, lacquers, distillates.	270, 2000
Over 212°F. (100°C.) — Hot solvents and distillates as listed above; freon	270, 2000
The milder acids and alkalies, pH values 5–9	210, 211, 225, 235
Strong acids, pH values 1–4	260, 2000
Strong caustics, pH values 10–14	210, 211
Teflon* Sheet	2000
Manhole and Handhole boiler plates, doors and covers of vulcanizers, heaters, and kettles	250, 251, 290, 291-N, 382

** For Applications Involving Nitric Acid — Consult Factory.

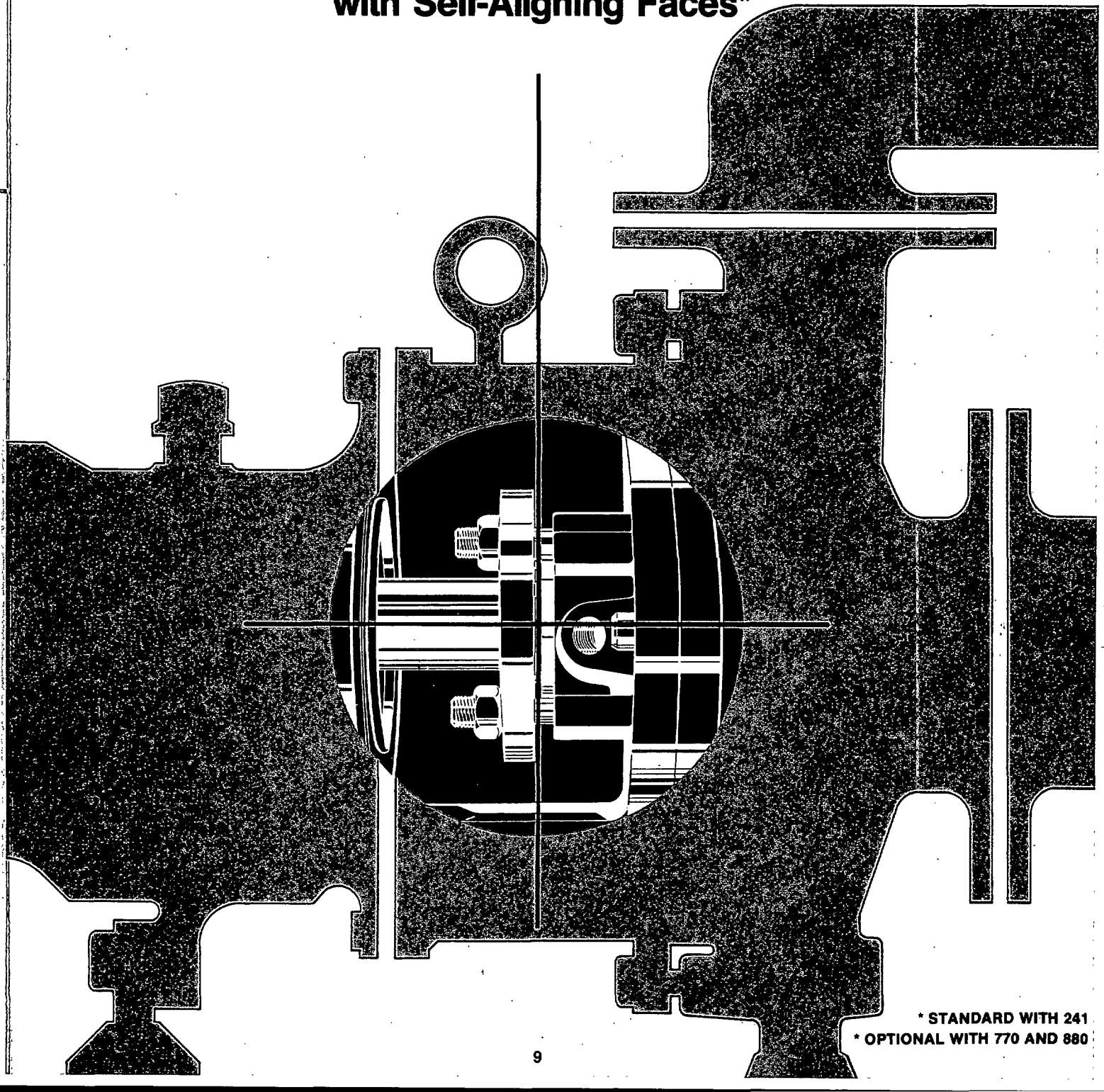
*DuPont registered trademark

CHESTERTON®

OFF-THE-SHELF MECHANICAL

SEALS

with Self-Aligning Faces*



* STANDARD WITH 241
* OPTIONAL WITH 770 AND 880

1 MECHANICAL SEALS

CHESTERTON

880 SEAL

OFF-THE-SHELF

(AVAILABLE WITH PATENTED SELF-ALIGNING STATIONARY UNIT)

ANTI-CLOG, highly-reliable seal for water, fuels, oils, chemicals and slurries.

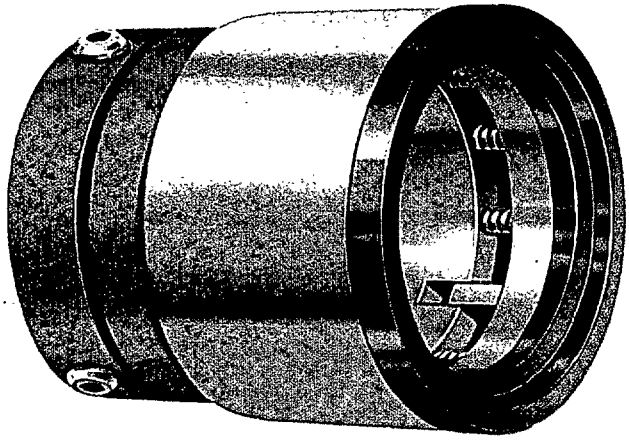
"The Maintenance Man's Seal . . ."

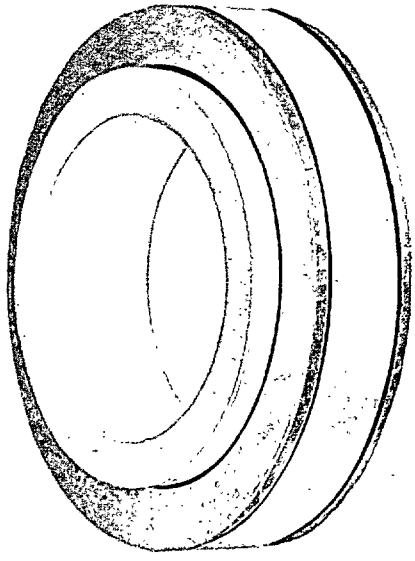
The best ANTI-CLOG, SELF-CLEANING seal on the market. Where conventional seals are partially covered, the 880 Seal is open to continual self-washing by the fluid, all the way to the o-ring. This unique CHESTERTON 880 design minimizes the area where particles in the fluid can hang-up or clog the seal. In addition, to insure that hang-up will not occur, the CHESTERTON 880 is Teflon* coated (green area) where the o-ring must move.

* DuPont's Registered Trademark.

880 Seal—1976 Top Honor John C. Vaaler Award Winner

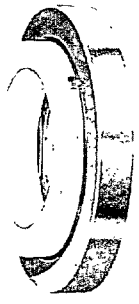
- FITS ALL AVS PUMPS
- Interchangeable with nearly any seal or packing without pump or gland modification to save you costly engineering time.
- Proper installation is assured as all 880 Rotary Units, regardless of the shaft size, are the same length. The back of the 880 Rotary is always positioned 1¾" (44,5 mm) from the stationary face. For maintenance, learning how to install an 880 seal is only a simple matter of installing one seal, then all other 880's will install the same way.
- Will not fret shaft or sleeves — no hidden maintenance expenses for replacement shafts or sleeves.
- Cooler running with longer wearing life is assured with CHESTERTON 880 seal faces because they are balanced within their own component parts. This is the same type of design required by the government, aircraft and the petroleum industry.
- 100% quality control is maintained by inspection of all critical and semi-critical dimensions of 880 seals.
- Highest-quality, protective packaging brings 880 Seals to you in "mint condition."



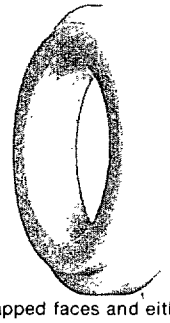


"OFF-THE-SHELF" STATIONARY UNITS FOR 880, 770, 440, SEALS

SELF-ALIGNING "L" SHAPE STATIONARY
Available in Ceramic with 316 Stainless Steel Adapter

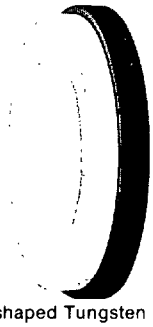


"L" SHAPE STATIONARY
Available in Ceramic or Tungsten Carbide Plated 316 Stainless Steel

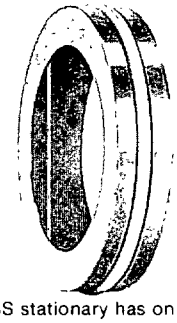


The Ceramic "L" shaped stationary has two lapped faces and either can be used.

BUNA-N SQUARE MOUNT STATIONARY
Available in Ceramic



O-RING MOUNT STATIONARY
Available in Solid or Plated Tungsten Carbide



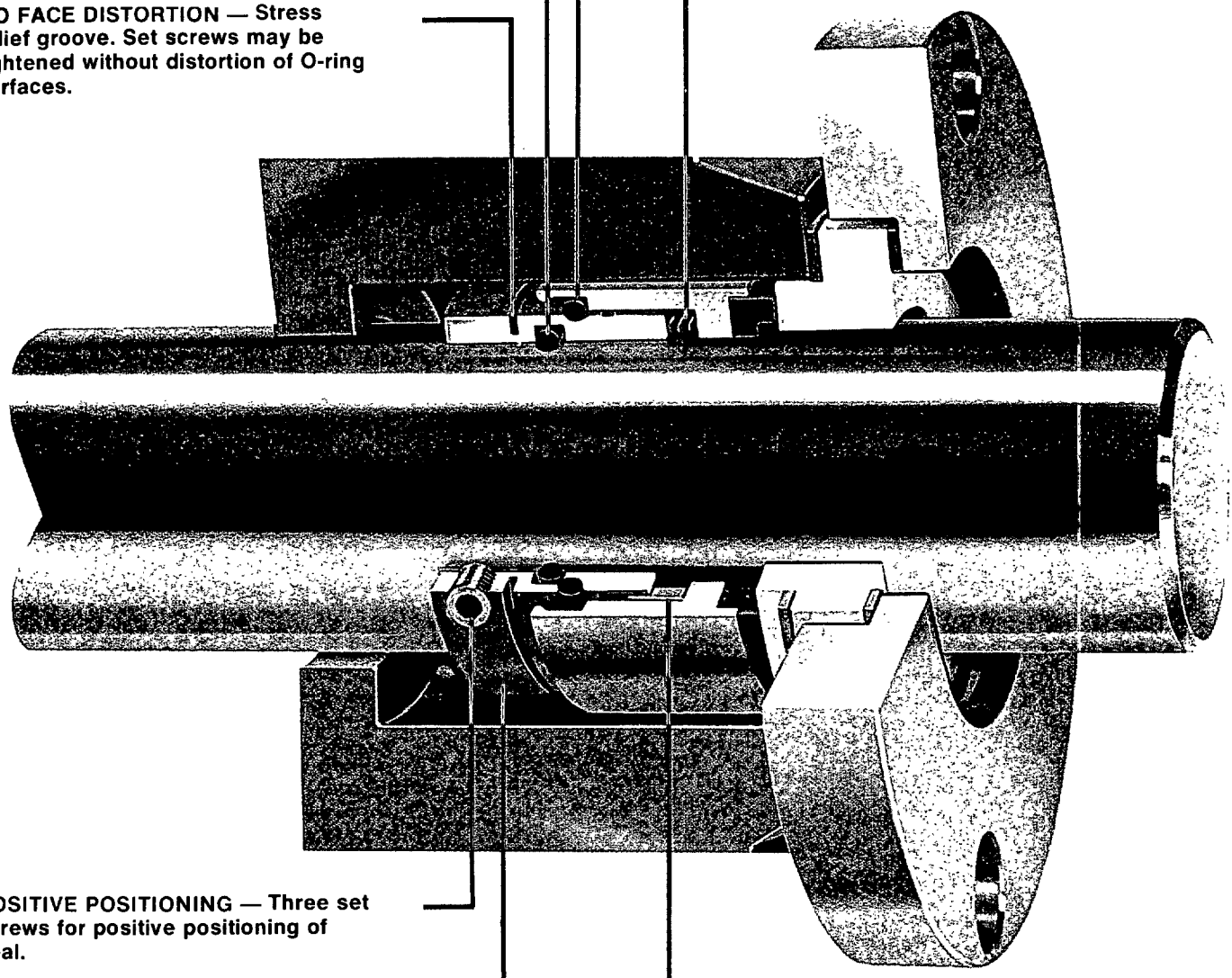
The "L" shaped Tungsten Carbide Plated/316SS stationary has only one lapped face. You must specify either A or B side (A is the smaller face — B is the larger).

AVOIDS CLOGGING — Dynamic O-ring is located at back of carbon holder, minimizing buildup of particles and possible clogging of seal.

NO SHAFT WEAR — Static O-ring eliminates any grooving or fretting of shaft.

NO FACE DISTORTION — Stress relief groove. Set screws may be tightened without distortion of O-ring surfaces.

MULTIPLE-NONCLOGGING SPRINGS Even face loading eliminates uneven face wear. Springs isolated from gummy or clogging fluids will stay clean and operational.



POSITIVE POSITIONING — Three set screws for positive positioning of seal.

SELF-WASHING ALL THE WAY TO THE O-RING — Inner sleeve coated with Teflon* to prevent pumped fluid particles from sticking and possibly hanging up seal.

LONGER SEAL LIFE — Lug drive for maximum wear resistance due to pump vibration or misalignment.

TECHNICAL DATA

MATERIALS

Sleeve and outer barrel — Type 316 stainless steel
Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton* and EPR supplied with seal (Viton* installed as standard)
Rotating Face — Carbon

TEMPERATURE

−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES

28" (711 mm) Hg vacuum to 500 psig (35 kg/cm²)

SIZES

The 880 seal is available in inch sizes from 1" thru 2⅝" in ⅛" increments and metric sizes of 25, 28, 30, 35, 38, 40, 45, 50, 55 millimeters.

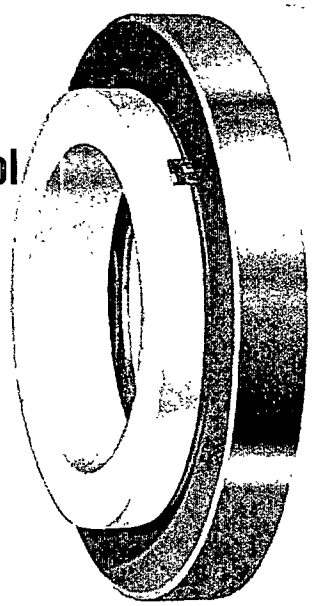
* DuPont's Registered Trademark.

CHESTERTON®

SEALS with SELF-ALIGNING STATIONARIES

hold sealing faces in contact/provide superior leakage control

PATENT NO. 3,972,536



Automatically corrects for misaligned pump shaft or stuffing box:

Controls leakage at start-ups due to:

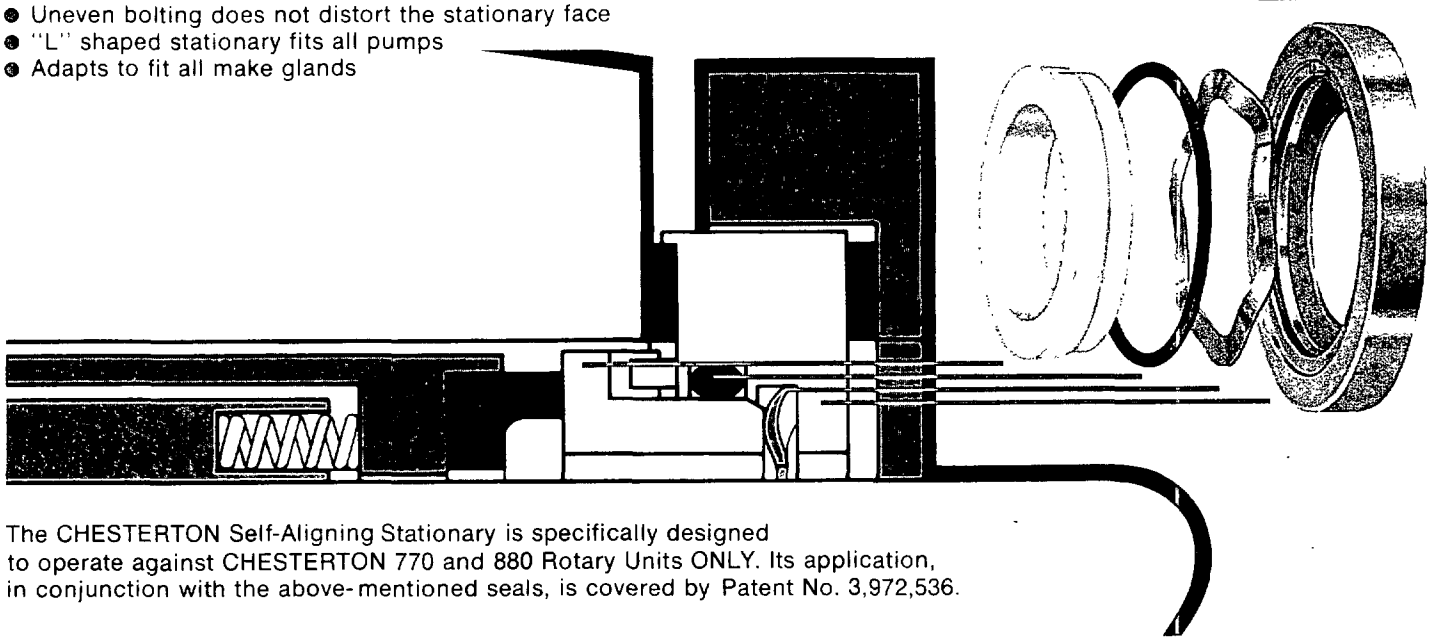
- Shaft misalignment
- Uneven bolting of stationary unit
- Misalignment of stuffing box face

Reduces face wear due to:

- Abrasive particles (slurries) getting between faces

Makes seal installations easier:

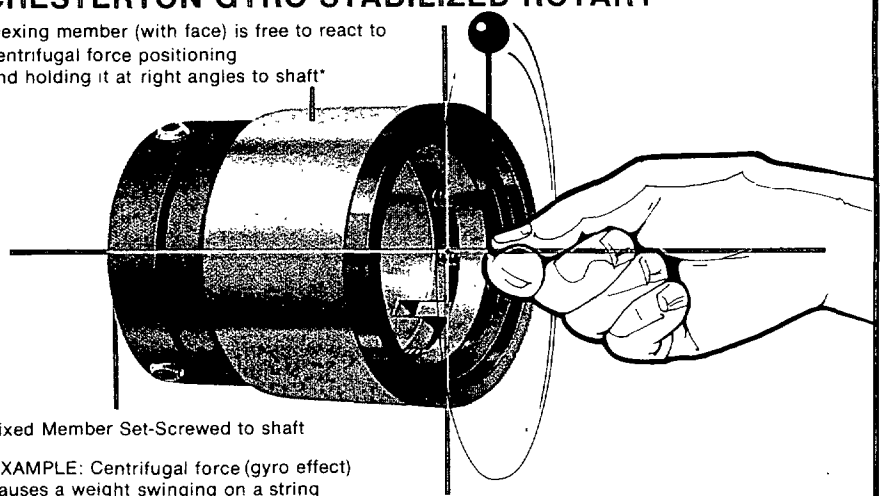
- Makes alignment automatic. Eliminates trial and *error methods*
- Uneven bolting does not distort the stationary face
- "L" shaped stationary fits all pumps
- Adapts to fit all make glands



The CHESTERTON Self-Aligning Stationary is specifically designed to operate against CHESTERTON 770 and 880 Rotary Units ONLY. Its application, in conjunction with the above-mentioned seals, is covered by Patent No. 3,972,536.

CHESTERTON GYRO STABILIZED ROTARY

Flexing member (with face) is free to react to centrifugal force positioning and holding it at right angles to shaft*

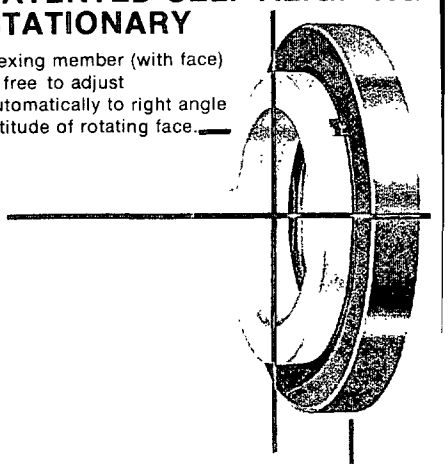


Fixed Member Set-Screwed to shaft

*EXAMPLE: Centrifugal force (gyro effect) causes a weight swinging on a string to rotate at right angles to the hand holding it.

CHESTERTON PATENTED SELF-ALIGNING STATIONARY

Flexing member (with face) is free to adjust automatically to right angle attitude of rotating face.



Fixed member bolted to stuffing box

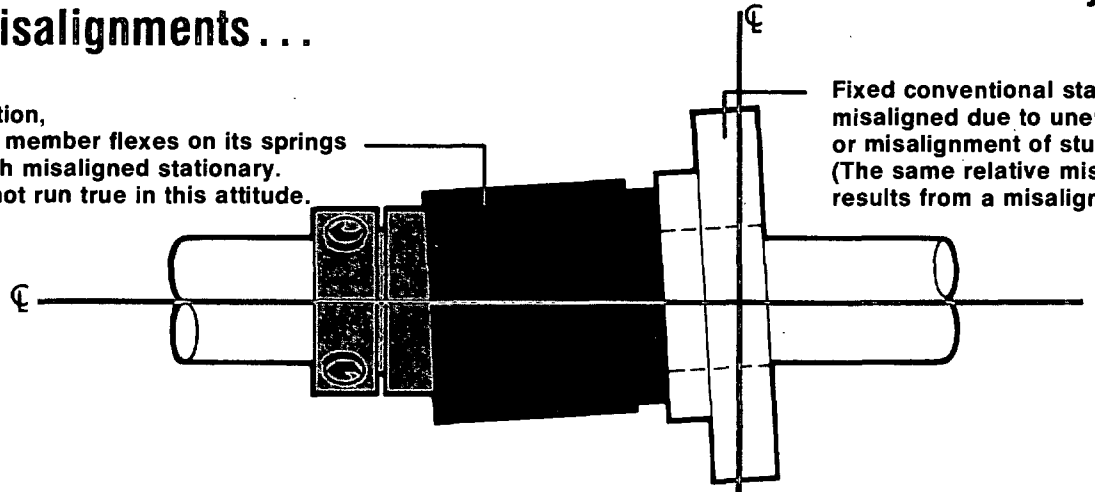
Start up leakage from a mechanical seal is usually caused by excessive misalignment between the pump stuffing box face and the shaft.

(Above .010 inches (0,25 mm) T.I.R. causes leakage for most mechanical seals at normal pump speeds.) CHESTERTON® SELF-ALIGNING STATIONARY overcomes this problem.

How the CHESTERTON® SELF-ALIGNING STATIONARY automatically corrects face misalignments . . .

FIG. 1

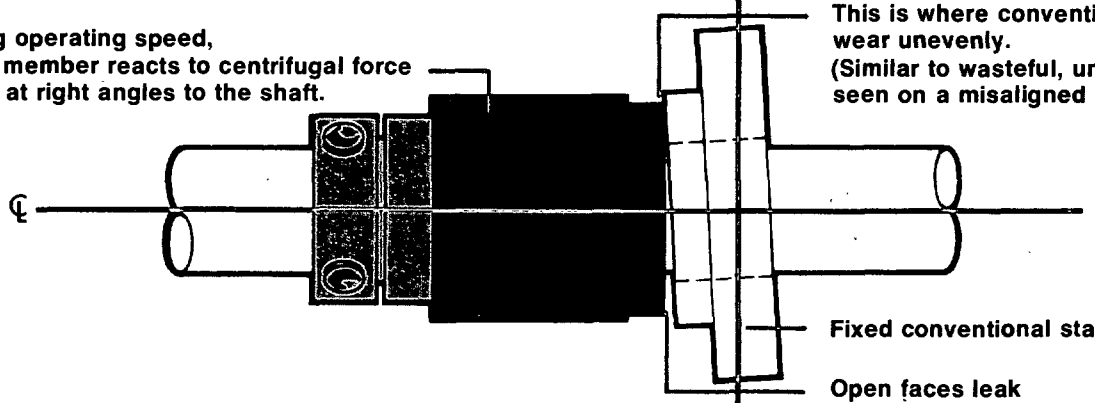
On installation,
rotary face member flexes on its springs
to mate with misaligned stationary.
But could not run true in this attitude.



Fixed conventional stationary misaligned due to uneven bolting or misalignment of stuffing box face. (The same relative misalignment results from a misaligned shaft.)

FIG. 2

At start up,
on reaching operating speed,
rotary face member reacts to centrifugal force
and is held at right angles to the shaft.



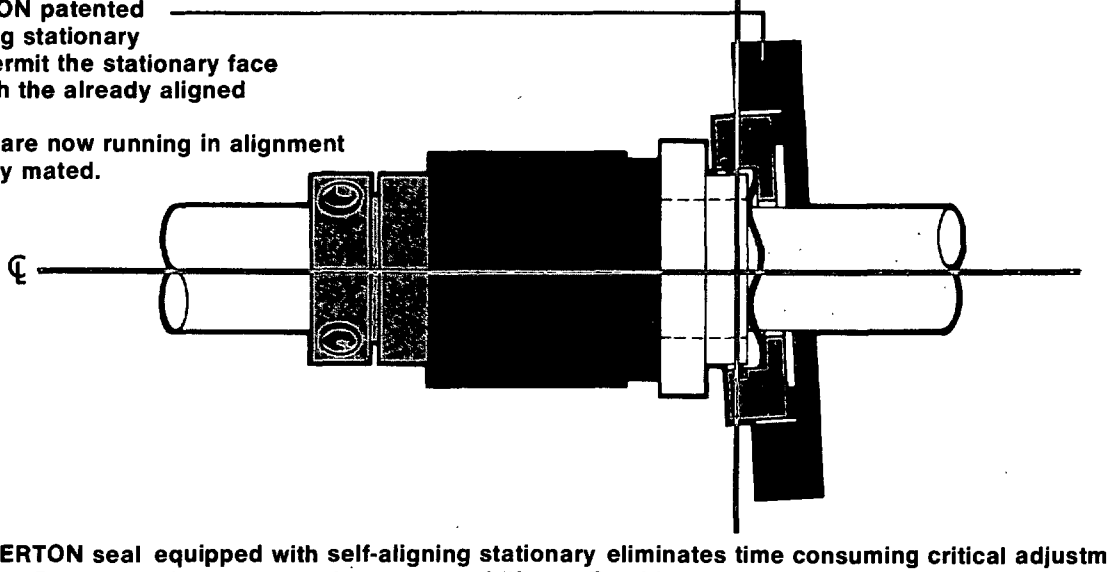
This is where conventional seals wear unevenly.
(Similar to wasteful, uneven wear seen on a misaligned auto tire)

Fixed conventional stationary

Open faces leak

FIG. 3

CHESTERTON patented
Self-Aligning stationary
flexes to permit the stationary face
to mate with the already aligned
rotary face.
Both faces are now running in alignment
and will stay mated.



Any CHESTERTON seal equipped with self-aligning stationary eliminates time consuming critical adjustments for alignment . . . Decreases face wear . . . Increase seal life . . . Provides superior leakage control

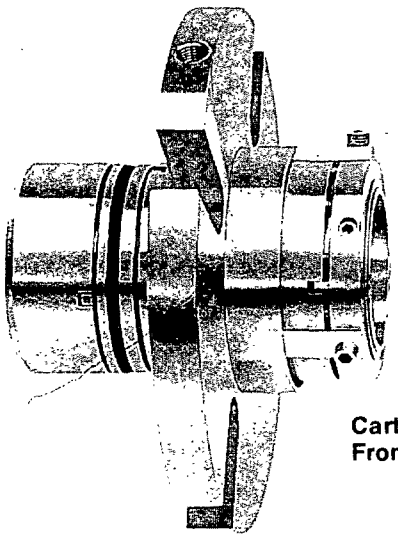
1 MECHANICAL SEALS

CHESTERTON®

241 DOUBLE SEAL

OFF-THE-SHELF / SELF-ALIGNING

DOUBLE SEALING MADE EASY
for pumps, mixers or agitators
handling regular, dangerous or costly fluids or gases



Cartridge Unit — Self-Contained From Shelf to Shaft

OPERATING ADVANTAGES OF CHESTERTON 241 SEALS over conventional double seals:

Fits all AVS pumps and most others without equipment alteration.

Off-the-shelf availability eliminates waiting time, reduces inventory requirements.

Double balanced inboard seal automatically adjusts and hydraulically balances whether barrier fluid pressure is higher or lower than pumped fluid pressure.

Cooler running — longer lasting with both the inboard and outboard seals balanced to reduce friction, heat and wear.

Excellent slurry seal with the inboard seal open to continual washing by the product, centrifugal force retarding any build-up and the location of the springs out of the fluid protecting them from clogging or corrosion.

INSTALLATION ADVANTAGES OF CHESTERTON 241 SEALS over conventional double seals:

Cartridge mounted for easy installation saves time, avoids installation mistakes and gets equipment back into operation quickly.

Self-aligning exclusive design permits less critical installation. Can take three to four times the misalignment of ordinary double seals. Allow for greater shaft misalignment and end play.

No expensive circulating system required to pressurize, cool or warm. Pumped fluid may be utilized in many applications.

How to apply the CHESTERTON 241 DOUBLE SEAL in the pulp, paper, petroleum, chemical and other industries:

DOUBLE SEAL ARRANGEMENT



BARRIER FLUID PRESSURE HIGHER THAN PRODUCT PRESSURE

- Normally prevents leakage of hazardous, toxic, costly and other pumped fluids (vinyl chloride, etc.) into atmosphere.
- Provides lubrication when product is a nonlubricating fluid below.6 specific gravity (light hydrocarbons, etc.).
- Provides lubrication when product does not stay in contact with seal (top entering agitators, mixers, etc.).

TANDEM SEAL ARRANGEMENT



BARRIER FLUID PRESSURE LOWER THAN PRODUCT PRESSURE

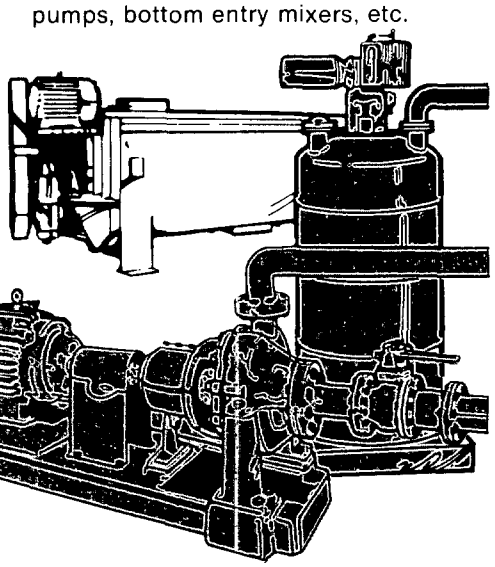
- Effective method of reducing pressure differential across seal faces. Reduced face wear extends seal life.

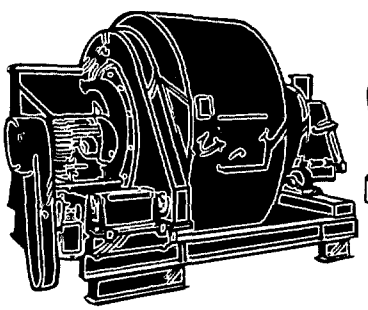
SPARE SEAL ARRANGEMENT



VERY LOW BARRIER FLUID PRESSURE

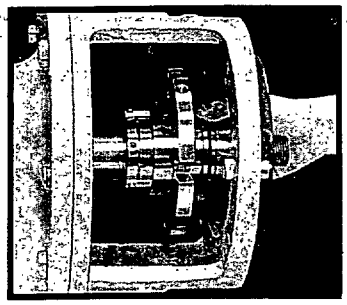
- Outboard seal "idles" at low pressure as an installed spare with face wear minimized by use of a clean, lubricating barrier fluid. Spare automatically becomes operational when inboard seal wears out. Avoids unscheduled shut-downs of batch processing. Complete seal can be replaced at scheduled maintenance time.
- Reduces shut down time of valuable or hard-to-tear down double ended pumps, bottom entry mixers, etc.



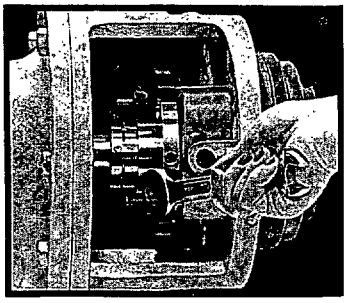


DOUBLE SEALING MADE EASY

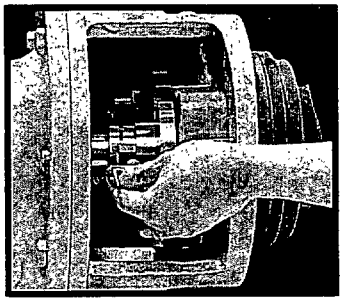
● No engineering ● No measurements ● No adjustments for alignment



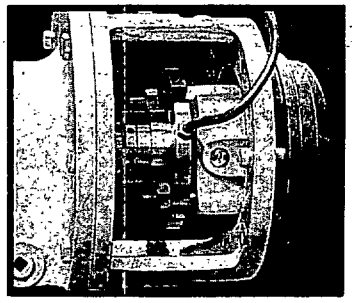
Slide on



Bolt down gland



Tighten 3 set screws and remove centering devices



Pressurize and start up!

Inboard stationary unit.

Inboard rotary.

SPRINGS — All four faces are spring loaded. Springs are not in contact with pumped fluid.

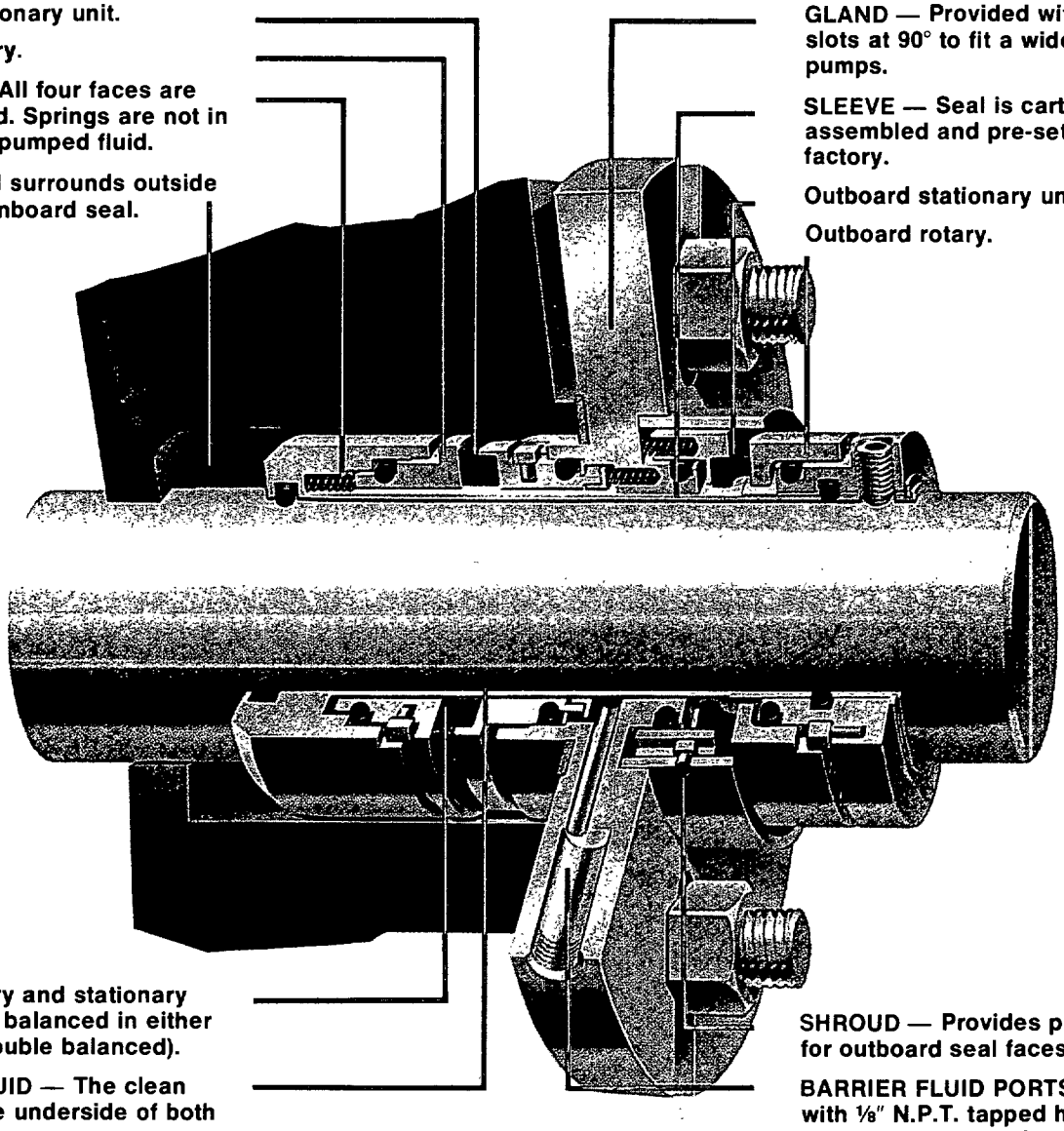
Pumped fluid surrounds outside diameter of inboard seal.

GLAND — Provided with 4 bolt slots at 90° to fit a wide variety of pumps.

SLEEVE — Seal is cartridge assembled and pre-set at the factory.

Outboard stationary unit.

Outboard rotary.



Inboard rotary and stationary hydraulically balanced in either direction. (Double balanced).

BARRIER FLUID — The clean fluid is on the underside of both seals.

SHROUD — Provides protection for outboard seal faces.

BARRIER FLUID PORTS — 3 Ports with ⅛" N.P.T. tapped holes are provided in every gland.

TECHNICAL DATA

MATERIALS

All metal parts — Type 316 stainless steel.
Set screws — 316 stainless steel.
Springs — Hastelloy C.
O-rings — Viton* and Ethylene Propylene (EPR) supplied with seal.
Rotating Face — Plated tungsten carbide.
Stationary Face — Carbon

TEMPERATURE

−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES

To 400 psig (28 kg/cm²) depending upon shaft size and RPM.

* DuPont's Registered Trademark.

MECHANICAL SEALS

CHESTERTON®

770 SEAL

OFF-THE-SHELF / FITS ALL AVS PUMPS

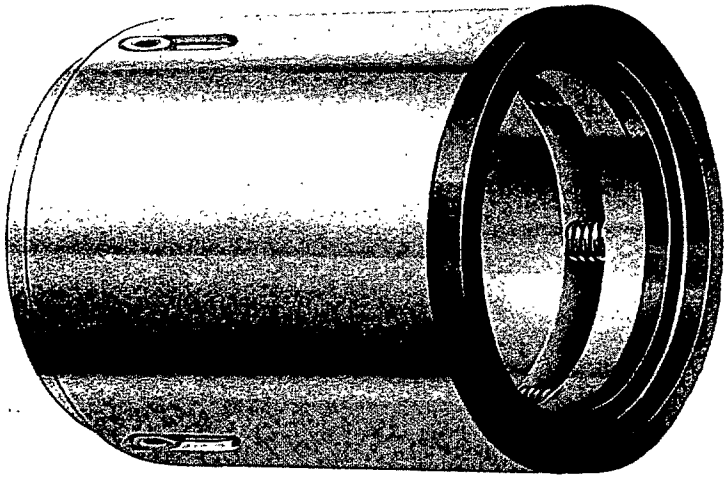
(AVAILABLE WITH PATENTED SELF-ALIGNING STATIONARY UNIT)

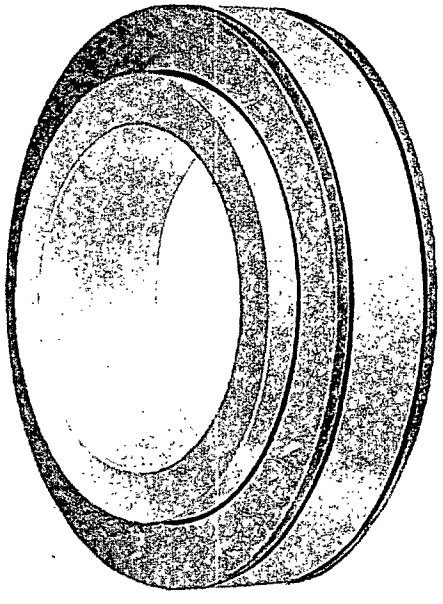
Off-the-shelf GENERAL SERVICE seal covers 90% of all pump applications.

- Interchangeable with nearly any seal or packing used in your equipment without pump or gland modification — saves costly engineering charges.
- Engineered seal advantages without incurring their cost — already done for you.
- Proper installation assured by complete packaging and standardization. All seals, regardless of size, are the same length requiring only one, simple installation dimension. Seals are self-positioning and self-adjusting.
- Internally balanced within its own parts, therefore, reducing face wear, increasing seal life, reducing pump maintenace costs.
- Will not fret shafts or sleeves — saving hidden, spare-parts maintenance costs.
- Maximum versatility of design and parts reduces inventory requirements. Decreases risk of misapplication. Saves time and money!

CHESTERTON 770 SEAL design permits maximum utilization, plant-wide. It is used for water, oils, solvents and most chemicals. It is internally balanced permitting use at pressures up to 500 psig (35 kg/cm²). This wide service range reduces your inventory requirements and decreases the risk of misapplication.

770 Seal —1972 Top Honor John C. Vaaler Award Winner

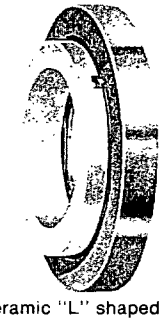




"OFF-THE-SHELF" STATIONARY UNITS FOR 880, 770, 440, SEALS

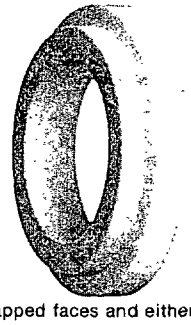
SELF-ALIGNING "L" SHAPE STATIONARY

Available in Ceramic with 316 Stainless Steel Adapter



"L" SHAPE STATIONARY

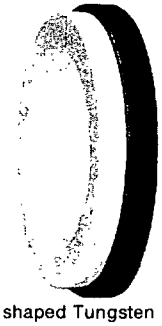
Available in Ceramic or Tungsten Carbide Plated 316 Stainless Steel



The Ceramic "L" shaped stationary has two lapped faces and either can be used.

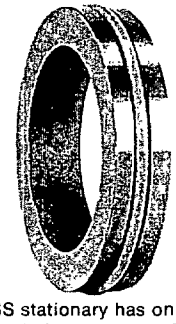
BUNA-N SQUARE MOUNT STATIONARY

Available in Ceramic



O-RING MOUNT STATIONARY

Available in Solid or Plated Tungsten Carbide

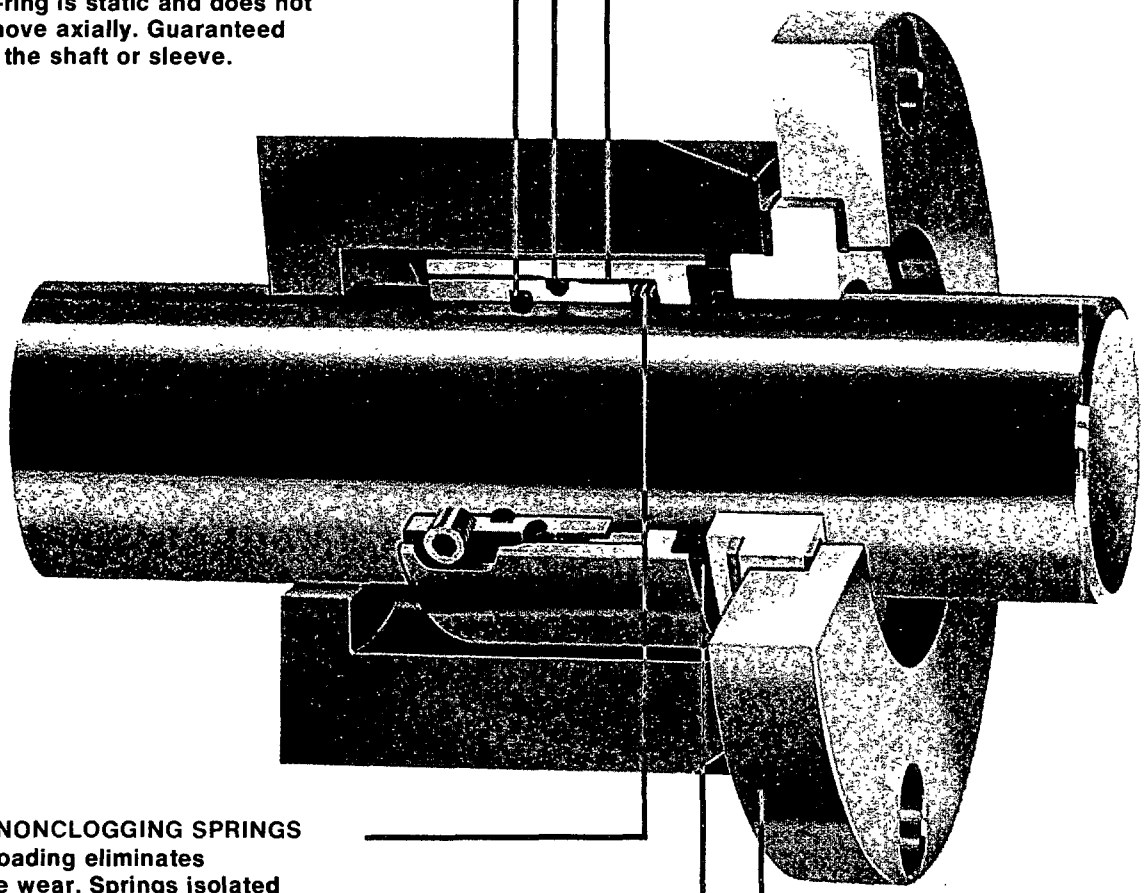


The "L" shaped Tungsten Carbide Plated/316SS stationary has only one lapped face. You must specify either A or B side (A is the smaller face — B is the larger).

PREVENTS COMMON HANG-UPS — The factory set, controlled compression on the dynamic o-ring assures optimum squeeze.

CANNOT FRET or SCORE SHAFT — The shaft o-ring is static and does not vibrate or move axially. Guaranteed not to wear the shaft or sleeve.

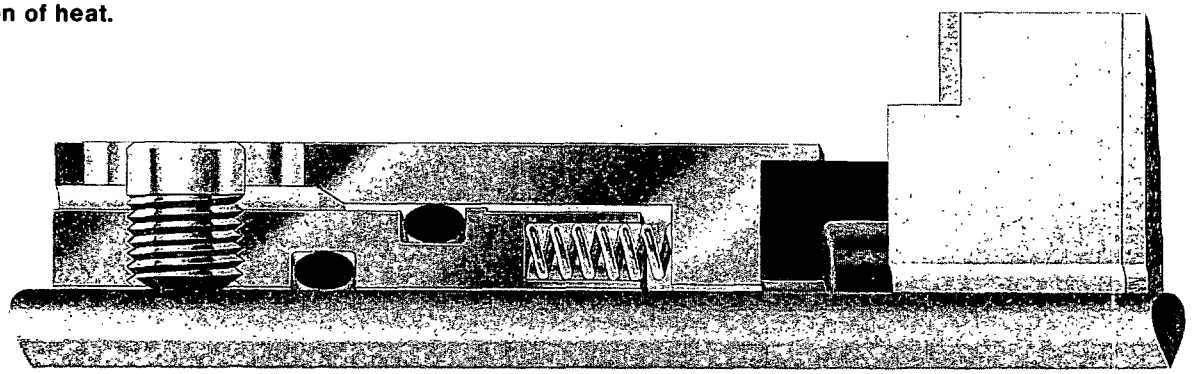
BALANCED — Seal is hydraulically balanced within its own component parts for pressures from 28″ Hg (711 mm) vacuum to 500 psig (35 kg/cm²).



MULTIPLE-NONCLOGGING SPRINGS Even face loading eliminates uneven face wear. Springs isolated from gummy or clogging fluids will stay clean and operational.

STRONGER CARBON FACE — Carbon inserted in metal holder has greater strength and offers maximum dissipation of heat.

NO SPECIAL GLAND — Use your old gland. A new gland is usually not required when converting from packings or conventional seals.



TECHNICAL DATA

MATERIALS

Sleeve and outer barrel — Type 316 stainless steel
(Some sizes available in Alloy 20)
Set screws — 316 stainless steel
Springs — Hastelloy C
O-rings — Viton* and Ethylene Propylene (EPR) Supplied with seal
Rotating Face — Carbon

TEMPERATURE

−20°F (−30°C) to 400°F (250°C) with Viton*
−65°F (−55°C) to 300°F (150°C) with EPR

PRESSURES

28″ (711 mm) Hg vacuum to 500 psig (35 kg/cm²)

SIZES

The 770 seal is available in inch sizes of ⅝″, ¾″, ⅞″, 15/16″ thru 3″ in 1/16″ increments, 3⅛″ thru 3¾″ in ⅛″ increments, 4″ and 4⅜″; and metric sizes of 20, 25, 28, 30, 32, 35, 38, 40, 42, 45, 48, 50 thru 100 in 5 millimeter increments, and 110 millimeters.

* DuPont's Registered Trademark

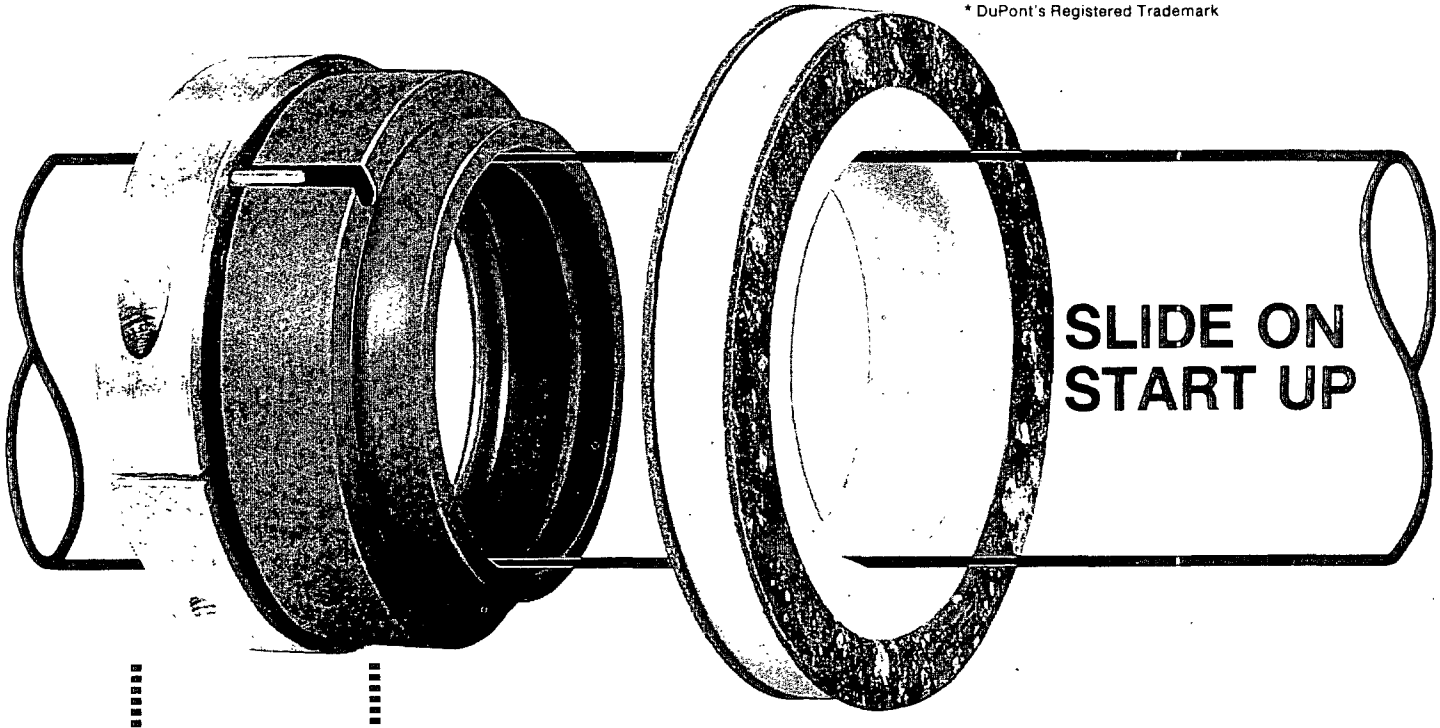


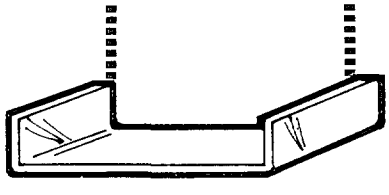
Use 440 Seals:

- As a low-cost replacement for seals made from exotic, expensive metals.
- To prevent damage to glass-lined pumps.
- Where an "outside" seal is required or desired.

- The 440 Seal is designed for use in plastic, Teflon*, carbon, glass-lined, or exotic metal pumps where corrosive fluids readily attack the wetted parts of conventional mechanical seals. With the 440 Seal, no metal parts touch the pumped fluid. This means the seal can be manufactured less expensively than exotic seals, saving you the extra cost.
- Visual inspection of seal face wear is permitted allowing accurate judgments as to when replacement will be necessary. Helps eliminate unscheduled maintenance overhauls.
- Internally balanced within its own component parts and requires no expensive sleeves or shaft steps. Operates at stuffing box pressures up to 150 psig (11 kg/cm²) and in temperatures to 400°F (205°C).
- Will not fret shafts or sleeves — saves hidden sleeve replacement costs.

* DuPont's Registered Trademark

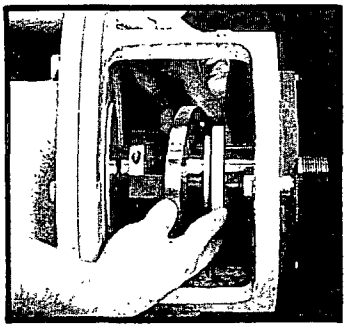




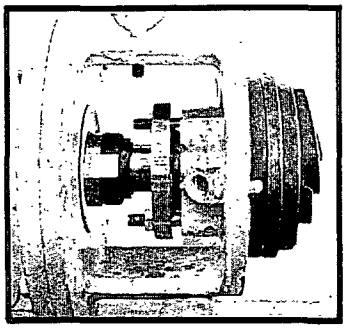
PREASSEMBLED WITH PROPER SPRING COMPRESSIONS

Just slide the preassembled CHESTERTON 440 rotary on the shaft *until it mates with the stationary face;* tighten the drive ring; remove the retaining clips; and the seal is ready *to operate.*

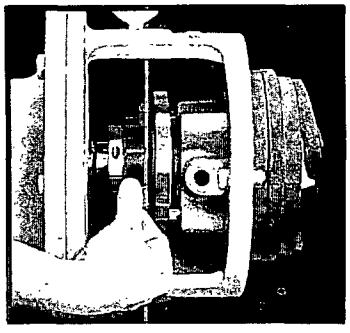
As easy to install as 1 • 2 • 3



1 Slide rotary, gland, and stationary over shaft



2 Position stationary and gland against stuffing box face. Tighten bolts finger tight, then make additional half turn with a wrench



3 Slide rotary so that it mates with the stationary, tighten the clamp, remove the clips and you're ready to start the pump (Add pump shroud over seal area)

NONSCORING — NONFRETTING — Exclusive VANWAY® O-ring combines the resilience of rubber with the chemical resistance of Teflon*. Will not wear the shaft.

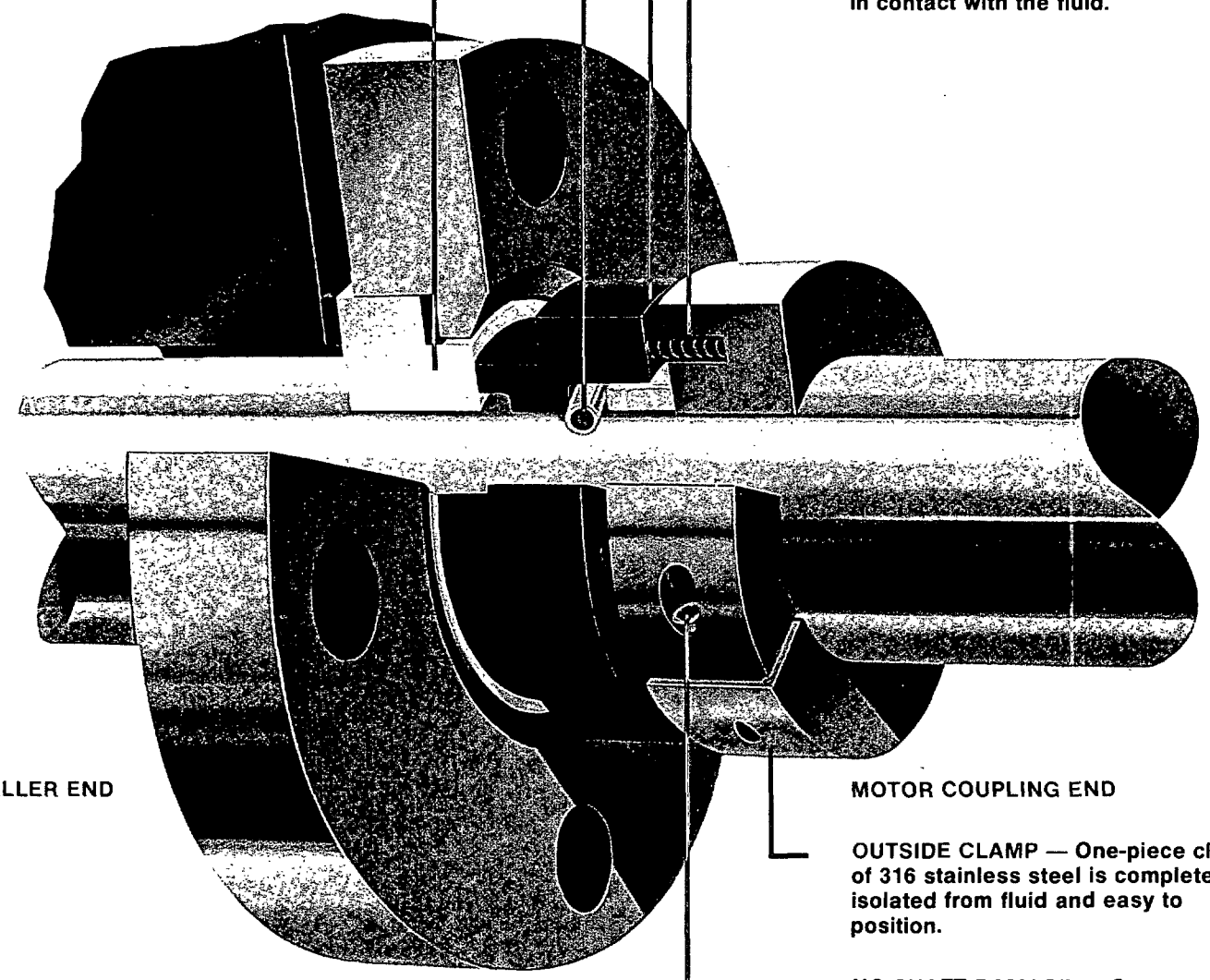
NO NEW GLAND NEEDED — Ceramic stationary is lapped on both sides so it can be reversed for installation either way. "L" shape eliminates need for special glands. Allows you to use your present gland in most cases. Either add shroud or use existing shroud over seal.

VISUAL EXAMINATION — Easily visible 1/16" (1,6 mm) spring gap assures proper installation dimension for all size seals. Permits visual examination of carbon wear.

ISOLATED SPRINGS — Multiple springs are out of fluid providing longer life and even face loading.

BALANCED DESIGN — Hydraulically balanced seal design will take pressures to 150 psig (11 kg/cm²) — temperatures to 400°F (205°C).

ISOLATED METAL — No metal comes in contact with the fluid.



IMPELLER END

MOTOR COUPLING END

OUTSIDE CLAMP — One-piece clamp of 316 stainless steel is completely isolated from fluid and easy to position.

NO SHAFT DAMAGE — Cap screw does not engage shaft. Seal can be safely used on ceramic, glass-lined or plastic pumps.

TECHNICAL DATA

MATERIALS
Drive ring — Type 316 stainless steel
Capscrew — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton*and Vanway supplied with seal
Rotating Face — Carbon

TEMPERATURE
To 400°F (205°C)

PRESSURES
28" (711 mm) Hg vacuum to 150 psig (11 kg/cm²)

SIZES
The 440 seal is available in inch sizes from 1" thru 2⅝" in ⅛" increments and metric sizes of 25, 28, 30, 32, 35, thru 65 millimeters in 5 millimeter increments.

* DuPont's Registered Trademark

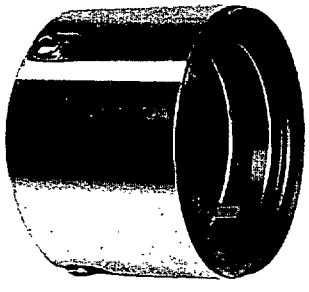
1 MECHANICAL SEALS

CHESTERTON®

1210 ENVIRONMENTAL SEAL

OFF-THE-SHELF

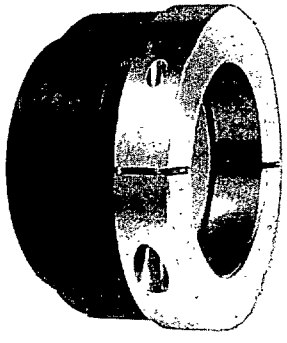
VERSATILE UNITIZED DESIGN combines CHESTERTON Environmental Stationary Unit with Rotary Units of CHESTERTON 770/ 880 and 440 Seals. Controls leakage pollution, shields product from environment or lubricates dry seal faces.



770 Rotary Unit



1210 Stationary



440 Rotary Unit

- Easier to install and lower cost than conventional double seals.
- In many cases, permits compliance with anti-pollution and safety regulations without involved conventional double sealing.
- Replaces 5/16" (8 mm) or larger packing permitting easy conversion of pumps packed or sealed to the double protection of 1210 sealing.
- Normally no expensive circulating system required to pressurize, cool or warm unit.
- Operates with barrier pressure either higher or lower than stuffing box pressure.
- Requires only one installation dimension for inboard rotary unit. Just slide on and tighten the outboard rotary unit. Remove clips. Add shroud. Start up.
- Off-the-shelf availability from your CHESTERTON distributor. No waiting for engineered conventional double seals.

*NOTE: If the pumped pressure must be prevented from escaping to atmosphere, raise the barrier fluid pressure above the stuffing box pressure by a maximum of 50 psig (3 kg/cm²).

Almost unlimited versatility at minimum cost



BARRIER FLUID PRESSURE HIGHER THAN PRODUCT PRESSURE

CONTROLS HAZARDOUS FLUIDS

The CHESTERTON 1210 Design is an easily installed replacement for many conventional double seals. Without complicated gland or engineering requirements, it provides the fluid and emission control required for most applications.*

LUBRICATES DRY SEAL FACES

Where the product is nonlubricating, a lubricant can be introduced into the barrier system greatly increasing seal life.



BARRIER FLUID PRESSURE LOWER THAN PRODUCT PRESSURE

PREVENTS PRODUCT HARDENING

The simple introduction of barrier fluids, such as water or solvents, through the 1210 stationary unit prevents the intrusion of air that can cause hardening or congealing of such products as paints, adhesives, etc. at the sealing faces during shutdowns.

PREVENTS PRODUCT COOLING

Heavy fuel oil, or other products that become viscous during shut-downs, may be kept warm and thin by the simple introduction of low pressure steam into the barrier system.

OPERATES AS A STAND-BY PREINSTALLED SEAL

With the barrier pressure lower than the operating fluid pressure the primary (inboard) seal is operational and the secondary (outboard) seal "idles" in the controlled environment of the barrier fluid.

In the event of primary seal wearout, the secondary seal begins to seal the pumped fluid. Raised barrier pressure alerts the user to the changeover.

The entire unit should be replaced at the next scheduled shut-down.

TECHNICAL DATA

MATERIAL 770-880 ROTARY UNIT

Sleeve and outer barrel — Type 316 stainless steel (Some sizes available in Alloy 20)

Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton* and Ethylene Propylene (EPR)
Rotating Face — Carbon

MATERIAL 440 ROTARY UNIT

Drive ring — Type 316 stainless steel
Set screws — 316 stainless steel
Springs — Hastelloy C
O-Rings — Viton and Vanway
Rotating Face — Carbon

TEMPERATURE 770-880 ROTARY UNIT

−20°F (−30°C) to 400°F (205°C) with Viton
−65°F (−55°C) to 300°F (150°C) with EPR

TEMPERATURE 440 ROTARY UNIT

To 400°F (250°C)

PRESSURES 440-770-880 ROTARY UNIT

Maximum stuffing box pressure not to exceed 300 psig (21 kg/cm²)
Maximum barrier fluid pressure not to exceed 150 psig (10,5 kg/cm²)

SIZES

The 1210 seal assembly is available in inch sizes from 1" thru 2⅝" in ⅛" increments, and metric sizes of 25, 28, 30, 32, 35, 40, 45, 50, 55, 60, 65 millimeters.

* DuPont's Registered Trademark

1 MECHANICAL SEALS

CHESTERTON®

500 SEAL

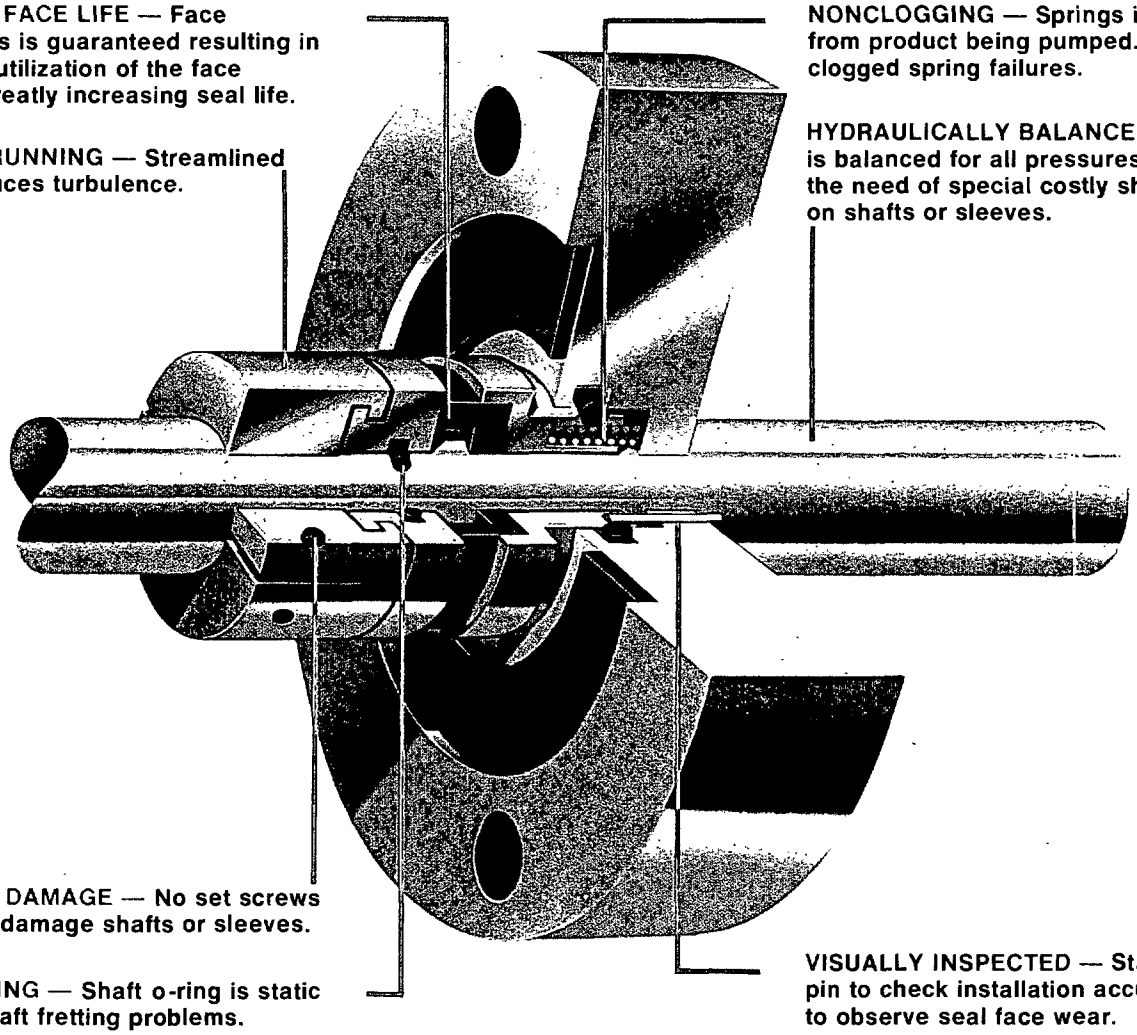
The 500 SEAL'S universal design is factory customized to suit your application on water, slurries, congealing fluids, corrosive liquids, etc. at a wide range of pressures and temperatures.

U.S. Pat. numbers 3068012, 3188095, 3184244

- Simple to install. Requires only one, non-critical measurement for rotary unit. Stationary unit mounts in gland and fastens to pump as one piece. No tinkering — no adjustments required saving maintenance time.
- Face squareness (lack of which causes fretting or grooving of the shaft) is guaranteed, eliminating the most common cause of premature seal failure.
- Repairable many times over — fits virtually all pumps.

MAXIMUM FACE LIFE — Face squareness is guaranteed resulting in maximum utilization of the face material greatly increasing seal life.

SMOOTH RUNNING — Streamlined rotary reduces turbulence.



NONCLOGGING — Springs isolated from product being pumped. Ends clogged spring failures.

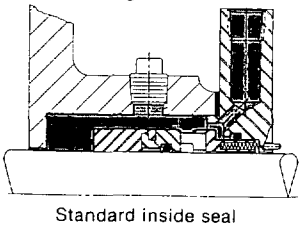
HYDRAULICALLY BALANCED — Seal is balanced for all pressures without the need of special costly shoulders on shafts or sleeves.

NO SHAFT DAMAGE — No set screws to dig and damage shafts or sleeves.

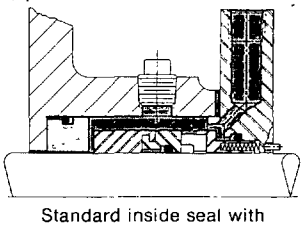
NO FRETTING — Shaft o-ring is static — ends shaft fretting problems.

VISUALLY INSPECTED — Stationary pin to check installation accuracy and to observe seal face wear.

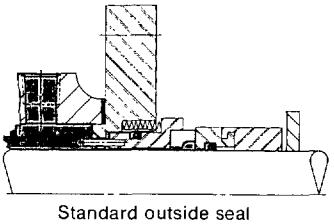
TYPICAL APPLICATIONS: Processing plants, refineries, paper mills, boiler feed water, heat transfer fluids, strong acids, and caustics, pharmaceuticals, solvents, paints, sea water, sewage, etc. No application is too complex. These diagrams represent just a few of the many arrangements possible.



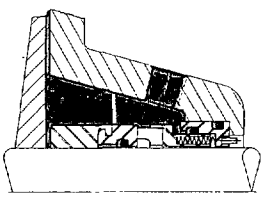
Standard inside seal



Standard inside seal with restriction bushing and independent clean liquid flush

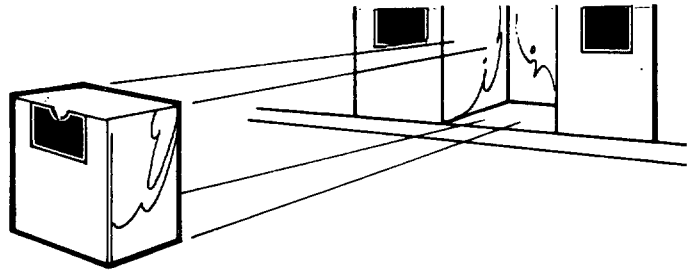


Standard outside seal (Requires Shroud)



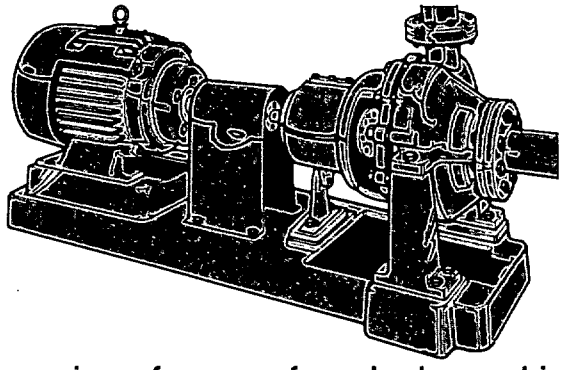
Seal only pump

How converting to CHESTERTON® OFF-THE-SHELF 241, 440, 770, 880, or 1210 SEALS simplifies pump maintenance and reduces operating costs



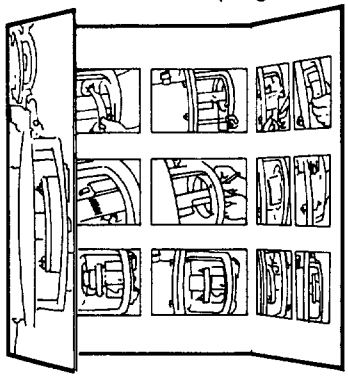
Off-the-shelf, world-wide availability eliminates waiting time . . . reduces your own inventory requirements.

CHESTERTON Distributors in over 90 countries at hundreds of locations have the CHESTERTON OFF-THE-SHELF SEALS you need, in stock. No drawings are required. No engineering is needed. Design standardization and universal materials make them fully interchangeable. CHESTERTON distributors will also exchange your used CHESTERTON OFF-THE-SHELF SEALS* for Factory Rebuilt Exchange Seals at a fraction of the cost of a new one. The exclusive CHESTERTON FACTORY EXCHANGE PROGRAM eliminates your need for spare parts or complicated, slow-performance repair facilities. LET YOUR LOCAL CHESTERTON DISTRIBUTOR CARRY YOUR SEAL INVENTORY.



Conversion of pumps from leaky packings to CHESTERTON OFF-THE-SHELF SEALS easily accomplished without pump modification or new gland.

Without engineering and using standard maintenance know-how, you can replace nearly any pump packing (or seal) with a CHESTERTON OFF-THE-SHELF SEAL and get improved performance. You will eliminate the continual leakage required for packing lubrication and the consequent product loss, pollution and housekeeping problems. You will also do away with bearing failures caused by product contamination and end those continual maintenance costs of adjusting leaky packings. As seals outlast packing many times over, you will greatly reduce maintenance costs and machinery down-time. A CHESTERTON Seal Conversion Guide, with step-by-step illustrations, makes installation easy.





No installation problems with CHESTERTON SEALS

CHESTERTON OFF-THE-SHELF SEALS are designed for the maintenance man. Each seal type has only one installation dimension throughout its entire range of sizes. No complicated prints are required. The CHESTERTON "L"-shape stationary and other CHESTERTON stationaries can usually be installed using your present gland. No step on the shaft is required for high pressures, because all CHESTERTON SEALS are internally balanced at no extra cost to you. This means their faces will run cooler and last longer than unbalanced, competitive seals. In CHESTERTON SEALS, the springs are out of the fluid, eliminating the problems of clogging, hang-up or corrosion that cause failures in conventional seals. With problem-free installations and long service life, CHESTERTON SEALS can greatly reduce your operating costs.

316SS VITON** HIGH GRADE CARBON 99.5% AL. CERAMIC HASTELLOY-C

High quality, universal materials permit maximum, plant-wide utilization. . . reducing your inventory requirements.

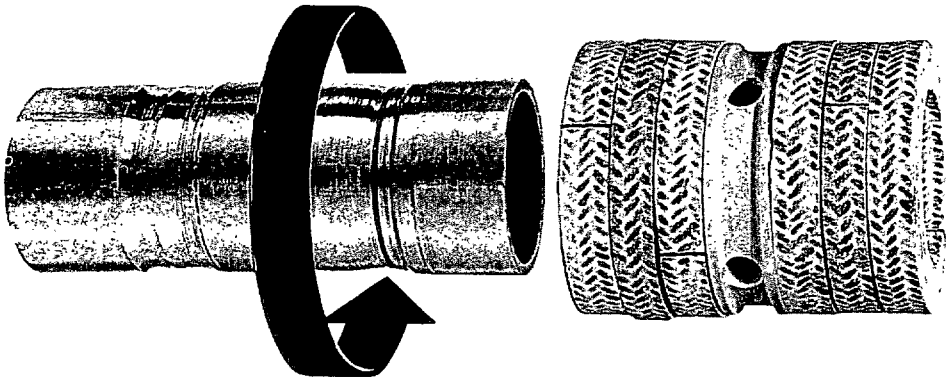
Only 316 stainless steel or Alloy 20 metals, Viton and/or ethylene propylene o-rings, Hastelloy C springs, high-grade carbon rotary faces and 99.5% Alumina ceramic or tungsten carbide stationary faces are used in the manufacture of CHESTERTON SEALS. You can increase the flexibility of your inventory and reduce risk of mis-applications.

*Applicable to CHESTERTON TYPE 241, 440, 770, 880, and 1210 Seals.

** DuPont's Registered Trademark

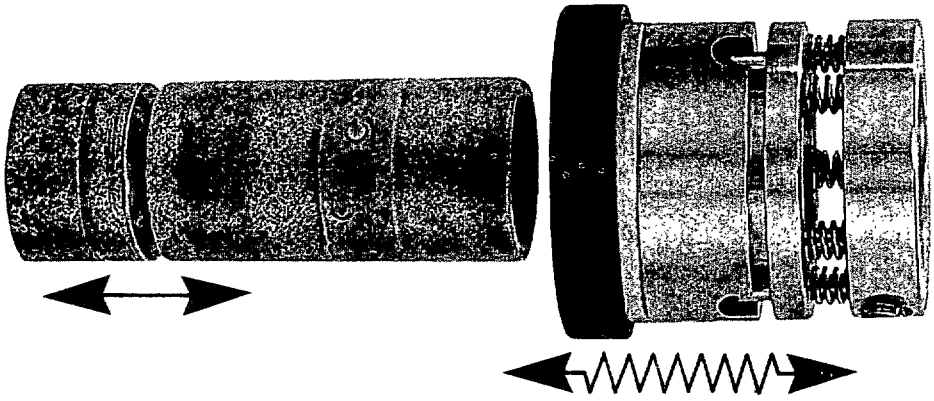
Why replace worn shafts or sleeves?

CHESTERTON® SEALS are guaranteed NOT to wear shafts or sleeves.



NO ROTATIONAL WEAR
(Scoring by Packings)

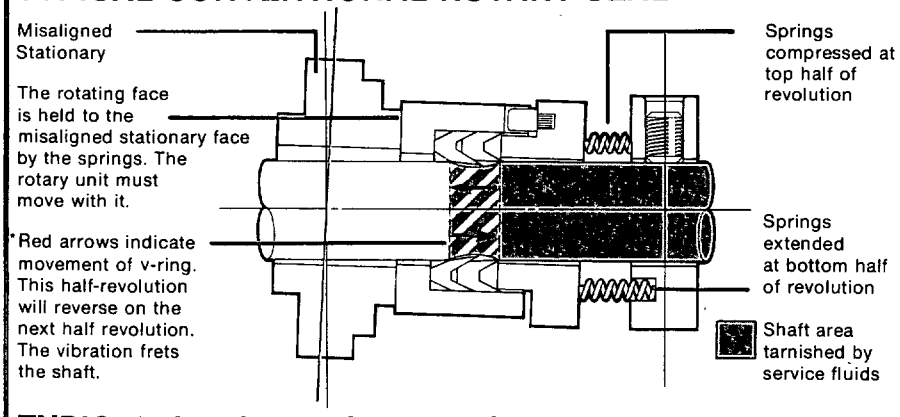
Pump packings must squeeze the shaft or sleeve to control leakage. Each time the gland nuts are tightened lubricants are forced out of the packing leaving materials like raw asbestos to cause rapid wear and galling of pump shafts. Unlike packings, the portions of CHESTERTON SEALS in contact with the shaft, rotate with the shaft. There is no frictional wear. Shafts or sleeve may be used over and over again, drastically reducing replacement maintenance costs.



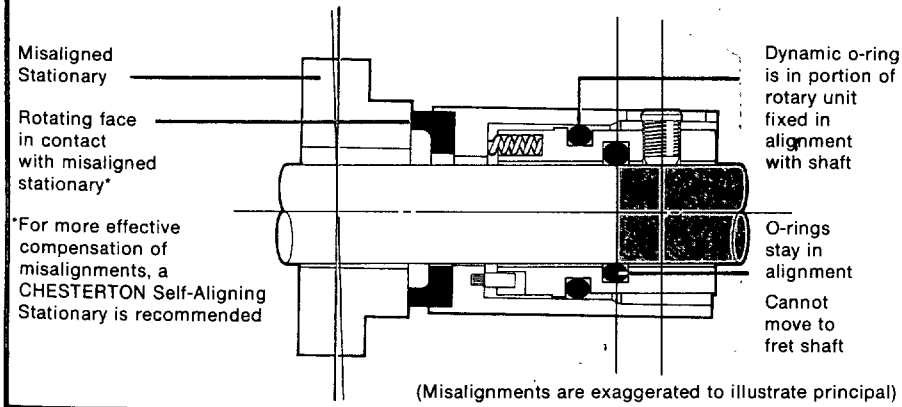
NO VIBRATIONAL WEAR
(Fretting by Conventional Seals)

Conventional seals control leakage along the shaft or sleeve with a secondary sealing device (v-ring, o-ring, u-cup or wedge). These materials vibrate and wear a groove into the shaft or sleeve. CHESTERTON SEALS control leakage along the shaft with a non-moving, static o-ring guaranteed not to groove the shaft or sleeve. The reasons for wearing vs. nonwearing seals are explained in the two simplified diagrams shown below.

TYPICAL CONVENTIONAL ROTARY SEAL



TYPICAL CHESTERTON (770) SEAL



(Misalignments are exaggerated to illustrate principal)

WHY CONVENTIONAL SEALS FRET SHAFTS

In most seals, vibration, shaft end play, and/or misalignment of the seal faces cause the dynamic shaft secondary sealing devices to slide back or forth over the shaft with each half revolution. This wearing motion causes grooves to be worn into the shaft or sleeve. As this area of the shaft is exposed to the service fluid, any metal, including stainless steel, will oxidize and become tarnished. The movement of the secondary sealing device over this area wears off the protective oxide coating and exposes more bare metal to the fluid. The repeated action continually removes metal in the fretted area as the tarnish acts as an abrasive between the secondary sealing device and the shaft. (The effect is similar to polishing silverplate tablewear until it is worn through.) With CHESTERTON SEALS, this does not occur. No damage will be done to the shaft or sleeve. This is guaranteed!

CHESTERTON® SEAL OF CONFIDENCE TAKES THE GAMBLE OUT OF RESEALING PUMPS



Exclusive CHESTERTON Warranty Program

If a new CHESTERTON SEAL* fails for any reason within 90 days of installation, a replacement seal* will be provided at half the price of a factory rebuilt seal. Ask your CHESTERTON Distributor for written warranty. If a properly installed CHESTERTON SEAL* scores a shaft or sleeve a replacement seal will be furnished without charge.

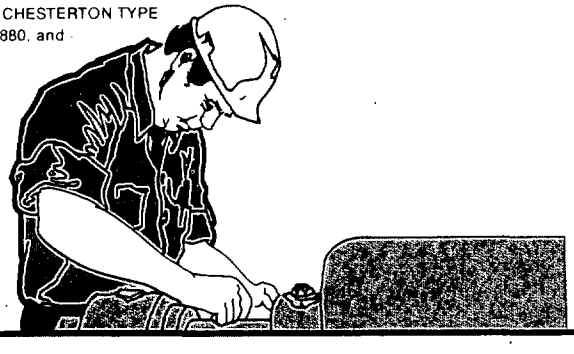
*Applicable to CHESTERTON TYPE 440, 770, 880, and 1210 Seals

Exclusive CHESTERTON Factory Exchange Program

When it comes time to replace your CHESTERTON SEAL** you can return it to your local CHESTERTON Distributor, who replaces it with a GENUINE FACTORY REBUILT SEAL directly "off-the-shelf." You don't have to wait for repairs. Regardless of the condition of the seal which you return, there is one low replacement charge per seal size. All replacement seals contain the following new parts: (a) rotating face; (b) Vanway®, Viton***, or Ethylene Propylene o-rings; (c) Hastelloy springs, and (d) 316SS or Alloy 20 drive/set screws.

** Applicable to CHESTERTON TYPE 241, 440 770, 880, and 1210 Seals

***DuPont's Registered Trade Mark



Exclusive CHESTERTON Plant Standardization Program

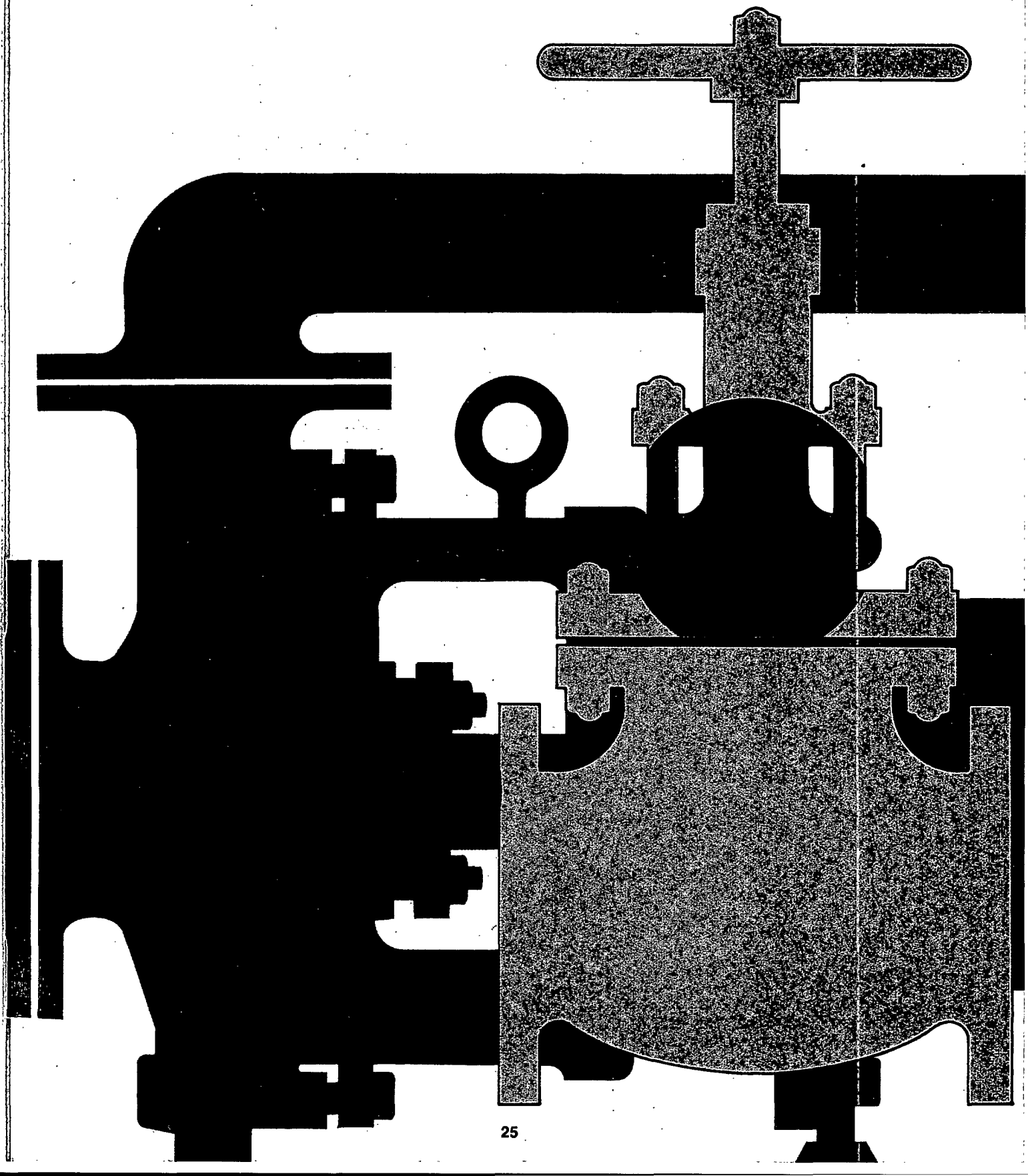
This program is designed to drastically reduce plant inventories of seals, eliminate seal parts inventories and end waiting for engineered seals. It is exclusive with CHESTERTON only because:

- CHESTERTON SEAL installations are interchangeable with most other seals and packings without pump modification. Installation is simple and prints are not needed.
- CHESTERTON SEALS are **all balanced seals.** Without balancing restrictions such as stepped sleeves or shafts, they can be utilized plant-wide.
- A single size of CHESTERTON SEAL fits all pumps of the same shaft size.
- CHESTERTON SEALS will not fret or damage shafts or sleeves in any application.
- CHESTERTON SEALS are available off-the-shelf, around the world.

Use your local CHESTERTON DISTRIBUTOR'S inventory to save your capital and shelf space. Ask him about a Seal Standardization Program for your plant.

CHESTERTON®

MECHANICAL PACKINGS



FOLLOW THESE CHESTERTON® PROCEDURES FOR LONGER PACKING SERVICE:

HOW TO PACK A CENTRIFUGAL PUMP

Preliminary

1 For a true evaluation of packing, the equipment must be in first class condition. Sleeve, bearings, and stuffing box should be in good order if true results of packing are to be obtained. A new shaft sleeve can mean the difference between success or failure. Check shaft for rotation — whip or run out in excess of .003 is unacceptable; Use dial indicator to check same. End-play is less important (unless shaft is grooved). Replace bent shafts.

2 Condition of the stuffing box is more important than generally realized. If it is rough, it should be reworked,because it is nearly impossible to seal the O.D.*of the ring where there are rust holes or pitting. Gland take-up would then result in distortion of the rings and over compression of the packing on the shaft with resultant burn out. If gland and/or box is bevelled, it is recommended that they be faced off and bevels removed. One further point: — a throat bushing corrects for excess clearance in the bottom of box (fig. 1). Packing must not extrude in this area.

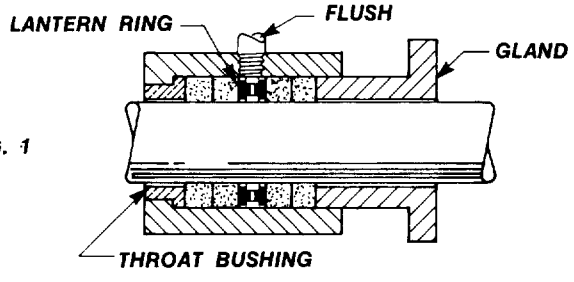


FIG. 1

3 Check to see if lantern ring is required (fig. 1). After allowing for movement of the packing as a result of gland take-up, lantern must be located directly in line with flush connection, otherwise flush may fail. Lanterns are used where the suction pressure is below atmospheric pressure and are supplied through a piping arrangement from the pump discharge pressure. Where slurries or congealing liquids are involved an independent clean liquid flush should be employed. Clean liquid flush pressure should be 10–25 psi (1–2 kg/cm²) greater than maximum stuffing box pressure.

4 Be sure to check packing for correct *size* and for proper *type* for the application. Improper selection will result in poor service life. Check front of catalog, or with CHESTERTON, or with your CHESTERTON Distributor for proper packing selection.

HOW TO CUT RINGS

1 Make butt joint rings. The preferred way is to wind the desired number of rings on a mandrel the same diameter as the shaft (fig. 2) and cut rings by making a straight cut along the mandrel as shown.

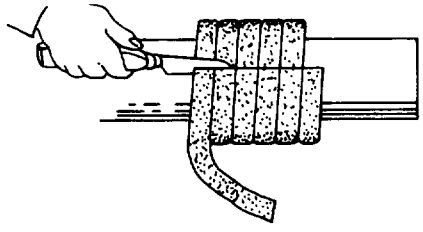


FIG. 2

2 When removing rings from mandrel slip them off *without* opening the rings. This is especially important for metallic types such as STYLES 555 and 666. Do not open with a hinge-like action. Just slip them off unopened.

HOW TO PACK

1 Remove old rings. Coat rings to be installed with CHESTERTON PACKING LUBRICANT to assist installation and to help establish a proper initial break-in and seal. Check position of lantern. Fig. 1 shows properly packed box with lantern and throat bushing.

2 Install rings over the shaft by twisting open as in fig. 3. This is especially important for metallic rings such as STYLES 555 or 666. *Never* open rings with hinge-like action.

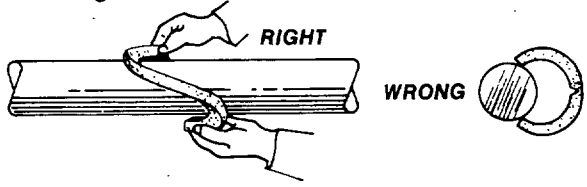


FIG. 3

3 See if your box of CHESTERTON Packings contains any special instructions with respect to that Style. Insert rings one at a time lubricated with CHESTERTON PACKING LUBRICANT with joints staggered 90° apart. Seat each ring individually, compressing in place with a tamping tool or by using a split hollow cylinder. Turn shaft occasionally to assist seating. Unless bottom rings are each properly seated, the gland follower will not be able to tighten the packing set, as it will leave the front rings (gland end) too tight in the box. CHESTERTON PACKING LUBRICANT helps eliminate this problem. Bear in mind that, except for abrasives, 70% of the wear normally takes place on the front two packing rings nearest the gland. Furthermore, proper seating and lubrication with CHESTERTON PACKING LUBRICANT tends to spread the wear more evenly over the entire set of rings. Adjust gland finger tight only. Especially STYLES ONE, 200, 320, 322, 326, 328, 329, 375, 1722.

* O.D. = Outside Diameter

HOW TO START UP

1 The purpose of a jam packing is to control leakage, not to prevent it. Packings must leak to perform properly, otherwise they will burn up. "Teflon*" Packings are especially sensitive in this respect.

2 Permit *generous* initial leakage. Gradually take up gland nuts 1/12 turn (1/2 flat in hex nuts) at a time. WATCH temperature. Never permit heat to develop, back off gland if it does. As leakage levels off, tighten follower at 15 minute intervals until leakage is controlled, provided no excess heat is developed. Most packing on a 1" (25,4 mm) shaft can control leakage in a range of from 5 to 20 drops per minute. A 2"(50,8 mm) shaft should be allowed to leak twice as much. "Teflon" fiber packings (Styles 324, 328, 1724) must be permitted to leak at least 30 drops per minute, on a 1" (25,4 mm) shaft, and to observe recommended peripheral speed limitations as outlined elsewhere in the catalog.

3 Provide for lubrication, particularly when pumping non-lubricating liquids and gases (ammonia, freon, light hydrocarbons, solvents, creosote, very hot water). Whenever flushing through the lantern ring, a clean liquid having lubricating value should be used.

PACKING ABRASIVE LIQUIDS

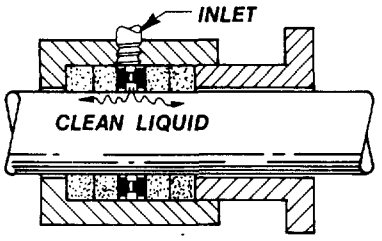
As used here "abrasives" is a broad term intended to cover the problem of packing against slurries, congealing liquids, crystallizing salts and the like. They cause the greatest damage to equipment, and present difficulties for packings. In general, the cure involves flushes, purges, and temperature controls. It also calls for hardened steel shafts, or hard facings such as Stellite, Colmonoy, Chrome, Ceramic, and Tungsten Carbide.

In ordinary conditions where a lantern is used, internal lubrication is usually supplied from the pump discharge pressure by means of a by-pass line; but when pumping slurries and "abrasives" an *external* source of clear or otherwise suitable liquid must be force fed at a pressure higher than that existing in the stuffing box. This differential pressure is in the area of 10-25 psi (1-2 kg/cm²). The problem takes various forms:

Suspended Solids

Solids which are suspended in liquids and which are an inherent part of their structure would include starch, contaminated or muddy water, sand, and other slurries. This is best handled by an external flush of clear liquid through a lantern as shown in fig. 4.

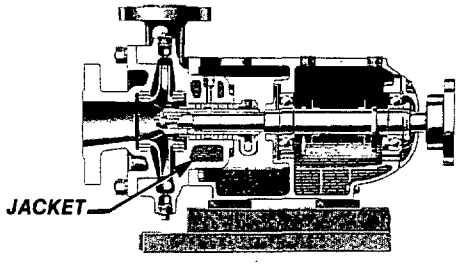
FIG. 4



Precipitating Liquids

Solids which precipitate out of a liquid do so by reason of either an increase in concentration, or because of a lowering (or in some cases a raising) of temperature beyond that at which it is proper to operate. Illustrations are caustic soda and calcium hydroxide. With ammonium nitrate, for example, temperature must be controlled at an optimum level in relation to its concentration. If the temperature rises above the optimum, it will boil and form crystals, and conversely if temperature drops, it will become saturated and salt out.

FIG. 5



Evaporating Liquids

Solids can form as a result of heat which promotes evaporation. Examples include any of the hot chemical salts — the chlorides, chlorates, sulfates, sulfides. Cool by flushing (fig. 4) or by utilizing water jackets (fig. 5).

Congealing Liquids

Generally speaking, these liquids congeal either because of a drop in temperature, or as a result of drying out after exposure to air. Sugar syrups fall into both categories. A good rule is to keep the fluid moving before congealing can take place. Control with heat and/or by flush or purge.

(a) Asphalt is a typical case of a liquid which congeals as it cools, and this can be controlled by heat as in fig. 5. Some sugar syrups come under this category. Be sure to heat thoroughly before starting pump, also during operation, and after shutdown if followed by a purge.

(b) Some products harden to a solid state when exposed to air. Glue, molasses, paint, sugars are examples. An effective flush is a *gland* flush. This will keep out the air. Note that this type of flush does not enter the product, but only mixes with the product leakage. See fig. 6. It may also be desirable to flush through a lantern with a non-hardening liquid from an external source; or with a purge utilizing a solvent of the liquid being pumped.

* DuPont's registered trademark.

FOLLOW THESE CHESTERTON® PROCEDURES FOR LONGER PACKING SERVICE:

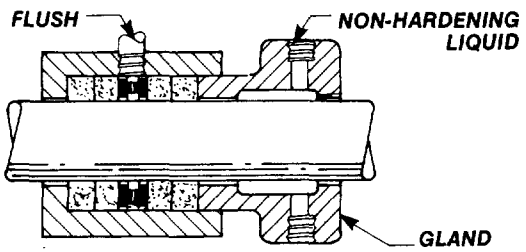


FIG. 6

WHAT PACKINGS TO USE

For slurries and abrasive liquids, the mechanical design situation may or may not be in accordance with our recommendations as described above.

(a) **Favorable** Design and Layout: —
It is assumed that lantern, flush, etc. are available, and that shaft is hardened. Install two rings of STYLE 555 in the bottom of box below lantern (except where a ring of greater chemical resistance is required). These serve as restrictive bushings which limit product dilution, build flush pressure, minimize absorption of product, and keep lantern in proper alignment with flush hole. Balance of Packing should be of the soft variety, having lubricity, and chosen with an eye toward non-absorption and/or chemical resistance (if required). Consider especially STYLES ONE, 200, 320, 322, 326, 328, 370, 375, 1722.

(b) **Unfavorable** Layout: —
Here we have a situation handling slurries and abrasive liquids, and there is no lantern or proper flush. The shaft may be soft. Whether to use only "soft packings" in the styles suggested in (a) or whether to use these soft packings in combination with STYLE 555 will possibly be subject to your own tests and evaluations. Conditions and results can vary. Reports from the field, however, continue to find supporting evidence that STYLE 555 can and should be used as bottom or alternating rings on abrasive materials (cement, asphalt and slurries) without lantern ring, and it should be noted that these rings are invariably "die-formed". Note that maximum service can only be obtained, however, where the mechanical design is favorable in all respects. There are definite limits to what can be expected of Packings where auxiliary implementation is absent.

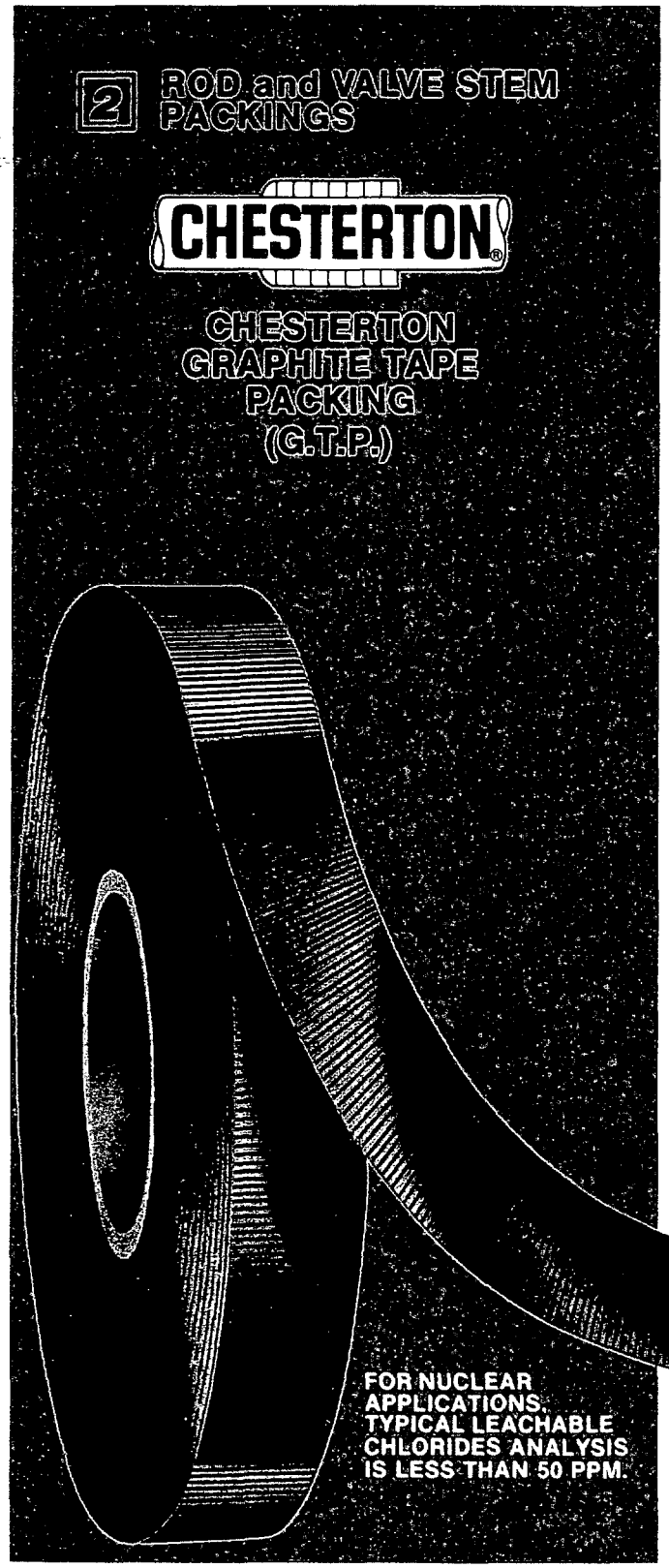
MECHANICAL SEALS

CHESTERTON MECHANICAL SEALS are being used with outstanding success on thousands of varied applications including all the difficult categories outlined above. Write us or consult your CHESTERTON DISTRIBUTOR for information.

HERE ARE SOME CAUSES OF SHAFT PACKING FAILURES

A used or worn set of packing can be of value as it often indicates cause of premature packing failure. Examine same carefully.
The following tabulation should be helpful in tracking down packing troubles.

INDICATION	SUGGESTION
No leakage at start up.	Back off gland to encourage generous leakage. If negative suction, install lantern and connect to discharge.
Excessive leakage at start up.	Check for correct packing size. Were rings installed correctly in accordance with instructions given in this section of catalog? Check pump for run-out.
Packing rings flattened out on I.D. under the rod or shaft.	Check bearings. Packing probably supporting the shaft weight.
Packing rings flattened out above rod or shaft, or on either side of same.	Check alignment of shaft. Worn bearings may be causing whip or run-out.
Distinct bulge on side of ring.	Probably too wide a gap on adjacent ring — rings cut too short.
Sides of rings shiny or worn.	Rings may be too loose and are rotating with the shaft.
Rings extruding past gland follower.	Too much clearance between O.D. of shaft and I.D. of follower. Apply bushing. May also be excessive gland pressure.
Top or gland end rings in poor condition, bottom rings O.K.	Set improperly installed. See instructions in catalog.
Rings disappear in set.	Packing entering the system. Install bottom bushing.
Packing is torn.	Check sleeve for burrs. Are there any abrasives? See instructions in catalog for corrective measures.
Rings are burned, faces dried and charred.	Check for proper size packing. Is packing the correct selection with respect to heat limitations and/or peripheral speed? Check lubrication. Are there any abrasives?
Packing hardens.	See "burned rings" above. Are there congealing liquids involved?
Packing softens.	Check for poper style selection, also for lubrication.
Excessive loss of lubricant.	Excessive gland pressure. Check for packing selection, temperature, whip in shaft.
Unexplained leakage.	Shaft sleeve may be leaking. Replace sleeve seal under sleeve.
Packing freezes to shaft after shutdown.	Liquid salting out or congealing in packing set. Provide lubrication and heating or cooling to packing before shutdown.



- 100% high-purity graphite — less than 0.2% ash.
- Self-lubricating — no fillers, binders, resins.
- Flexible and resilient — faster break in and fewer adjustments needed.
- High heat conduction — makes shaft run cooler for longer life.
- Withstands temperature from −400°F (−240°C) to +800°F (430°C) in air — Can be used for hot oils, gases, heat exchanger fluids.
- Withstands temperature to +5000°F (2760°C) in non-oxidizing areas. Can be used for superheated steam, high-temperature gases.
- Low friction — for any shaft speed.
- Corrosion resistant — will not break down or deteriorate yielding extra long life.
- Convenient roll package — faster, easier to use.
- Four sizes can fit all stuffing boxes — reduce inventory.
- Chemically resistant* — standardize for all pumps and valves — reduces inventory.
- Meets MIL-P-24503 (Ships)

* Consult Factory



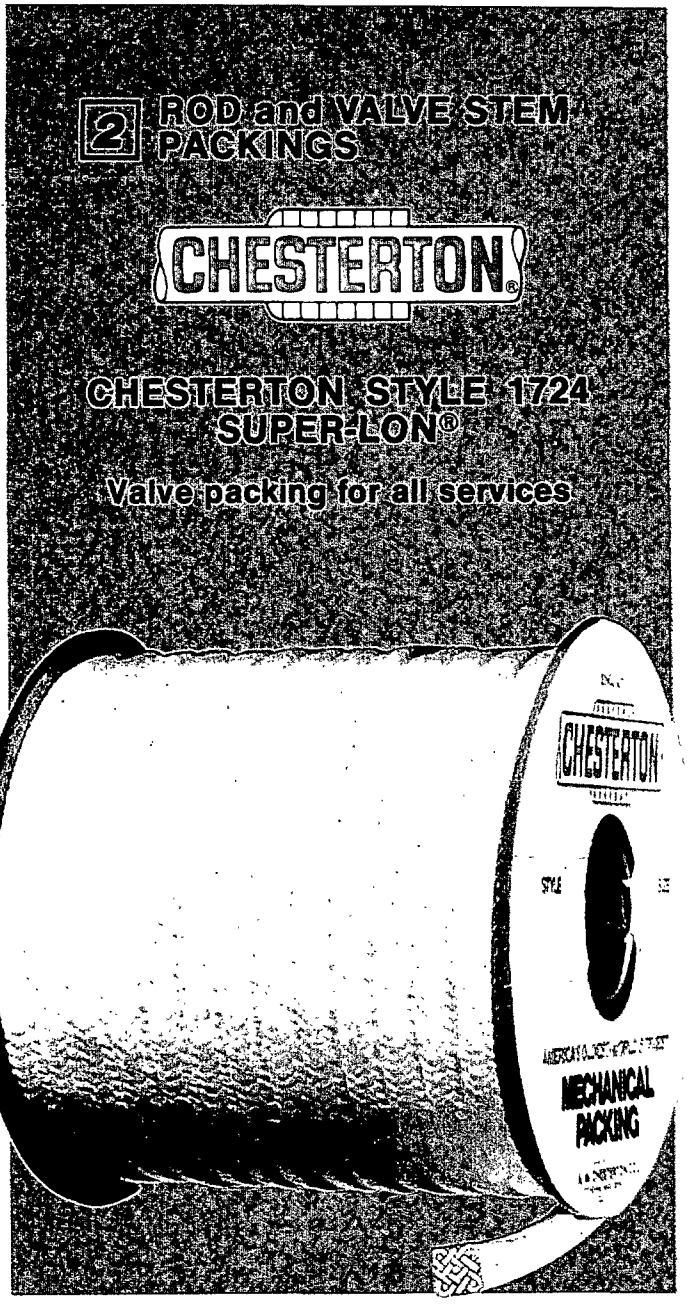
Covers all size installations

6 PACK KIT is your complete packing inventory!

PRODUCT REORDER NO.		QUANTITY
5205	GRAPHITE TAPE PACKING KIT	1 (6 SPOOLS)
	CONTAINS: SPOOL SIZES	
5201	¼" × 25' × .015" 6,4 mm × 7,6 M × 0,4 mm	1
5202	½" × 25' × .015" 13 mm × 7,6 M × 0,4 mm	1
5203	¾" × 50' × .015" 19 mm × 15,2 M × 0,4 mm	1
5204	1" × 50' × .015" 25 mm × 15,2 M × 0,4 mm	3
5206	GRAPHITE TAPE MASTER CARTON	1 (6 KITS)

SERVICE

Pumps and valves for all fluids, chemicals, and gases to 5000°F (2760°C). For H.P. steam valves use die formed G.T.P. valve packing sets.



SERVICE

General valves, control valves, reciprocating rods, low-speed centrifugal shafts against the strongest chemicals, steam, and solvents to 500°F. (260°C.).

STYLE 1724 SUPER-LON® is manufactured from pure Teflon* fibers in interbraid construction, resulting in an almost perfectly square packing having increased sealing contact at reduced gland pressures. With our new technology in the continuous lubrication of yarns, the Teflon* suspensoid lubricant is accurately controlled and evenly dispersed so that compressibility and recovery factors, together with density are enhanced. STYLE 1724 will withstand all chemicals and other services to 500°F. (260°C.), because the Teflon fibers and lubricant are immune to chemical attack, and the Teflon lubricant will not migrate or boil out from the packing.

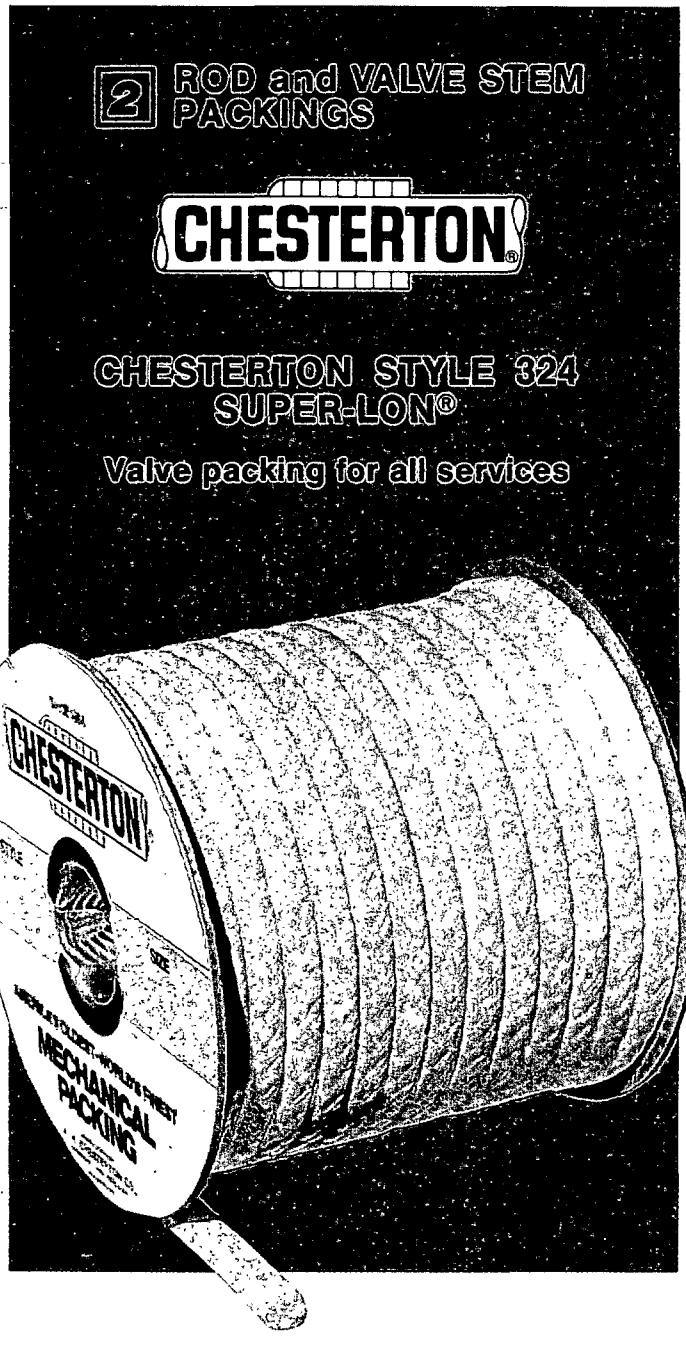
* DuPont's registered trademark.

STYLE 1724 SUPER-LON may be used on all valves, rods, centrifugal shafts, mixers and agitators. Its only limitations are that it should not be used above 600 feet/minute (3M/sec.), or on molten alkali metals. STYLE 1724 possesses unusual toughness in that its tensile strength is 50,000 psi (3,520 kg/cm²). For this reason, it may be used in applications approaching 4,000 psig (285 kg/cm²) in valve service.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8[1]	3,2	2	0,908	3260	72.40	48,64
	4,0[1]	2	0,908	3261	50.50	33,93
3/16[1]	4,8	2	0,908	3262	31.10	20,89
	6,0	2 5	0,908 2,270	3263 3272	21.50 21.50	14,45 14,45
1/4	6,4	2 5	0,908 2,270	3264 3273	18.60 18.60	12,16 12,16
5/16	8,0	2 5	0,908 2,270	3265 3274	11.73 11.73	7,79 7,79
3/8	9,5	2 5 10	0,908 2,270 4,540	3266 3275 3281	8.27 8.27 8.27	5,60 5,60 5,60
	10,0	2 5	0,908 2,270	3267 3276	7.50 7.50	5,04 5,04
7/16	11,1	2 5	0,908 2,270	3268 3277	6.80 6.80	4,50 4,50
	12,0	2 5 10	0,908 2,270 4,540	3269 3278 3282	6.10 6.10 6.10	4,10 4,10 4,10
1/2	12,7	2 5 10	0,908 2,270 4,540	3270 3279 3283	4.91 4.91 4.91	3,29 3,29 3,29
9/16	14,3	5 10	2,270 4,540	3280 3284	4.07 4.07	2,88 2,88
5/8	15,9	10	4,540	3285	2.78	2,15
11/16	17,5	10	4,540	3286	2.90	1,95
3/4	19,1	10	4,540	3287	2.35	1,54
13/16	20,6	10	4,540	3288	2.10	1,41
7/8	22,2	10	4,540	3289	1.83	1,20
15/16	23,8	10	4,540	3293	1.48	0,99
1	25,4	10	4,540	3294	1.40	0,94

[1]Construction differs slightly in these sizes.



grate or boil off, resulting in a packing which may be employed on all chemical services, steam, and solvents up to 500°F. (260°C.), to give longer service life than conventional packings.

STYLE 324 SUPER-LON should be used where a softer, more compressible packing is desired than Style 1724. It may be used on valves, rods, centrifugal shafts, mixers and agitators. Its only limitations are that it should not be used above 600 feet/minute (3 M/sec.), or on molten alkali metals.

STYLE 324 possesses unusual toughness in that its tensile strength is 50,000 psi (3,520 kg/cm²). For this reason, it may be used in applications approaching 4,000 psig (285 kg/cm²) in valve service.

SERVICE

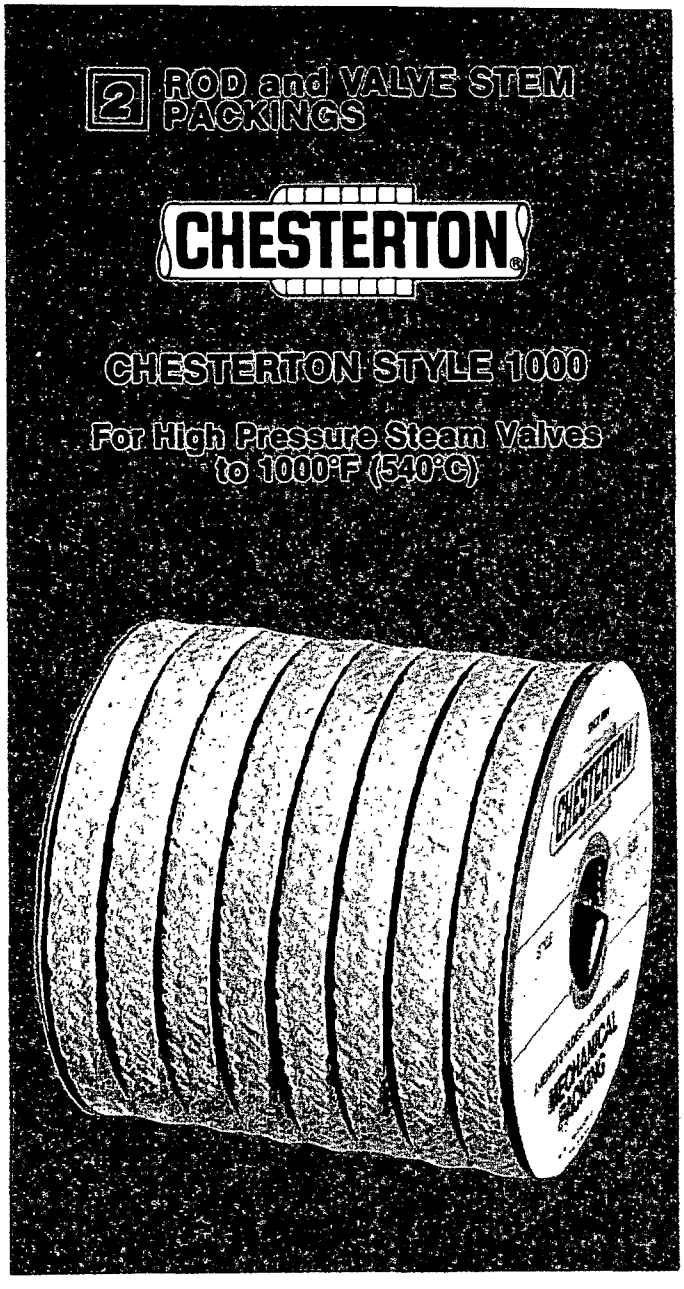
General valves, control valves, reciprocating rods, low-speed centrifugal shafts against the strongest chemicals, solvents and steam to 500°F. (260°C.).

STYLE 324 SUPER-LON® is manufactured from pure Teflon* fibers in square plait construction. It is lubricated with Teflon suspensoid which will not mi-

* DuPont's registered trademark.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
1/8	3,2	2	0,908	32460	68.01	43,61
	4,0	2	0,908	32461	50.50	33,93
3/16	4,8	2	0,908	32462	31.54	22,81
	6,0	2 5	0,908 2,270	32463 32472	26.50 26.50	17,81 17,81
1/4	6,4	2 5	0,908 2,270	32464 32473	20.36 20.36	16,10 16,10
5/16	8,0	2 5	0,908 2,270	32465 32474	12.04 12.04	8,86 8,86
3/8	9,5	2 5 10	0,908 2,270 4,540	32466 32475 32481	8.57 8.57 8.57	6,31 6,31 6,31
	10,0	2 5	0,908 2,270	32467 32476	7.20 7.20	4,84 4,84
7/16	11,1	2 5	0,908 2,270	32468 32477	6.35 6.35	4,23 4,23
	12,0	2 5 10	0,908 2,270 4,540	32469 32478 32482	5.70 5.70 5.70	3,83 3.83 3.83
1/2	12,7	2 5 10	0,908 2,270 4,540	32470 32479 32483	4.99 4.99 4.99	3,49 3,49 3,49
9/16	14,3	5 10	2,270 4,540	32480 32484	4.34 4.34	2,82 2,82
5/8	15,9	10	4,540	32485	3.28	2,35
11/16	17,5	10	4,540	32486	2.90	1,95
3/4	19,1	10	4,540	32487	2.38	1,54
13/16	20,6	10	4,540	32488	2.10	1,41
7/8	22,2	10	4,540	32489	1.88	1,21
15/16	23,8	10	4,540	32493	1.60	1,08
1	25,4	10	4,540	32494	1.40	1,00



SERVICE

For steam valves and expansion joints to 1000°F (540°C). Less than 200 ppm chloride content.

CHESTERTON STYLE 1000 is engineered to provide resiliency, great tensile strength and extreme heat resistance.

CHESTERTON STYLE 1000 is made with a braided core of pure Chrysotile asbestos around which is braided a cover of 97% asbestos yarn within the strands of which is inserted Inconel wire for added strength at maximum steam pressures.

STYLE 1000 is gray in color with a specially developed heat-resisting lubricant. This packing lubricant will not pit or damage stainless steel stems as it contains no graphite.

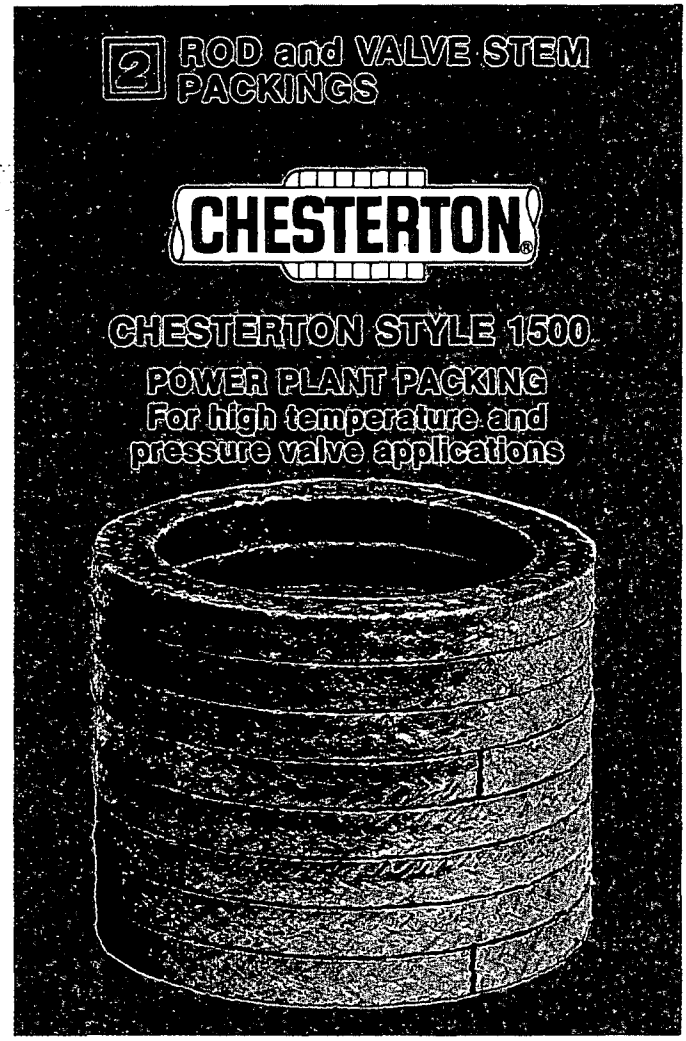
STYLE 1000 is not intended for high-speed rotating shafts. It is very effective, however, on reciprocating, or low-speed centrifugal pumps handling asphalt and congealing or crystallizing liquids and syrups to 600 feet per minute (3 m/sec.).

STYLE 1000C is recommended in nuclear power plant applications where packing must conform to specifications limiting the chloride content to 200 P.P.M. maximum.

STYLE 1000D is recommended when a die formed ring is required. Die formed rings are pre-cut and formed to your specifications and require minimal gland adjustment after installation. Extremely effective in high pressure applications where even ring compression throughout the installed set is important.

APPROXIMATE DATA

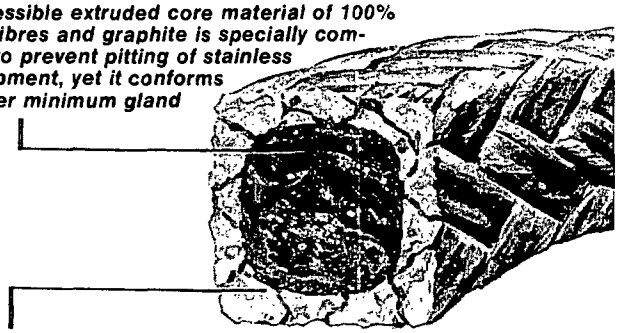
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	1060	108.50	72,80
	4,0	2	0,908	1061	82.60	55,50
3/16	4,8	2	0,908	1062	53.00	35,56
0.236	6,0	2 5	0,908 2,270	1063 1072	38.00 38.00	25,53 25,53
1/4	6,4	2 5	0,908 2,270	1064 1073	33.00 33.00	22,14 22,14
5/16	8,0	2 5	0,908 2,270	1065 1074	21.50 21.50	14,43 14,43
3/8	9,5	2 5 10	0,908 2,270 4,540	1066 1075 1081	13.00 13.00 13.00	8,93 8,93 8,93
	10,0	2 5	0,908 2,270	1067 1076	11.06 11.06	7,43 7,43
7/16	11,1	2 5	0,908 2,270	1068 1077	10.30 10.30	6,91 6,91
	12,0	2 5 10	0,908 2,270 4,540	1069 1078 1082	9.06 9.06 9.06	6,09 6,09 6,09
1/2	12,7	2 5 10	0,908 2,270 4,540	1070 1079 1083	8.00 8.00 8.00	5,36 5,36 5,36
9/16	14,3	5 10	2,270 4,540	1080 1084	7.30 7.30	4,89 4,89
5/8	15,9	10	4,540	1085	4.90	3,29
11/16	17,5	10	4,540	1086	4.70	3,16
3/4	19,1	10	4,540	1087	4.50	3,01
13/16	20,6	10	4,540	1088	3.60	2,42
7/8	22,2	10	4,540	1089	2.60	1,75
15/16	23,8	10	4,540	1093	2.55	1,71
1	25,4	10	4,540	1094	2.50	1,67



STYLE 1500 core is surrounded by an inconel wire-inserted high-grade asbestos jacket for added strength at elevated temperatures and pressures. Inconel is chosen over other less expensive wires because of its high tensile strength and corrosion resistance.

STYLE 1500 is then surface coated with a superior lubricant called tungsten disulfide which will not cause electrolysis as do many other surface lubricants.

Use STYLE 1500 on all ranges of steam valves. It is excellent on valves of steam turbines, automatic tube blowers, high-temperature motor-actuated slide valves, and on high-pressure valving in general. It will also work well in granular or congealing fluids (such as pitch, tar, asphalt, etc.) on low-speed hardened rotary shafts.



1. Compressible extruded core material of 100% asbestos fibres and graphite is specially compounded to prevent pitting of stainless steel equipment, yet it conforms easily under minimum gland pressures.

2. Finest quality braided Inconel wire reinforced asbestos jacket for increased temperature and pressure resistance, treated with tungsten disulphide which lubricates to 2400°F. (1320°C.).

SERVICE

All ranges of temperature and pressure, superheated or saturated. Steam valve stems to 1200°F (650°C). For turbines, general valving, expansion joints, automatic tube blowers, high-temperature slide valves, low-speed shafts on congealing fluids.

CHESTERTON STYLE 1500 is an entirely new concept in a high-temperature, high-pressure, valve-stem packing. STYLE 1500 is pliable, formable and easy to install. It compresses easily to required space configuration to form a tight seal. In the presence of condensate or superheat, this packing is and remains effortlessly adjustable, since it responds readily to gland take-up. All these desirable characteristics are attributable to its unique ingredients and construction.

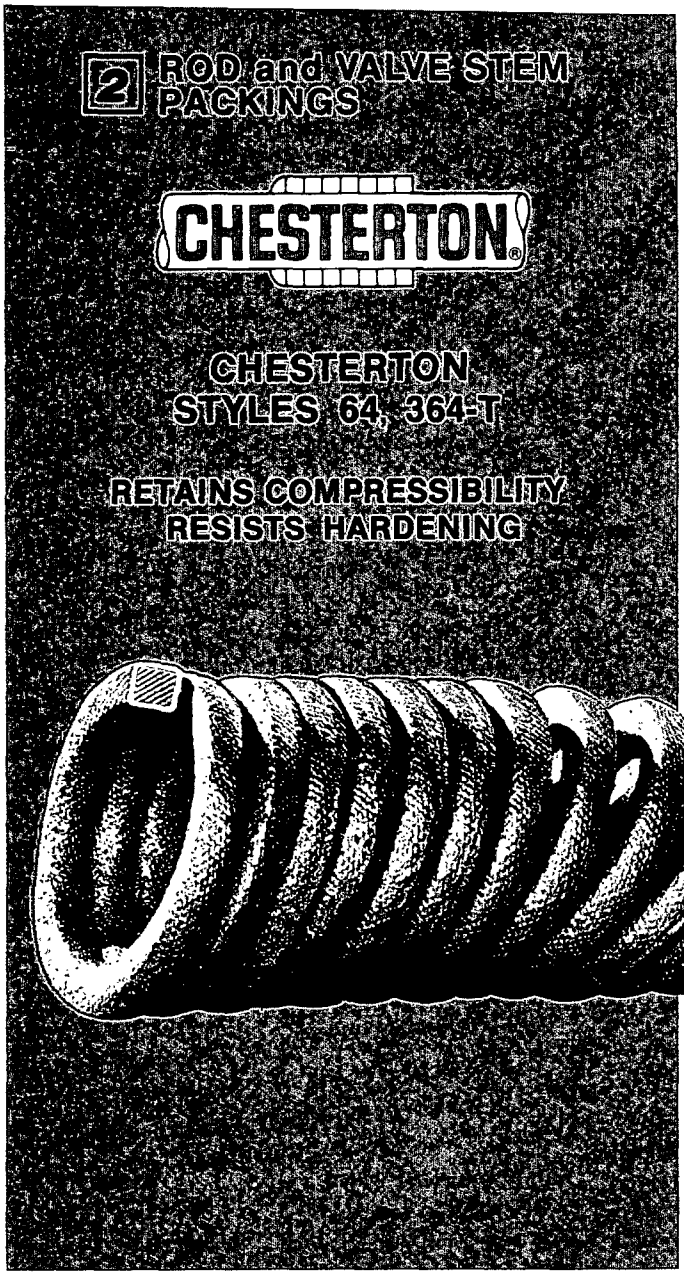
The technical superiority of CHESTERTON STYLE 1500 is primarily due to the ability of the asbestos fibers in the core to slide over each other in response to gland adjustment. This is because of the complete graphite envelopment of individual core fibers.

STYLE 1500 also incorporates finely dispersed particles of zinc in the core to help alleviate electrolytic action between the core and the valve stem. The zinc acts as a sacrificial material and is used first, before any pitting will occur on the valve components.

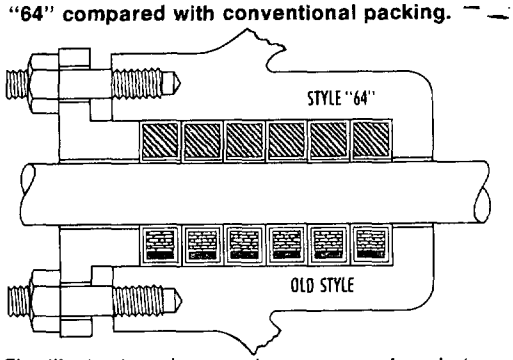
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
1/8 [1]	3,2	2	0,908	1560	106.8	71,66
	4,0[1]	2	0,908	1561	77.2	51,87
3/16	4,8	2	0,908	1562	43.2	28,98
	6,0	2	0,908	1563	30.7	20,62
		5	2,270.	1572	30.7	20,62
1/4	6,4	2	0,908	1564	26.5	17,78
		5	2,270	1573	26.5	17,78
5/16	8,0	2	0,908	1565	17.6	11,81
		5	2,270	1574	17.6	11,81
3/8	9,5	2	0,908	1566	11.5	7,72
		5	2,270	1575	11.5	7,72
		10	4,540	1581	11.5	7,72
	10,0	2	0,908	1567	9.4	6,32
		5	2,270	1576	9.4	6,32
7/16	11,1	2	0,908	1568	8.5	5,70
		5	2,270	1577	8.5	5,70
	12,0	2	0,908	1569	7.4	4,97
		5	2,270	1578	7.4	4,97
		10	4,540	1582	7.4	4,97
1/2	12,7	2	0,908	1570	6.5	4,36
		5	2,270	1579	6.5	4,36
		10	4,540	1583	6.5	4,36
9/16	14,3	5	2,270	1580	4.9	3,29
		10	4,540	1584	4.9	3,29
5/8	15,9	10	4,540	1585	4.4	2,95
11/16	7,5	10	4,540	1586	3.3	2,22
3/4	19,1	10	4,540	1587	2.8	1,88
13/16	20,6	10	4,540	1588	2.5	1,68
7/8	22,2	10	4,540	1589	2.2	1,48
15/16	23,8	10	4,540	1593	1.9	1,28
1	25,4	10	4,540	1594	1.7	1,14

[1] Construction differs slightly in these sizes.



"64" compared with conventional packing.



The illustration above makes a comparison between "64" and ordinary rubberback asbestos packing in actual service. A slight increase in pressure on "64" will force the plies onto the rod, effectively establishing a seal. As pressure is relieved the packing resumes its former position and shape, and only gently contacts the rod. Friction is thereby reduced 50%, compared with old style of packing which lacks flexibility because there is no scientific method of compensating for wear.

CHESTERTON STYLE 364-T

For those desiring the resiliency of STYLE 64 but without graphite, Chesterton offers STYLE 364-T. STYLE 364-T comes with a polytetrafluorethylene surface-lubricant embodying finely divided Teflon* particles. This style is especially recommended for brewing kettles, mixers, and for the top gland of pulp mill digesters where flexibility, chemical resistance, and purity of lubricants are essential combined characteristics.

For ***364-T*** chart see page 89

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
¼	6,4	2.00	0,91	6404	20.00	13,45
5/16	8,0	2.50	1,13	6405	13.60	9,13
⅜	9.5	2.75	1,25	6406	11.00	7,40
7/16	11,1	3.25	1,48	6407	8.60	5,76
½	12,7	3.75	1,70	6408	6.00	4,03
9/16	14,3	5.50	2,50	6409	4.90	3,30
⅝	15,9	5.75	2,61	6410	4.40	2,94
11/16	17,5	6.90	3,13	6411	3.60	2,42
¾	19,1	6.90	3,13	6412	2.90	1,94
13/16	20,6	6.90	3,13	6413	2.47	1,66
⅞	22,2	8.50	3,85	6414	2.00	1,34
15/16	23,8	8.50	3,85	6415	1.88	1,26
1	25,4	9.12	4,14	6416	1.75	1,18
1 1/16	27,0	To order		6417	1.33	0,89
1 1/8	28,6	To order		6418	1.23	0,83
1 3/16	30,2	To order		6419	1.15	0,77
1 ¼	31,7	To order		6420	1.10	0,74
1 5/16	33,3	To order		6421	1.00	0,67
1 ⅜	34,9	To order		6422	0.90	0,61
1 ½	38,1	To order		6424	0.73	0,49

* DuPont's registered trademark.

SERVICE

Valves, pumps, digesters, compressors, expansion joints to 300 psig (21 kg/cm²).

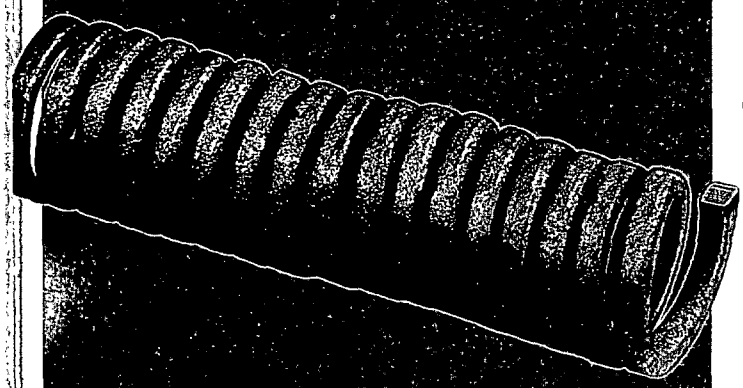
The unique diagonal design and construction of STYLE 64 places each ply of asbestos cloth diagonal rather than parallel to the rod. Expansion and elasticity are thus provided mechanically through construction rather than from a rubber back found in ordinary type packings. Compressibility adds "life" to STYLE 64, and this means longer service and fewer replacements.

STYLE 64 is recommended for general use on rods and valves operating against steam, mild acids, and alkalies. Many applications, such as safety and blow-off valves, steam pumps and engines, air compressors, and expansion joints require this tough, resilient, long life elastic packing.

2 ROD and VALVE STEM PACKINGS

CHESTERTON

CHESTERTON STYLE 350



SERVICE

For saturated high pressure steam on rods and valve stems

STYLE 350 is a woven, folded asbestos packing incorporating a resilient rubber back for compressibility. It is treated with a heat-resisting binder for high temperatures, and is lubricated to insure proper operation under high pressure steam conditions. STYLE 350 is recommended for compressed air and general steam rod application up to 300 psi (20 kg/cm²). It is a proven packing against saturated steam conditions as found on pumps, engines, steam hammers, and expansion joints.

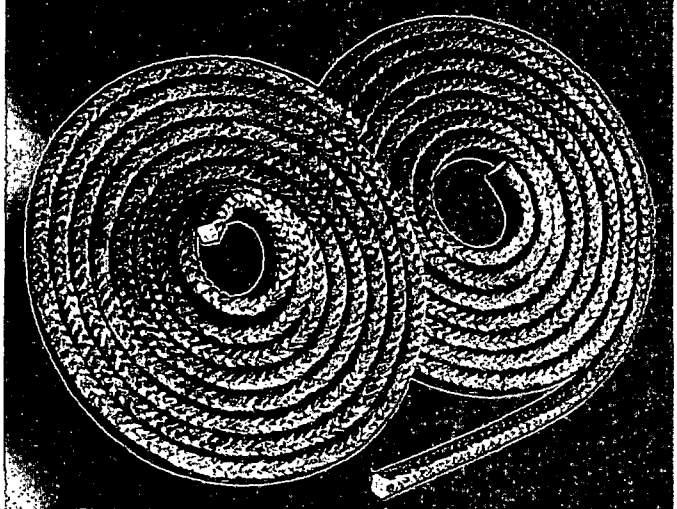
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/4	6,4	2.25	1,02	35004	17.70	11,79
5/16	8,0	2.50	1,14	35005	11.10	7,39
3/8	9,5	3.25	1,48	35006	9.30	6,20
7/16	11,1	4.00	1,82	35007	7.10	4,73
1/2	12,7	4.50	2,04	35008	5.00	3,36
9/16	14,3	6.00	2,72	35009	4.10	2,75
5/8	15,9	6.75	3,06	35010	3.70	2,49
11/16	17,5	6.75	3,06	35011	2.96	1,99
3/4	19,1	8.50	3,86	35012	2.30	1,54
13/16	20,6	8.50	3,86	35013	2.16	1,45
7/8	22,2	8.50	3,86	35014	2.00	1,34
15/16	23,8	11.50	5,22	35015	1.76	1,18
1	25,4	11.50	5,22	35016	1.50	1,01
1 1/16	27,0	To order		35017	1.25	0,84
1 1/8	28,6	To order		35018	1.03	0,69

Rubber back in 7/16" (11 mm) and larger sizes only

CHESTERTON

CHESTERTON STYLE 5010



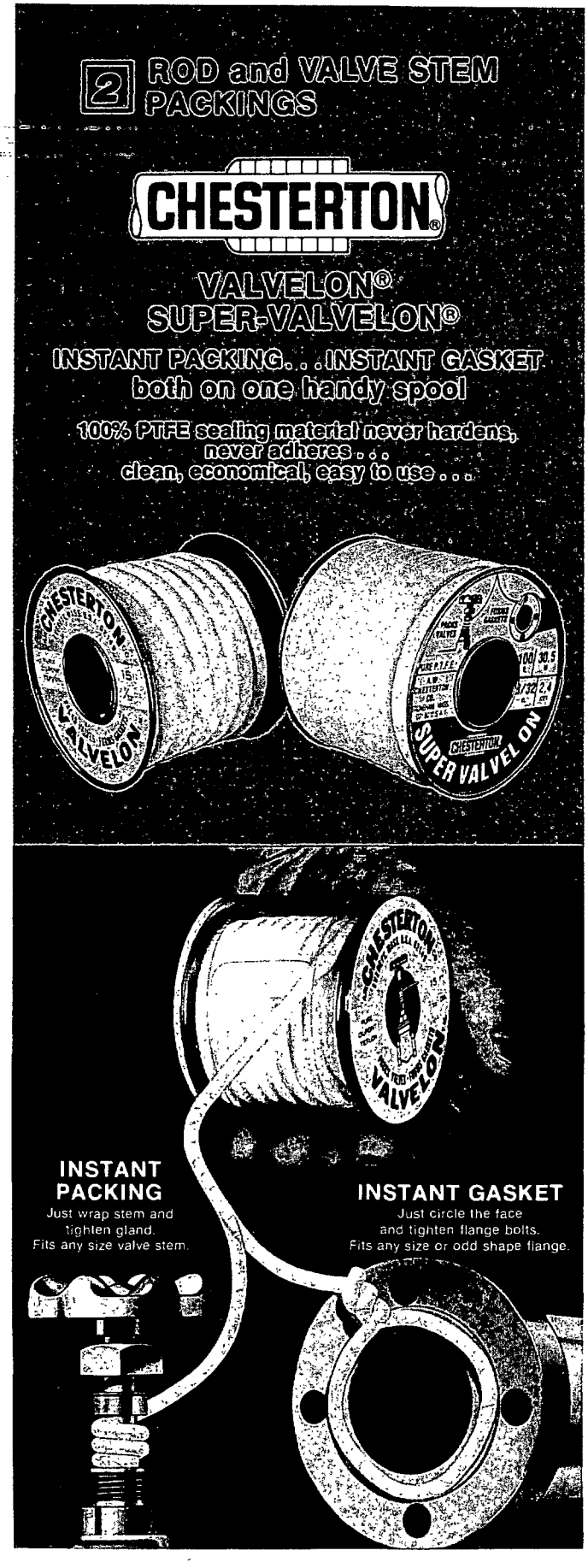
SERVICE

Reciprocating rod and valve stem packing for superheated steam to 1000°F. (540°C.)

CHESTERTON STYLE 5010 is recommended for superheated steam to 1000°F. (540°C.), or on any installation where excessive lubrication may prove bothersome through shrinking and boil-off. Expansion joints, turbines, stems of engines and valves may be packed with STYLE 5010. It also gives excellent results on fast reciprocating rods. STYLE 5010 contains no wire.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/16	1,6	2	0,908	5051	590.00	395,89
1/8	3,2	2	0,908	5060	145.00	97,30
3/16	4,8	2	0,908	5062	66.00	44,29
1/4	6,4	2 5	0,908 2,270	5064 5073	37.00 37.00	24,82 24,82
5/16	8,0	2 5	0,908 2,270	5065 5074	23.00 23.00	15,43 15,43
3/8	9,5	2 5 10	0,908 2,270 4,540	5066 5075 5081	16.00 16.00 16.00	10,74 10,74 10,74
7/16	11,1	2 5	0,908 2,270	5068 5077	12.00 12.00	8,05 8,05
1/2	12,7	2 5 10	0,908 2,270 4,540	5070 5079 5083	9.00 9.00 9.00	6,04 6,04 6,04
9/16	14,3	5 10	2,270 4,540	5080 5084	7.47 7.47	5,02 5,02
5/8	15,9	10	4,540	5085	5.75	3,86
11/16	17,5	10	4,540	5086	4.80	3,23
3/4	19,1	10	4,540	5087	4.00	2,68
13/16	20,6	10	4,540	5088	3.50	2,35
7/8	22,2	10	4,540	5089	3.00	2,01
15/16	23,8	10	4,540	5093	2.64	1,78
1	25,4	10	4,540	5094	2.25	1,51



SERVICE
All liquids and gases
from −400°F (240°C) to +500°F (260°C)
Do Not use on liquid or gaseous oxygen.

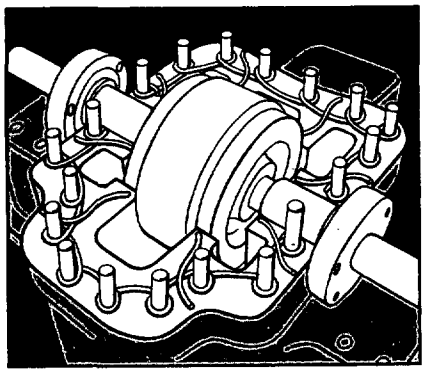
CHESTERTON VALVELON® provides a double construction of 100% PTFE core with a spiral covering of PTFE tape molecularly oriented to help resist extrusion. This double construction enables VALVELON to conform to uneven flange surfaces, fill voids, and yet resist extrusion.

CHESTERTON SUPER-VALVELON provides, for the first time, the versatility of a malleable core material with the strength and high extrusion resistance of a braided jacket of pure Teflon* yarn giving chemical resistance and extreme low friction characteristics associated with Teflon yarns. This allows SUPER-VALVELON to be used at higher pressures than our standard VALVELON material.

CHESTERTON VALVELON and SUPER-VALVELON are unaffected by chemicals (except molten alkali metals and some rare halogenated compounds), never harden, never adhere, and are completely inert. They also reduce the need for large inventories of valve stem packings, and flange gaskets.

VALVES — VALVELON and SUPER-VALVELON pack valves! Wrap several turns around the stem to fill the stuffing box. Tighten down the follower nut. The "plastic" PTFE squeezes to fill all voids making a tight seal.

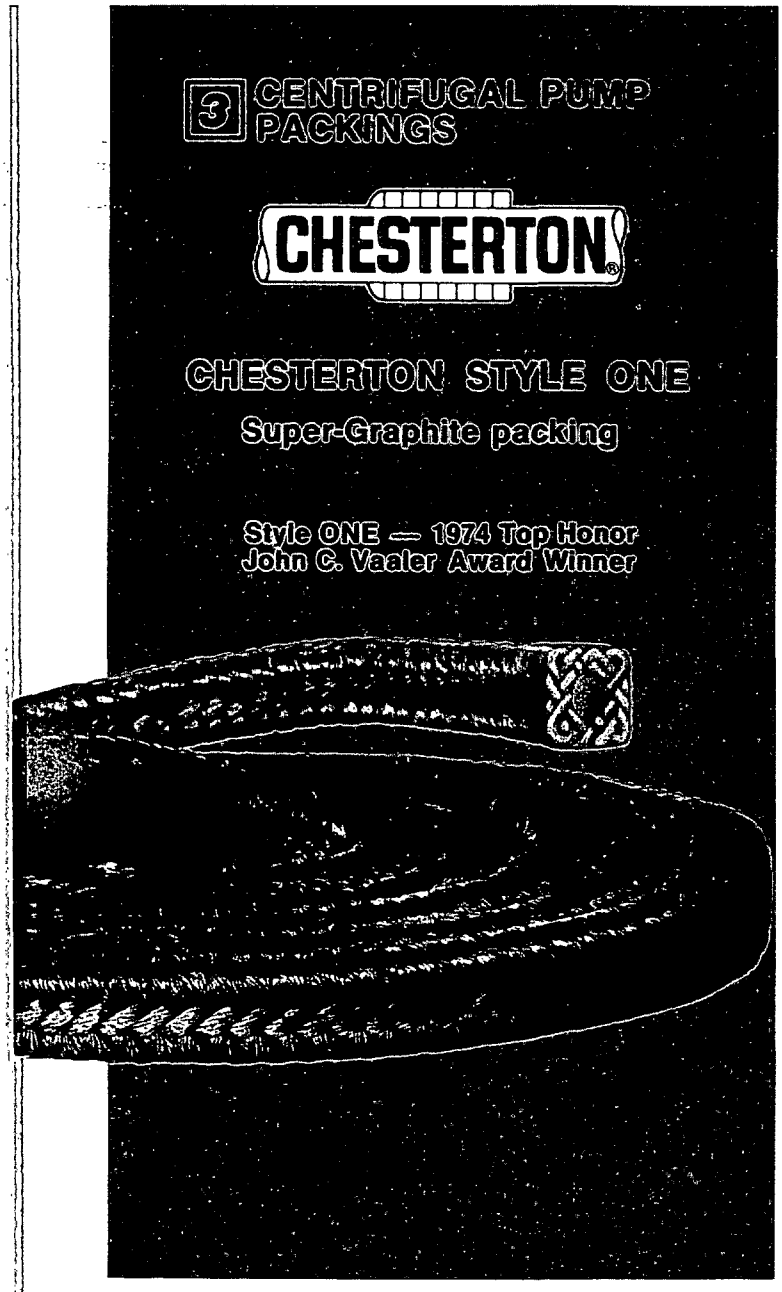
GASKETING — A single strand of VALVELON or SUPER-VALVELON forms a gasket that can be parted cleanly years later. Tightening the flange bolts squeezes the VALVELON/SUPER-VALVELON into a continuous gasket.



VALVELON/SUPER-VALVELON forms a perfect seal when laid continuously around the face (and bolts) of odd shaped flanges. Squeezes into a custom molded gasket.

APPROXIMATE DATA				
SIZE	VALVELON REORDER PROD. NO.	SUPER-VALVELON REORDER PROD. NO.	SPOOLS/ CARTON	CARTON/ MASTER
3/32" × 80' 2,4 mm × 24,4 M	NA	[1]3666	12	12
3/32" × 50' 2,4 mm × 15,3 M	[1]3566	NA	12	12
5/32" × 35' 4,0 mm × 10,7 M	[1]3570	[1]3670	12	12
7/32" × 15' 5,6 mm × 4,6 M	[1]3574	[1]3674	12	12
9/32" × 9' 7,1 mm × 2,7 M	[1]3578	[1]3678	12	12
Kit 3 Spools of each size	3500	3600		

* DuPont's registered trademark
[1] Reorder Product Number is for individual item



SERVICE

Low friction, universal packing for pumps and valves. Self-lubricating fiber. High chemical immunity. For non-oxidizing services to 5000°F. (2760°C.) 100% pure graphite throughout. Low (81 ppm) chloride content. Virtually non-scoring.

The A. W. Chesterton Company set out to create a new material which would eliminate the problems found in mechanical packings and could be used in all services. The finished result of this highly scientific engineering and testing program is a packing which has such tremendous efficiencies that Chesterton decided to assign it the leading number of its line: STYLE ONE.

CHESTERTON STYLE ONE SUPER-GRAPHITE is the world's first 100% graphite packing which can be applied to virtually all pumps and valves. It is manufactured from a pure quality graphite yarn braided in the Chesterton interbraid method. Firmly entrapped between every fiber are tiny submicron-sized particles of pure graphite which act both as a blocking agent to prevent leakage and as a surface lubricant. This exclusive feature allows STYLE ONE to be used in extreme service where other graphite or P.T.F.E. type packings fail due to burning, migration, or loss of foreign lubricant, their "weak link." STYLE ONE contains only graphite.

STYLE ONE eliminates shaft wear associated with asbestos-P.T.F.E. or graphite-P.T.F.E. packings which burn when shaft-temperatures exceed 600°F. (315°C.). Being pure graphite, STYLE ONE will not harden or glaze over and can result in a maintenance savings many times in excess of the actual packing cost.

STYLE ONE is so efficient that it is commonly referred to as a "universal packing," that is, it can be used for virtually any sealing application where conventional packings are presently employed. In fact, STYLE ONE is so revolutionary that it has replaced mechanical shaft seals in some cases due to lower cost, easier installation and similar leakage control with minimum possible shaft scoring. STYLE ONE can truly be said to be the best packing material ever offered.

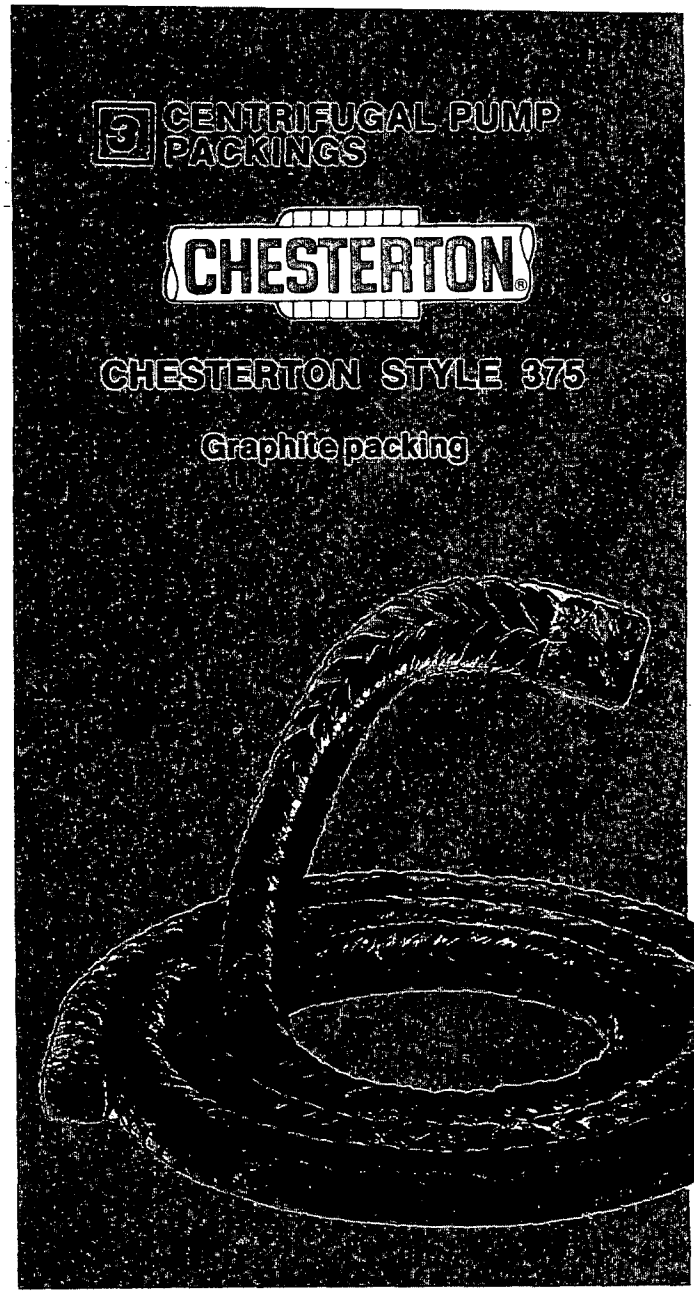
Being an all-graphite material, it can withstand temperatures to 5000°F. (2760°C.) in absence of an oxidizing agent, with practically no weight loss, and will take 800°F. (430°C.) in air with no change in characteristics. STYLE ONE also has remained flexible when tested in liquid helium to −400°F. (−240°C.).

STYLE ONE is inert to almost all chemicals from pH 1 to 14. (Exceptions are oleum, fuming nitric acid, aqua regia, and fluorine. Hydrofluoric acid and hydrochloric acids will not attack STYLE ONE unless it is used as a positive electrode in the electrolysis of an aqueous acid solution.)

Authorized by the United States Department of Agriculture (USDA) for use in federally inspected meat and poultry plants.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
1/4	6,4	1 3	0,454 1,360	37654 37604	40.5 40.5	27,17 27,17
5/16	8,0	1 3	0,454 1,360	37655 37605	29.0 29.0	19,44 19,44
3/8	9,5	1 3	0,454 1,360	37656 37606	19.0 19.0	12,73 12,73
7/16	11,1	1 3	0,454 1,360	37657 37607	13.3 13.3	8,91 8,91
1/2	12,7	1 4	0,454 1,820	37658 37608	10.0 10.0	6,71 6,71
9/16	14,3	4	1,820	37609	8.8	5,89
5/8	15,9	4	1,820	37610	6.8	4,55
11/16	17,5	To order		37611	5.6	3,76
3/4	19,1	To order		37612	4.6	3,08
13/16	20,6	To order		37613	4.0	2,69
7/8	22,2	To order		37614	3.5	2,35
15/16	23,8	To order		37615	3.0	2,02
1	25,4	To order		37616	2.4	1,62



much is added, it results in burning or charring when the packing is used in high-speed applications, where surface temperatures exceed Teflon limits of 600°F. This can result in shaft scoring and packing failure. CHESTERTON does not overload the packing with suspensoid.

STYLE 375 eliminates most shaft wear associated with Asbestos/Teflon packings because the fibers are comparatively frictionless in running and immune to chemical hardening

STYLE 375 is manufactured from twisted end plied pure graphite yarns with a minimum of 99% carbon assay, and is completely inert to chemical attack. (Exceptions are oleum, fuming nitric acid, aqua regia, and fluorines which attack the base yarn.) This packing is extremely pure, devoid of chemically attackable or abrasive contaminants. The coated yarn has a 1% maximum ash content.

STYLE 375, having pure graphite yarn and a small amount of suspensoid, can be used readily on centrifugal pump applications because the heat generated at the shaft is carried off through the yarns to the stuffing box. In fact, there is comparatively little thermal expansion to graphite and less than that of the shaft metals themselves.

STYLE 375 is effective through the entire pH range in pumps and valves handling chemicals to 600°F (315°C).

SERVICE

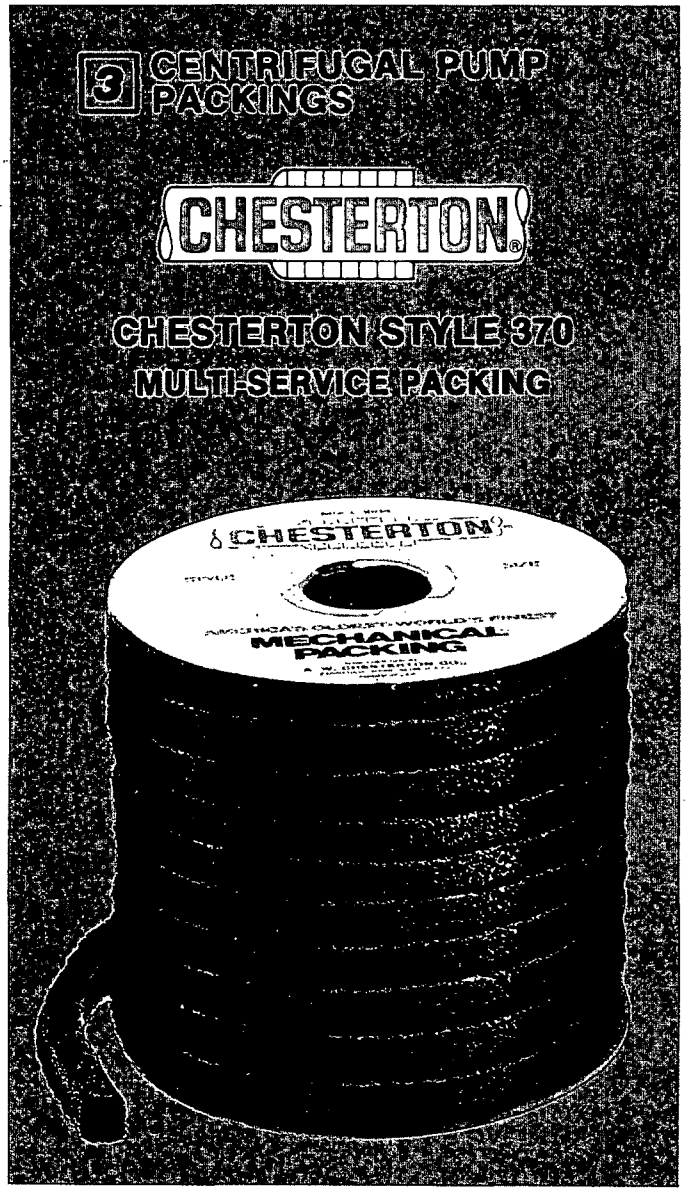
For strong chemical services on centrifugal and reciprocating shafts to 600°F (315°C). Less than 200 ppm chloride content.

CHESTERTON STYLE 375 is manufactured in square plait braided construction from the highest quality pure graphite yarns. After braiding, it is treated with a controlled amount of DuPont Teflon*, which acts as both a blocking agent to prevent weepage through the packing, and as a lubricant. The amount of Teflon suspensoid added is relatively small. If too

* DuPont's registered trademark.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	1	0,454	37552	86.00	57,70
3/16	4,8	1	0,454	37553	63.00	42,26
1/4	6,4	1 3	0,454 1,360	37554 37504	40.50 40.50	27,17 27,17
5/16	8,0	1 3	0,454 1,360	37555 37505	29.00 29.00	19,44 19,44
3/8	9,5	1 3	0,454 1,360	37556 37506	19.00 19.00	12,73 12,73
7/16	11,1	1 3	0,454 1,360	37557 37507	13.30 13.30	8,91 8,91
1/2	12,7	1 4	0,454 1,820	37558 37508	10.00 10.00	6,71 6,71
9/16	14,3	4	1,820	37509	8.80	5,89
5/8	15,9	4	1,820	37510	6.80	4,55
11/16	17,5	To order		37511	4.75	3,20
3/4	19,1	To order		37512	4.60	3,08
13/16	20,6	To order		37513	3.80	2,55
7/8	22,2	To order		37514	3.33	2,24
15/16	23,8	To order		37515	2.80	1,88
1	25,4	To order		37516	2.50	1,68



SERVICE

Controls water, steam, boiler feed, aqueous solutions of acids, alkalies, pH 1 to 14, temperatures to 800°F (430°C).

CHESTERTON STYLE 370 is manufactured from a high-quality carbon yarn. STYLE 370, in interbraid construction, incorporates particles of pure graphite, high-temperature special oils, and molybdenum disulfide, which act as long-life lubricants and blocking agents. This exclusive feature allows CHESTERTON STYLE 370 to be used in services where asbestos-PTFE type packings fail due to burning, glazing, migration or loss of lubrication which is their "weak-link." The low-friction carbon yarn itself has exceptional high-temperature capability in a non-oxidizing environment. STYLE 370 provides the first viable replacement for asbestos packing in most applications where easier installation, lower operating cost, controlled leakage and minimum shaft scoring are determining factors.

FOUR-STAGE LUBRICATION PROVIDES PROTECTION AGAINST HEAT AND SHAFT WEAR

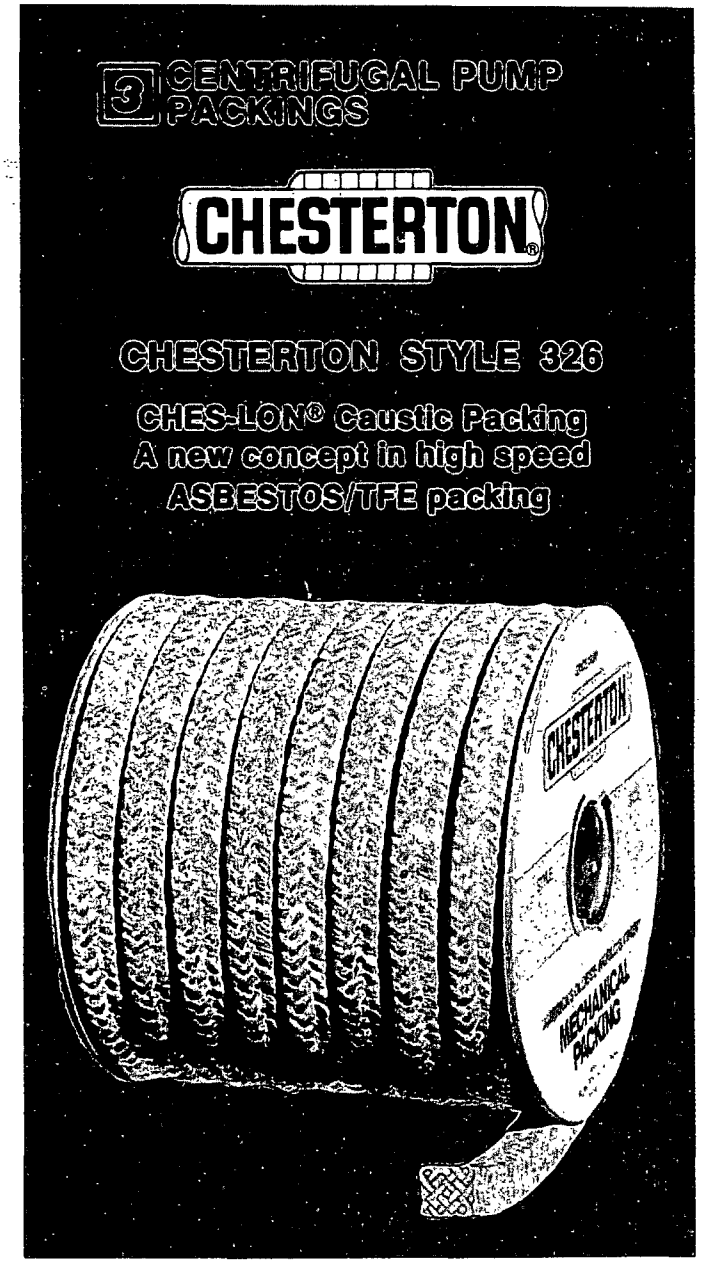
1. High-temperature, non-glazing special lubricant protects shaft and packing during fast (often under 15 minutes) break-in period. This special lubricant is non-carbonizing, odorless, non-toxic and will not turn rancid.
2. Graphite flake particles cover the carbon yarn providing non-migrating lubrication to the shaft surfaces and act as a blocking agent against wicking action.
3. High-pressure, high-temperature molybdenum disulfide lubricant provides shaft protection even when contact pressure between packing and shaft is excessive. Molybdenum's serviceable temperature range is up to 2000°F (1100°C) in the absence of oxygen.
4. Self-lubricating carbon yarn controls wear evenly during long service life. Carbon is recognized as an ideal sealing material in mechanical seals. As a yarn, interbraided into STYLE 370 packing, these qualities provide a dense, formable surface to seal against the shaft with almost frictionless contact. As the carbon yarn slowly wears, the surfaces exposed are continually self-lubricating.

PROPERTIES: CHESTERTON STYLE 370 is non-reactive with all chemicals from pH 1 to 14. Exceptions are oleum, fuming nitric, aqua regia and fluorine. Hydrofluoric acid and hydrochloric acid will not attack STYLE 370 unless it is used as a positive electrode in the electrolysis of an aqueous acid solution.

CHESTERTON STYLE 370 also meets analysis for use in nuclear areas as the total chloride content will not exceed 200 p.p.m.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8	3,2	2	0,908	37060	111.40	74,85
	4,0	2	0,908	37061	70.68	47,49
3/16	4,8	2	0,908	37062	49.78	32,98
	6,0	2 5	0,908 2,270	37063 37072	31.25	21,00
1/4	6,4	2 5	0,908 2,270	37064 37073	27.80	18,68
5/16	8,0	2 5	0,908 2,270	37065 37074	16.10	10,82
3/8	9,5	2 5 10	0,908 2,270 4,540	37066 37075 37081	12.00	8,06
	10,0	2 5	0,908 2,270	37067 37076	11.21	7,53
7/16	11,1	2 5	0,908 2,270	37068 37077	9.10	6,11
	12,0	2 5 10	0,908 2,270 4,540	37069 37078 37082	7.96	5,35
1/2	12,7	2 5 10	0,908 2,270 4,540	37070 37079 37083	7.10	4,77
9/16	14,3	5 10	2,270 4,540	37080 37084	5.10	3,43
5/8	15,9	10	4,540	37085	4.10	2,75
11/16	17,5	10	4,540	37086	3.90	2,62
3/4	19,1	10	4,540	37087	3.30	2,21
13/16	20,6	10	4,540	37088	2.80	1,88
7/8	22,2	10	4,540	37089	2.50	1,68
15/16	23,8	10	4,540	37093	2.20	1,48
1	25,4	10	4,540	37094	1.90	1,28



SERVICE

For shafts, rods, valves against the strongest alkalies, the milder acids, to 500°F. (260°C.)

CHESTERTON STYLE 326 CHES-LON® is a new *high speed* packing exclusively designed for the most severe alkaline conditions such as potassium, calcium, ammonium, barium, and magnesium hydroxides, sodium hydroxide (caustic soda), and all other strong alkaline solutions. It is recommended for reciprocating rods, rotating shafts, and valves. STYLE 326, because of exclusive CHES-LON features, offers unusual service life against liquids of high pH values ranging in excess of pH 9.

CHESTERTON STYLE 326 CHES-LON is a completely *different* Packing. An exclusive development by Chesterton makes possible total elimination of the cotton "carrier" used for spinning white asbestos yarn. Previous to this innovation, white yarns usually contained a generous percentage of cotton in order to provide greater spinning strength, to decrease the harshness of asbestos, and to aid in the retention of lubricants. Since caustics destroy cotton, it has been the practice either to live with cotton, at sacrifices to packing life; or to use either blue asbestos or a 4A white yarn. Either solution, however, produces a fiber highly abrasive to shafts. The result is severe scoring of expensive shafts and sleeves, particularly those of stainless steel.

Our answer is logical: — use Teflon* *fiber* as a carrier. In STYLE 326 we now offer a *white* asbestos with low abrasive characteristics and with a chemical resistance previously associated only with blue asbestos.

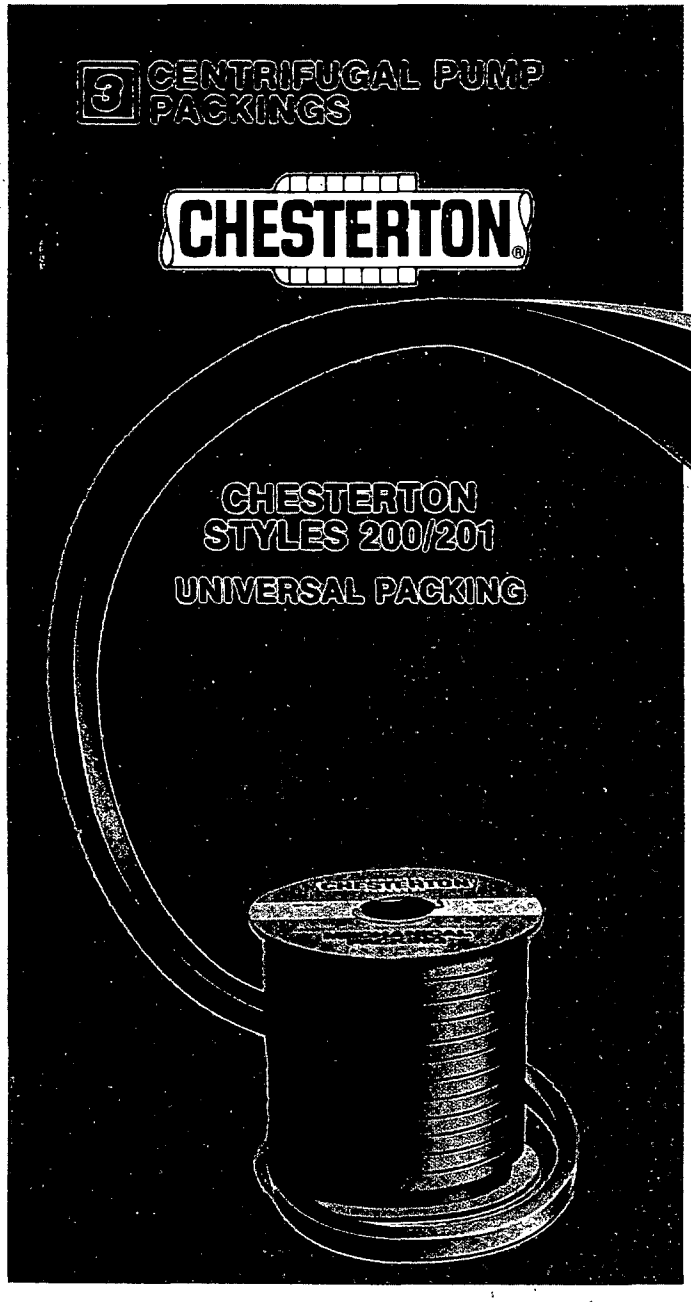
Each strand of STYLE 326 CHES-LON is individually coated with DuPont Teflon, braided in our interbraid construction, and then again massively lubricated with an additional coating of Teflon, which gives STYLE 326 a smooth, slippery surface. This lubricant, unlike waxes or greases, is immune to acids and caustics. Furthermore, it is stable in the packing and will neither wash out nor squeeze out as a result of gland pressure, and thus the lubricant is retained in the packing throughout its life. An added benefit is the fact that crystallization through absorption does not take place in the packing because Teflon effectively seals off the surface. The result is far less packing wear on shafts, and all this at speeds in excess of normal pure Teflon packings. STYLE 326 also contains a break-in lubricant to help alleviate heat build-up during start-up.

APPROXIMATE DATA

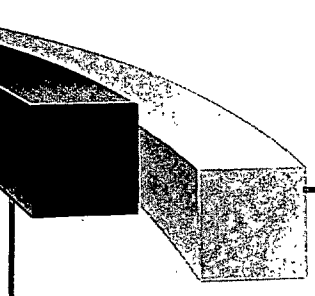
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16[1]	4,8	2	0,908	32662	33.3	22,37
	6,0	2 5	0,908 2,270	32663 32672	29.0	19,49
1/4	6,4	2 5	0,908 2,270	32664 32673	19.0 19.0	12,76 12,76
5/16	8,0	2 5	0,908 2,270	32665 32674	12.7 12.7	8,52 8,52
3/8	9,5	2 5 10	0,908 2,270 4,540	32666 32675 32681	9.6 9.6 9.6	6,45 6,45 6,45
	10,0	2 5	0,908 2,270	32667 32676	7.0 7.0	4,70 4,70
7/16	11,1	2 5	0,908 2,270	32668 32677	6.1 6.1	4,09 4,09
	12,0	2 5 10	0,908 2,270 4,540	32669 32678 32682	5.7 5.7 5.7	3,82 3,82 3,82
1/2	12,7	2 5 10	0,908 2,270 4,540	32670 32679 32683	5.5 5.5 5.5	3,69 3,69 3,69
9/16	14,3	5 10	2,270 4,540	32680 32684	4.3 4.3	2,88 2,88
5/8	15,9	10	4,540	32685	3.2	2,15
11/16	17,5	10	4,540	32686	2.7	1,79
3/4	19,1	10	4,540	32687	2.4	1,61
13/16	20,6	10	4,540	32688	2.2	1,47
7/8	22,2	10	4,540	32689	1.8	1,21
15/16	23,8	10	4,540	32693	1.5	1,00
1	25,4	10	4,540	32694	1.3	0,87

[1] Slightly different construction

* DuPont's registered trademark.



CHESTERTON STYLE 200 resists hardening when used within its intended temperature limits of 500°F (260°C), and will remain flexible and has excellent lubrication retention properties.



CHESTERTON STYLE 201

CHESTERTON STYLE 201 is made from similar materials to STYLE 200 but is white in color. Where a non-staining, non-discoloring packing is needed, it is available in STYLE 201.

CHESTERTON STYLE 200 is designed to resist extrusion due to alignment and orientation of its PTFE fiber-like strands. It is suggested, however, that back up rings of braided material be used where higher pressures and excessive clearances are encountered.

SERVICE

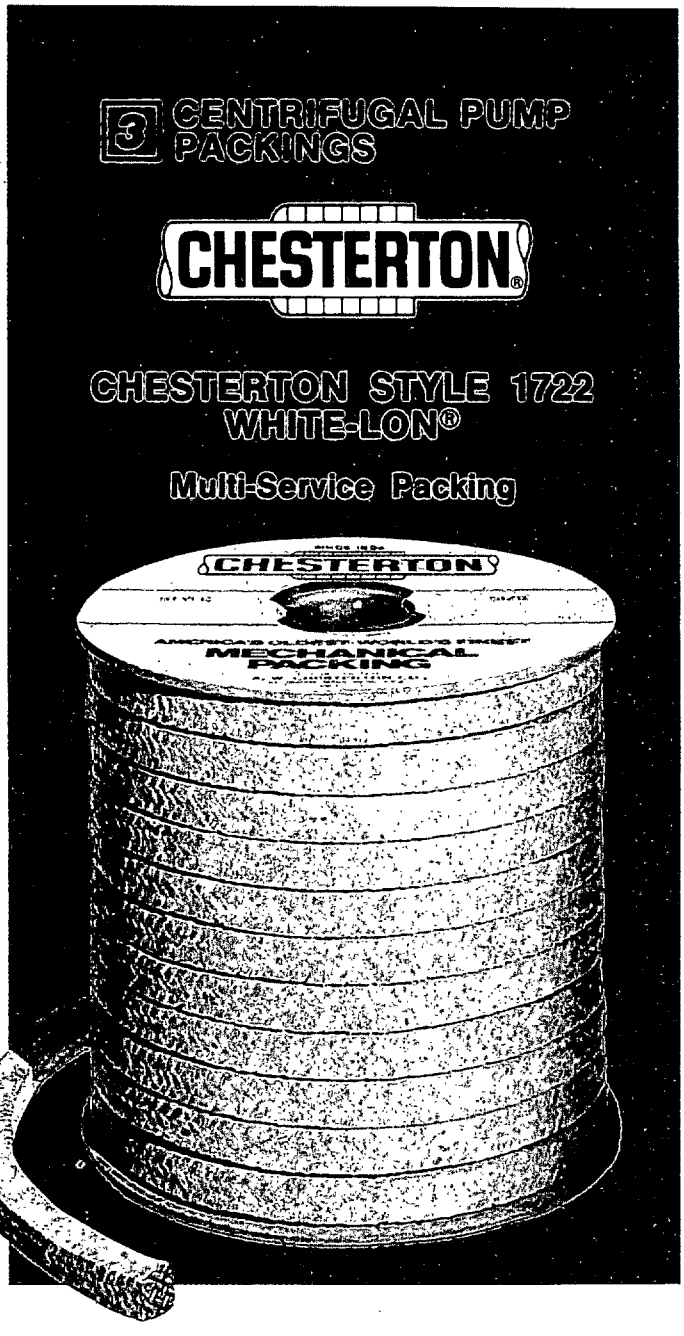
For shafts, rods, valves, against water, steam, acids and alkalies, solvents and gases to 500°F (260°C).

CHESTERTON STYLE 200

CHESTERTON STYLE 200 Universal Packing is designed for use in a wide variety of services and applications. It can service not only standard applications such as water, oils, solvents, steam, paper mill stock, but may also be used in severe acid or alkali conditions. It may be employed in clean fluids or abrasives, on centrifugal or reciprocating pumps, mixers, agitators, or in valves or expansion joints.

CHESTERTON STYLE 200 is manufactured from a combination of lubricants, unsintered oriented PTFE, and other chemically resistant materials. They are formulated and blended to provide a packing with superior anti-friction and non-scoring characteristics which, at the same time, contain a large quantity of PTFE material which provides chemical resistance for the entire pH range.

APPROXIMATE DATA							
Size		Packaged ± 10%		Reorder Product No.		Lengths/Weight	
Inches	mm	lbs.	kg.	STYLE 200	STYLE 201	Ft./lb.	M/kg.
1/8	3,2	2	0,908	20060	20160	80.00	53,75
	4,0	2	0,908	20061	20161	51.00	34,27
3/16	4,8	2	0,908	20062	20162	36.00	24,19
	6,0	2 5	0,908 2,270	20063 20072	20163 20172	24.45	16,43
1/4	6,4	2 5	0,908 2,270	20064 20073	20164 20173	20.00	13,44
5/16	8,0	2 5	0,908 2,270	20065 20074	20165 20174	14.16	9,51
3/8	9,5	2 5 10	0,908 2,270 4,540	20066 20075 20081	20166 20175 20181	8.33	5,60
	10,0	2 5	0,908 2,270	20067 20076	20167 20176	7.52	5,05
7/16	11,1	2 5	0,908 2,270	20068 20077	20168 20177	5.88	3,95
	12,0	2 5 10	0,908 2,270 4,540	20069 20078 20082	20169 20178 20182	5.21	3,50
1/2	12,7	2 5 10	0,908 2,270 4,540	20070 20079 20083	20170 20179 20183	4.54	3,05
9/16	14,3	5 10	2,270 4,540	20080 20084	20180 20184	3.74	2,51
5/8	15,9	10	4,540	20085	20185	2.94	1,98
11/16	17,5	10	4,540	20086	20186	2.49	1,67
3/4	19,1	10	4,540	20087	20187	2.04	1,37
13/16	20,6	10	4,540	20088	20188	1.76	1,18
7/8	22,2	10	4,540	20089	20189	1.49	1,00
15/16	23,8	10	4,540	20093	20193	1.31	0,88
1	25,4	10	4,540	20094	20194	1.13	0,76



SERVICE

For shafts, rods, valves against water, steam, solvents, mild acids and alkalies to 500°F. (260°C.). Being white in color, it will not stain pulp and paper mill applications.

CHESTERTON STYLE 1722 WHITE-LON® is manufactured from white Canadian chrysotile asbestos and Teflon* suspensoid in interbraid construction. Prior to braiding, each strand of asbestos is individually coated with DuPont Teflon by a unique yarn coating process to accurately control and evenly disperse the lubricant. STYLE 1722 is then interbraided, and once again coated with Teflon suspensoid. To STYLE 1722 an additional break-in lubricant is added to minimize shaft damage and to allow for expansion during the break-in period. The combination of full lubrication and interbraid construction produces a natural square packing having better sealing contact with reduced gland pressure.

* DuPont's registered trademark.

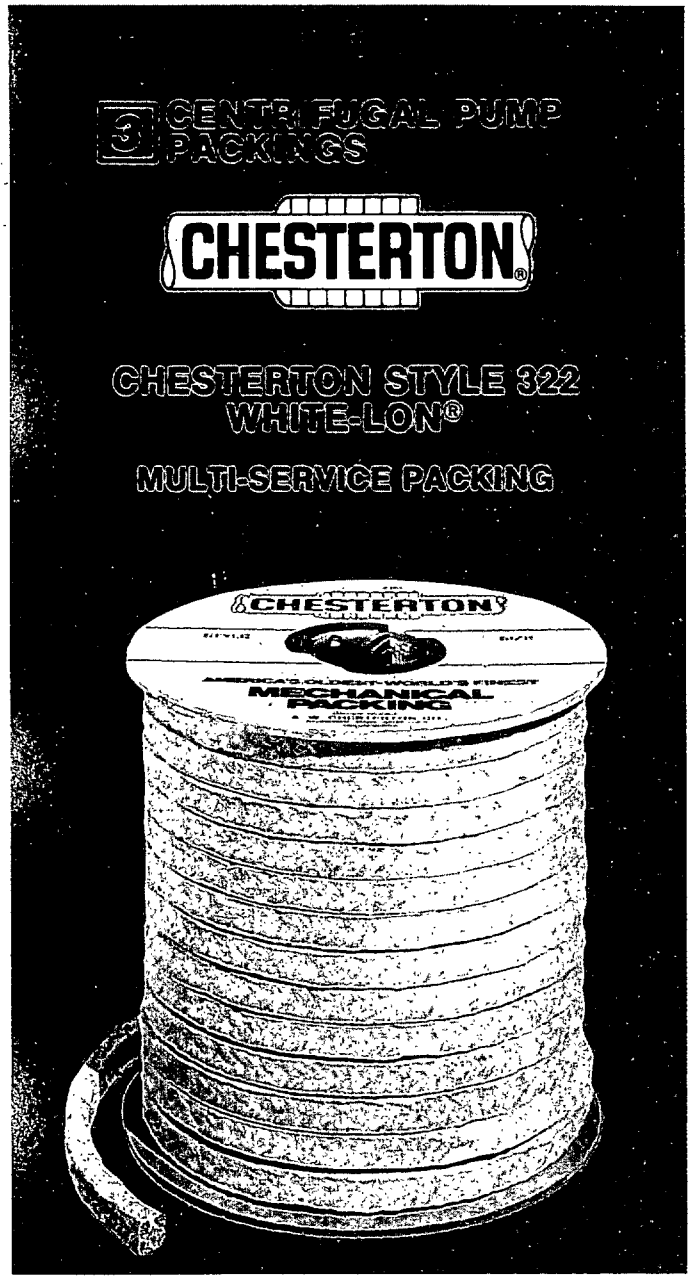
STYLE 1722 WHITE-LON is a truly multi-service packing capable of a wide variety of uses throughout a plant. STYLE 1722 may be used on water, steam, solvents, mild acids and alkalies in valves, pumps, expansion joints, mixers and agitators to 500°F. (260°C.). STYLE 1722 resists scoring of stainless or chrome-plated shafts; and, containing no graphite, it will not cause pitting to rods or shafts.

Marine Service: A ship can be packed from bow to stern on most applications on both pumps and valves. This effects standardization, reduces packing styles needed aboard. STYLE 1722 WHITE-LON reduces shaft wear while giving extended, virtually leak-free service.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8[1]	3,2	2	0,908	3160	81.68	54,88
	4,0[1]	2	0,908	3161	55.20	37,10
3/16[1]	4,8	2	0,908	3162	39.20	26,91
		5	2,270	3171	39.20	26,91
	6,0	2	0,908	3163	28.60	19,22
		5	2,270	3172	28.60	19,22
1/4	6,4	2	0,908	3164	22.14	14,87
		5	2,270	3173	22.14	14,87
5/16	8,0	2	0,908	3165	13.46	9,04
		5	2,270	3174	13.46	9,04
3/8	9,5	2	0,908	3166	9.55	6,41
		5	2,270	3175	9.55	6,41
		10	4,540	3181	9.55	6,41
	10,0	2	0,908	3167	8.80	5,92
		5	2,270	3176	8.80	5,92
7/16	11,1	2	0,908	3168	7.15	4,80
		5	2,270	3177	7.15	4,80
	12,0	2	0,908	3169	7.10	4,77
		5	2,270	3178	7.10	4,77
		10	4,540	3182	7.10	4,77
1/2	12,7	2	0,908	3170	6.04	4,05
		5	2,270	3179	6.04	4,05
		10	4,540	3183	6.04	4,05
9/16	14,3	5	2,270	3180	4.55	3,05
		10	4,540	3184	4.55	3,05
5/8	15,9	10	4,540	3185	3.75	2,51
11/16	17,5	10	4,540	3186	2.80	1,88
3/4	19,1	10	4,540	3187	2.57	1,72
13/16	20,6	10	4,540	3188	2.24	1,50
7/8	22,2	10	4,540	3189	2.00	1,34
15/16	23,8	10	4,540	3193	1.80	1,20
1	25,4	10	4,540	3194	1.41	0,94
1 1/16	27,0	To order		3117	1.25	0,84
1 1/8	28,6	To order		3118	1.20	0,80

[1] Slightly different construction



SERVICE

For Shafts, Rods, Valves Against Water, Steam, Mild Acids and Alkalies, Solvents to 500°F (260°C)

CHESTERTON STYLE 322 WHITE-LON® MULTI-SERVICE PACKING is capable of a wide variety of plant uses. STYLE 322 withstands most water, steam, solvent and chemical applications to 500°F (260°C). It is equally effective in reciprocating and centrifugal pumps, as well as in valves. Thus, WHITE-LON can be said to be a packing truly universal in usage.

CHESTERTON STYLE 322 WHITE-LON is manufactured from Chrysotile asbestos yarn in square plait construction. It is massively treated and immunized by DuPont Teflon* tetrafluoroethylene resin. Standard lubricants may migrate from packings due to pressure from gland take-up, heat, chemical action, or by being dissolved or washed out. WHITE-LON'S superior Teflon lubrication is resistant to these conditions, making STYLE 322 effective against even the most difficult alkaline substances. WHITE-LON also contains a break-in lubricant to help lubricate shafts during initial start-up periods.

WHITE-LON MULTI-SERVICE is ideal for use on both hot and cold water pumps because of its unusually low coefficient of friction. Expensive shafts and sleeves (often costing far in excess of packings) can be spared. WHITE-LON resists scoring of stainless steel and chrome plated shafts; and, containing no graphite, it will not cause pitting of rods or shafts. Being white in color it will not stain in pulp and paper mill applications.

STYLE 322 TWISTED:

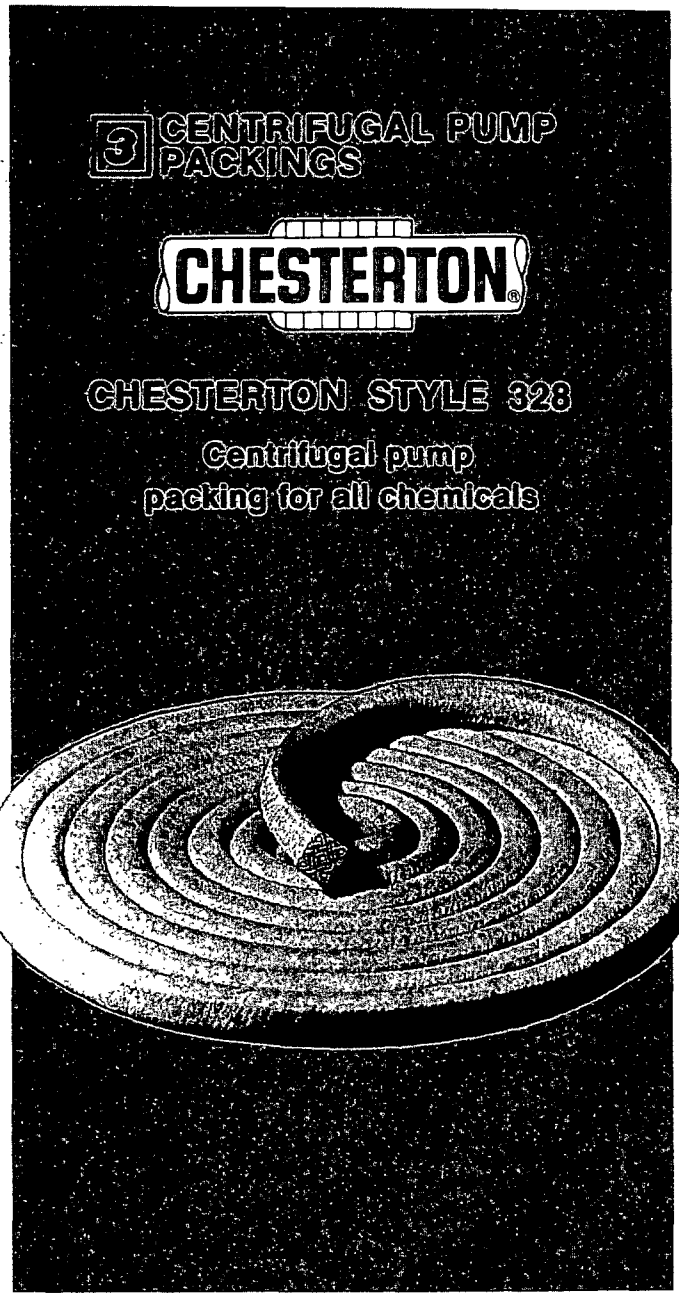
STYLE 322 TWIST is available in 1/8", 1/4", and 3/8" sizes packaged in kits containing 2 spools each of the above sizes. This packing is limited to valve service.

For STYLE 322 TWIST KITS see page 89.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	32260	63.00	42,30
	4,0	2	0,908	32261	51.90	34,87
3/16	4,8	2 5	0,908 2,270	32262 32271	39.20 39.20	26,91 26,91
	6,0	2 5	0,908 2,270	32263 32272	24.80 24.80	16,66 16,66
1/4	6,4	2 5	0,908 2,270	32264 32273	20.00 20.00	19,42 19,42
5/16	8,0	2 5	0,908 2,270	32265 32274	15.30 15.30	10,27 10,27
3/8	9,5	2 5 10	0,908 2,270 4,540	32266 32275 32281	10.50 10.50 10.50	7,05 7,05 7,05
	10,0	2 5	0,908 2,270	32267 32276	9.00 9.00	6,05 6,05
7/16	11,1	2 5	0,908 2,270	32268 32277	8.30 8.30	5,57 5,57
	12,0	2 5 10	0,908 2,270 4,450	32269 32278 32282	7.00 7.00 7.00	4,70 4,70 4,70
1/2	12,7	2 5 10	0,908 2,270 4,540	32270 32279 32283	5.80 5.80 5.80	3,90 3,90 3,90
9/16	14,3	5 10	2,270 4,540	32280 32284	4.90 4.90	3,29 3,29
5/8	15,9	10	4,540	32285	4.00	2,68
11/16	17,5	10	4,540	32286	3.10	2,08
3/4	19,1	10	4,540	32287	2.30	1,54
13/16	20,6	10	4,540	32288	2.15	1,45
7/8	22,2	10	4,540	32289	2.00	1,34
15/16	23,8	10	4,540	32293	1.80	1,21
1	25,4	10	4,540	32294	1.50	1,00
1 1/16	27,0	To order		32217	1.30	0,87
1 1/8	28,6	To order		32218	1.23	0,82
1 1/4	31,7	To order		32220	1.00	0,67

* DuPont's registered trademark.



SERVICE

For shaft speeds to 1200 ft. per min. (6 m/sec.) against all chemicals also for air and gas valves

Normally, an all-fibre packing made of Teflon* (such as our STYLE 324 for valves) is limited in its ability to handle the higher shaft speeds. In STYLE 328 CHESTERTON has developed an all-Teflon fibre which has been reoriented to increase substantially the tolerance of the fibre to higher peripheral shaft speed demands. Designed for centrifugal pump service, it is a chemical packing completely inert to all materials except molten alkali metals.

CHESTERTON STYLE 328 fibres have been preshrunk and braided in our interbraid construction to give greater dimensional stability at elevated temperatures to 500°F. (260°C.). Additionally, DuPont Teflon suspensoid resin and other lubricants are incorporated into the fibres to resist migration, often the primary cause of leakage, and for low frictional qualities.

* DuPont's registered trademark.

STYLE 328 differs from other Teflon fibre packings. It is capable of withstanding higher shaft speeds because of the inclusion of CHESTERTON'S exclusive "blocking agent". Friction between shaft and packing builds; and because Teflon is an insulator, heat is unable to escape to the casing. The incorporation of CHESTERTON'S "blocking agent" in STYLE 328 allows for expansion. The packing is permitted to breathe in the box, and heat is dissipated to prevent exothermic burning.

Shaft frictional scoring is virtually eliminated with the development of this new soft TFE form. Also excellent for air and gas valves, as STYLE 328 is easily responsive, and thus resists channeling.

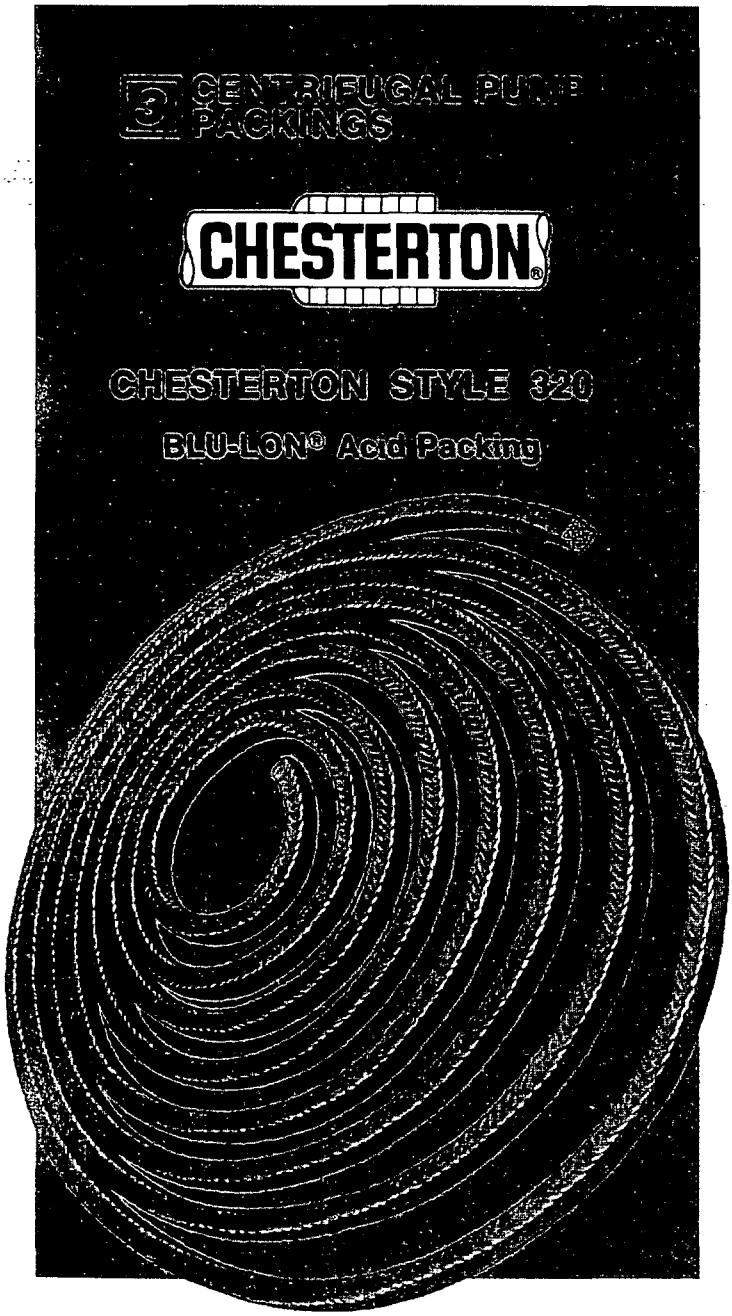
The effective use of Teflon in centrifugal pumps with higher speed shafts is now significantly increased with STYLE 328 to approximately 1200 ft./min. (6 m/sec.) or higher if considerable care is used on installation and break-in. See shaft peripheral speed table in rear of catalog to determine ft./min. or m/sec.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8 [1]	3,2	2	0,908	32860	76.0	50,99
	4,0 [1]	2	0,908	32861	53.0	35,61
3/16 [1]	4,8	2	0,908	32862	27.0	18,12
	6,0	2	0,908	32863	22.5	15,12
		5	2,270	32872	22.5	15,12
1/4	6,4	2	0,908	32864	21.0	14,09
		5	2,270	32873	21.0	14,09
5/16	8,0	2	0,908	32865	12.0	8,05
		5	2,270	32874	12.0	8,05
3/8	9,5	2	0,908	32866	8.3	5,57
		5	2,270	32875	8.3	5,57
		10	4,540	32881	8.3	5,57
	10,0	2	0,908	32867	7.4	4,97
		5	2,270	32876	7.4	4,97
7/16	11,1	2	0,908	32868	7.0	4,70
		5	2,270	32877	7.0	4,70
	12,0	2	0,908	32869	5.8	3,90
		5	2,270	32878	5.8	3,90
		10	4,540	32882	5.8	3,90
1/2	12,7	2	0,908	32870	4.8	3,22
		5	2,270	32879	4.8	3,22
		10	4,540	32883	4.8	3,22
9/16	14,3	5	2,270	32880	3.8	2,55
		10	4,540	32884	3.8	2,55
5/8	15,9	10	4,540	32885	3.3	2,21
1 1/16	17,5	10	4,540	32886	2.8	1,88
3/4	19,1	10	4,540	32887	2.4	1,61
1 3/16	20,6	10	4,540	32888	2.1	1,41
7/8	22,2	10	4,540	32889	1.8	1,21
1 5/16	23,8	10	4,540	32893	1.5	1,01
1	25,4	10	4,540	32894	1.0	0,80

[1] Slightly different construction

FOR APPLICATIONS INVOLVING NITRIC ACID — CONSULT FACTORY



SERVICE

For shafts, rods, valves against highly corrosive acids to 500°F. (260°C.)

STYLE 320 BLU-LON® is a newly developed and perfected braided packing chemically resistant to such difficult acid conditions as sulphuric, sulphurous, hydrochloric and chromic. It has two primary base ingredients: first, DuPont Teflon* tetrafluoroethylene resin which is inert to all materials except molten alkali metals; secondly, South African Blue Crocidolite asbestos, a chemically pure asbestos yarn recognized for its superior acid resisting properties. Each strand of this yarn is separately and completely covered with chemically inert Teflon Suspensoid, using our special and exclusive process. The packing is then manufactured in our interbraid construction for added dimensional stability. Once again it is treated with DuPont Teflon to give it an additional lubricating surface, thus helping to eliminate severe shaft scoring. STYLE 320 BLU-LON is further treated with a break-in lubricant to decrease shaft damage during start-up operations.

STYLE 320 BLU-LON is superior in service to straight Teflon resins of the braided ribbon or extruded moulded types. Moulded resin packings will swell and seize high speed shafts. BLU-LON will not. Further, BLU-LON has excellent compressibility and recuperation. These desirable characteristics are not found in straight Teflon resin packings.

CHESTERTON BLU-LON Packing is recommended for strong acids ranging from pH values 1 through 4 inclusive. Ideally suited for service on chrome plated or stainless steel shafts. *Note:* Makes a fine, permanent-type ammonia valve stem packing because the lubricant does not dry out, since STYLE 320 is Teflon protected from the residual oil and water present in ammonia lines.

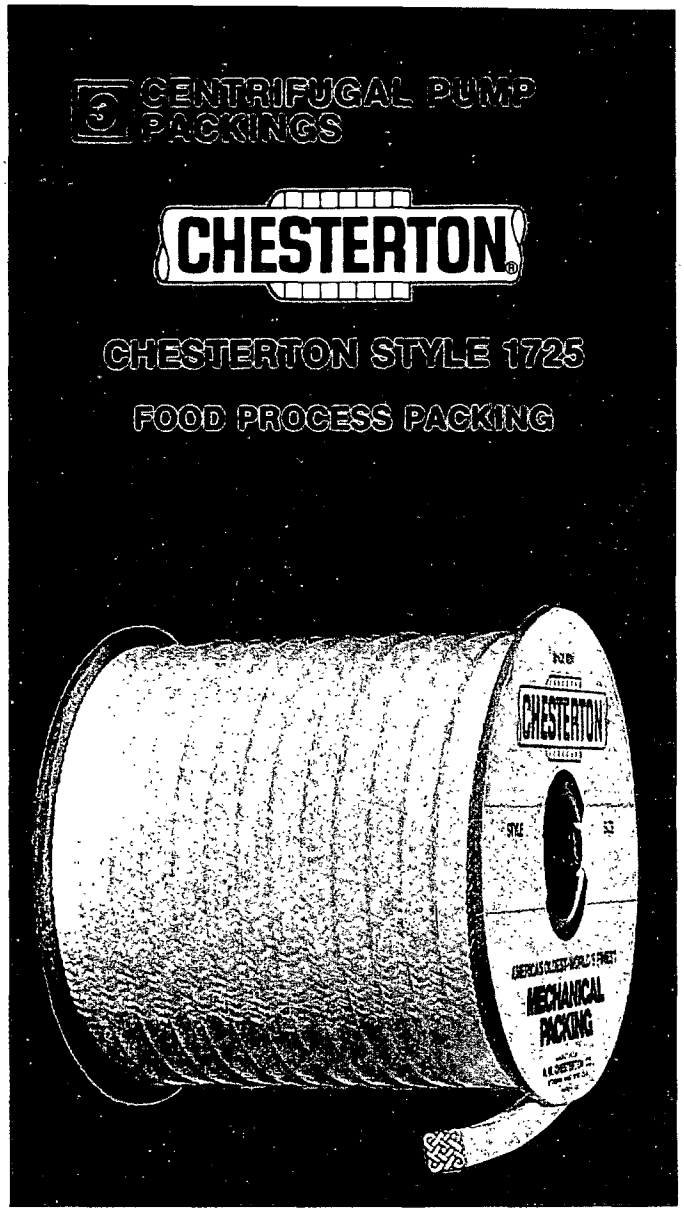
* DuPont's registered trademark.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8[1]	3,2	2	0,908	32060	78.0	52,34
	4,0[1]	2	0,908	32061	57.0	38,30
3/16[1]	4,8	2	0,908	32062	30.6	20,56
	6,0	2 5	0,908 2,270	32063 32072	24.0 24.0	16,09 16,09
1/4	6,4	2 5	0,908 2,270	32064 32073	19.3 19.3	12,96 12,96
5/16	8,0	2 5	0,908 2,270	32065 32074	11.6 11.6	7,79 7,79
3/8	9,5	2 5 10	0,908 2,270 4,540	32066 32075 32081	8.7 8.7 8.7	5,80 5,80 5,80
	10,0	2 5	0,908 2,270	32067 32076	7.8 7.8	5,23 5,23
7/16	11,1	2 5	0,908 2,270	32068 32077	6.1 6.1	4,09 4,09
	12,0	2 5 10	0,908 2,270 4,540	32069 32078 32082	5.6 5.6 5.6	3,76 3,76 3,76
1/2	12,7	2 5 10	0,908 2,270 4,540	32070 32079 32083	4.8 4.8 4.8	3,22 3,22 3,22
9/16	14,3	5 10	2,270 4,540	32080 32084	4.1 4.1	2,75 2,75
5/8	15,9	10	4,540	32085	3.4	2,28
11/16	17,5	10	4,540	32086	2.7	1,82
3/4	19,1	10	4,540	32087	2.2	1,47
13/16	20,6	10	4,540	32088	1.9	1,27
7/8	22,2	10	4,540	32089	1.8	1,20
15/16	23,8	10	4,540	32093	1.5	1,01
1	25,4	10	4,540	32094	1.47	0,98

[1] Slightly different construction

FOR APPLICATIONS INVOLVING NITRIC ACID — CONSULT FACTORY



SERVICE

Pumps, agitators, mixers, for valves, etc., for handling food process fluids.

CHESTERTON STYLE 1725 FOOD PROCESS PACKING is designed for service in food processing equipment with shaft speeds up to 1200 feet per minute (6 M/sec.) and temperatures of 450°F (230°C).

CHESTERTON STYLE 1725 is the only product available that complies with the FDA and the USDA requirements under Title 21 Food and Drugs, 178.3570, lubricants with incidental food contact and 177.1550, perfluorocarbon resins.

An exclusive manufacturing process employed by CHESTERTON, utilizing special yarn fibers, permits this compliance by eliminating soap acids and wetting agents which, in PTFE dispersioned packings, do not satisfy FDA requirements.

With STYLE 1725, its interbraid construction provides unusual toughness and greater sealing ability by placing the maximum number of strands of the packing against sealing surfaces.

The product contains only those materials permitted for food contact use by the U.S. Department of Agriculture and the Food and Drug Administration. Its pure, polytetrafluoroethylene yarn is non-contaminating and resists chemicals in the range of pH1 to pH 14.

In performance, there is less drag which reduces shaft wear, power consumption and product loss. This is achieved in the manufacturing process by combining special, food-grade lubricants and other bulk particles to serve as a blocking agent to reduce packing bleed through the pumped product and to reduce friction.

The universality of the product for application in valves, pump, agitators, mixers, and other rotating/reciprocating equipment, permits reduction of inventories of several styles of mechanical packing.

CHESTERTON STYLE 1725 FOOD PROCESS PACKING awarded HONORS in the 1977 FOOD PROCESSING AWARDS program by an independent panel of food industry judges.

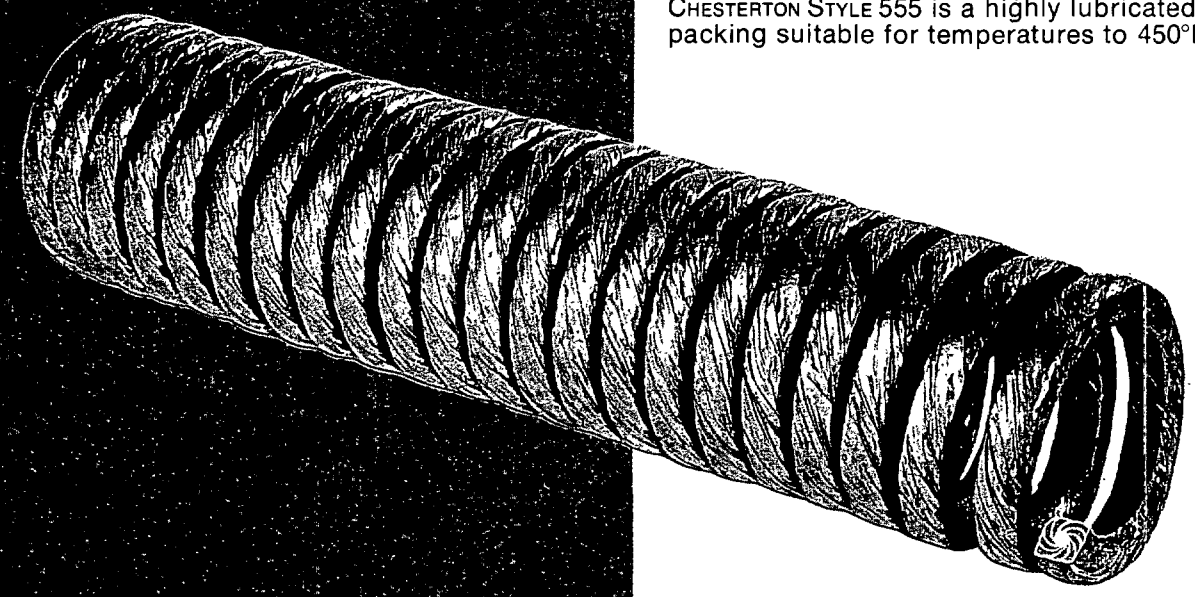
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/8	3,2	2	0,908	3360	72.35	48,61
	4,0	2	0,908	3361	54.27	36,46
3/16	4,8	2	0,908	3362	36.20	24,32
	6,0	2 5	0,908 2,270	3363 3372	23.41	15,73
1/4	6,4	2 5	0,908 2,270	3363 3373	17.02	11,44
5/16	8,0	2 5	0,908 2,270	3365 3374	13.62	9,15
3/8	9,5	2 5 10	0,908 2,270 4,540	3366 3375 3381	9.87	6,63
	10,0	2 5	0,908 2,270	3367 3376	8.75	5,88
7/16	11,1	2 5	0,908 2,270	3368 3377	6.70	4,50
	12,0	2 5 10	0,908 2,270 4,540	3369 3378 3382	6.20	4,17
1/2	12,7	2 5 10	0,908 2,270 4,540	3370 3379 3383	5.70	3,83
9/16	14,3	5 10	2,270 4,540	3380 3384	4.70	3,16
5/8	15,9	10	4,540	3385	3.70	2,49
11/16	17,5	10	4,540	3386	3.07	2,06
3/4	19,1	10	4,540	3387	2.44	1,64
13/16	20,6	10	4,540	3388	2.08	1,40
7/8	22,2	10	4,540	3389	1.79	1,20
15/16	23,8	10	4,540	3393	1.56	1,05
1	25,4	10	4,540	3394	1.37	0,92

3 CENTRIFUGAL PUMP PACKINGS

CHESTERTON

CHESTERTON STYLE 555

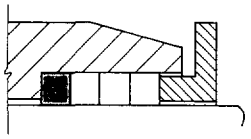


CHESTERTON STYLE 555 is primarily serviceable for pumps handling distillates, fuels and crude oils, mineral seal oil, fresh or salt water, and boiler feed water. STYLE 555 is particularly successful when used against abrasives, crystallizing or congealing liquids such as sugar, asphalt, and slurry (see special instructions pages). It is a preferred packing for medium temperature heat transfer fluids.

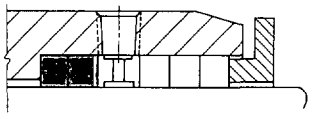
CHESTERTON STYLE 555 is a highly lubricated metallic packing suitable for temperatures to 450°F (230°C).

555 = ■

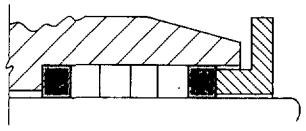
1722 = □



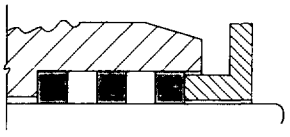
A. General Sea Water



B. Maintains Lantern Ring Position



C. Prevents Extrusion of Soft Packing from Gland and Neck Clearances



D. High Pressure

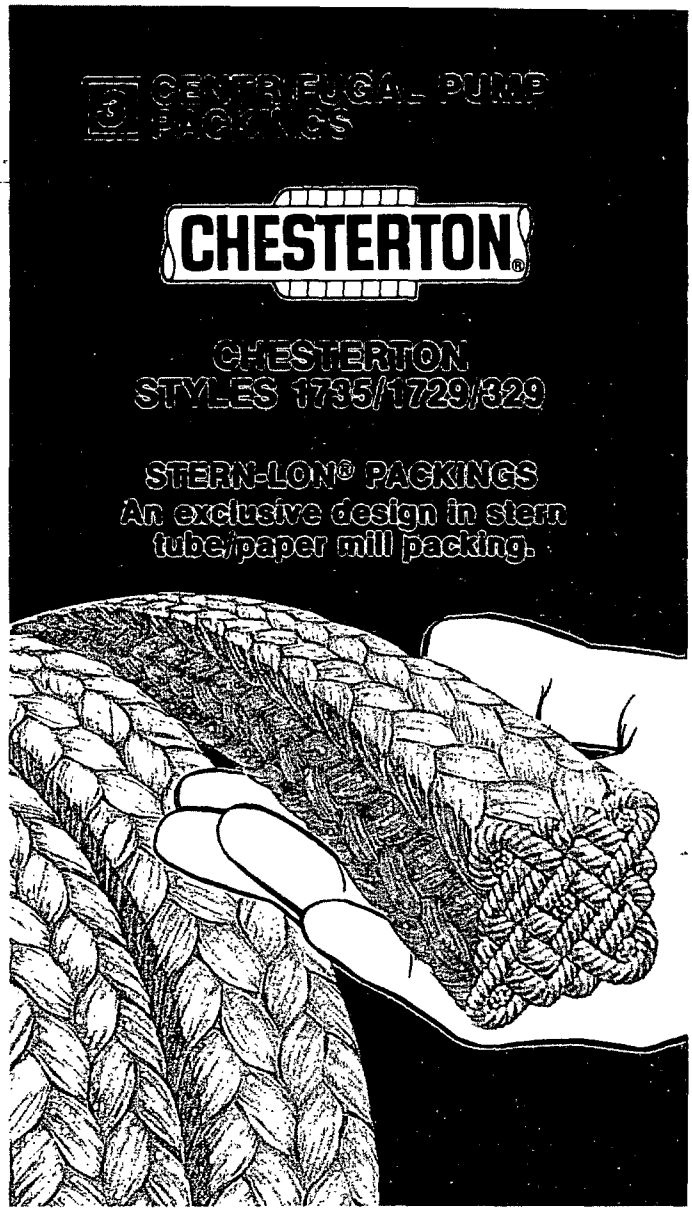
SERVICE

For rotating shafts to 450°F (230°C) on centrifugal oil pumps, High Pressure water pumps, boiler feed pumps, steam turbine shafts, air and ammonia compressors, pumps with congealing fluids, Heat Transfer fluids.

CHESTERTON STYLE 555 is a strong, compressible, antifrictional, and highly lubricated metallic packing. STYLE 555 achieves unusual resilience due to its cushioning core of asbestos rovings. About this core are folded ribbons of babbitt foil, strong enough to prevent penetration of foreign substances into the packing, yet soft enough to present the shaft with a bearing alloy that reduces scoring. The foil is wrapped, twisted and crinkled in an exclusive process that traps special oils and graphite in the voids and interstices.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16	4,8	1.75	0,79	55503	12.30	8,26
1/4	6,4	3.10	1,42	55504	7.68	5,16
5/16	8,0	3.50	1,59	55505	6.02	4,04
3/8	9,5	5.10	2,32	55506	4.01	2,69
7/16	11,1	6.00	2,72	55507	3.86	2,59
1/2	12,7	9.00	4,09	55508	2.13	1,43
9/16	14,3	9.60	4,37	55509	1.72	1,15
5/8	15,9	12.00	5,45	55510	1.60	1,07
11/16	17,5	14.60	6,64	55511	1.42	0,95
3/4	19,1	14.60	6,64	55512	1.28	0,86
13/16	20,6	22.20	10,09	55513	0.90	0,60
7/8	22,2	25.60	11,63	55514	0.84	0,56
15/16	23,8	25.80	11,72	55515	0.68	0,45
1	25,4	33.60	15,27	55516	0.59	0,39



SERVICE

Marine — Tail shaft liners, rudder posts
Paper — Jordans, Claflins, Hydro-Finers

CHESTERTON STERN-LON® packings are an exclusive approach in the design of large, cross-sectional sizes of packings. They are formulated to solve the exacting sealing requirements of stern tube and rudder post stuffing boxes in the marine field. It is also applicable to installations in the pulp and paper industry in connection with Jordans, Claflins, Hydro-Finers and the like.

The purpose behind this superior packing is to carry out the following objectives: extremely low frictional characteristics, resistance to rot, compressibility, tensile strength without sacrifice of flexibility, comparative ease of installing and of "take-up" (especially for large cross sections), minimal shaft wear, and good peripheral seal contact.

CHESTERTON STYLE 1735

CHESTERTON STYLE 1735 is manufactured on our exclusive interbraid machinery which allows us to offer this packing in interbraid construction throughout the entire size range from ½" through 4". Interbraid construction, in STYLE 1735, results in an almost perfectly square-shaped packing having increased sealing contact, a denser construction than packings made on square plait braider machines, and results in reduced gland pressures and lower scoring rates in order to control leakage.

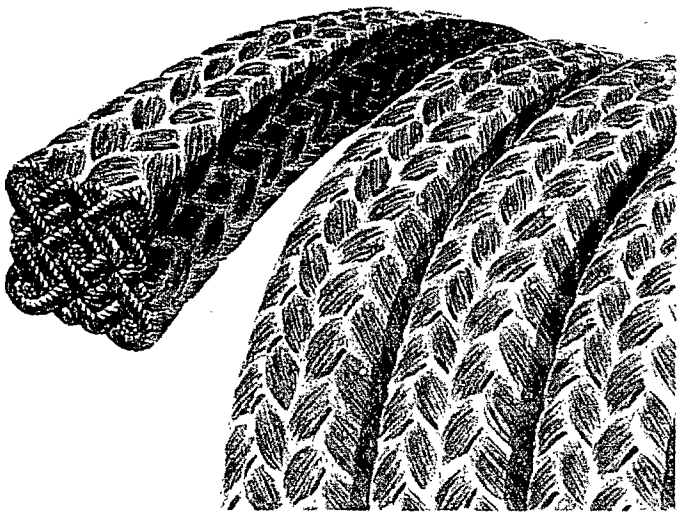
STYLE 1735 is formulated from special yarns which achieve superior sealing and reduced costs when compared to ordinary packings.

It 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. Finally, in order to minimize friction, a finely divided fluorocarbon powder is embedded into the surface of the packing. There will be virtually no wear on the shaft.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
½	12,7	5 10	2,270 4,540	3979 3983	6.70	4,50
9/16	14,3	5 10	2,270 4,540	2980 3984	5.30	3,56
5/8	15,9	10	4,540	3985	4.10	2,75
11/16	17,5	10	4,540	3986	3.40	2,28
¾	19,1	10	4,540	3987	2.80	1,88
13/16	20,6	10	4,540	3988	2.40	1,61
7/8	22,2	10	4,540	3989	1.90	1,28
15/16	23,8	10	4,540	3993	1.80	1,21
1	25,4	10	4,540	3994	1.70	1,14
1735 REELS ONLY (25 lb. min.)						
1	25,4	To order		3916	1.70	1,14
1⅛	28,6	To order		3918	1.35	0,91
1¼	31,7	To order		3920	1.06	0,71
1⅜	34,9	To order		3922	0.98	0,66
1½	38,1	To order		3924	0.82	0,55
1⅝	41,2	To order		3926	0.70	0,47
1¾	44,4	To order		3928	0.60	0,40
1⅞	47,6	To order		3930	0.51	0,34
2	50,8	To order		3932	0.44	0,29
2⅛	54,0	To order		3934	0.43	0,28
2¼	57,1	To order		3936	0.38	0,26
2⅜	60,3	To order		3938	0.33	0,22
2½	63,5	To order		3940	0.29	0,19
2⅝	66,7	To order		3942	0.28	0,18
2¾	69,6	To order		3944	0.24	0,16
2⅞	73,0	To order		3946	0.21	0,14
3	76,2	To order		3948	0.19	0,13
3⅛	79,4	To order		3950	—	—
3¼	82,6	To order		3952	—	—
3⅜	85,7	To order		3954	—	—
3½	88,9	To order		3956	—	—
3⅝	92,1	To order		3958	—	—
3¾	95,3	To order		3960	—	—
3⅞	98,4	To order		3962	—	—
4	101,6	To order		3964	—	—

30' and 60' Reels standard for marine use or 1" size

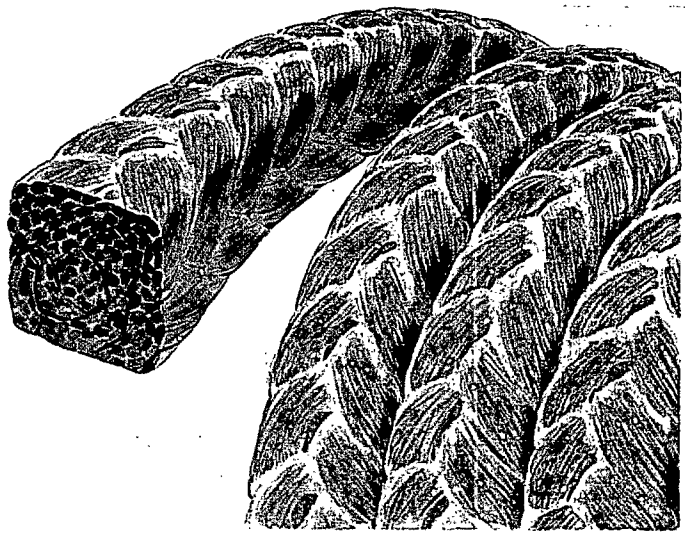


CHESTERTON STYLE 1729

CHESTERTON STYLE 1729 is similar to STYLE 1735 in construction, but incorporates long-fibered roved flax of the highest quality as the base material. STYLE 1729 offers the same design advantages in interbraid construction while offering a fiber with many years of proven success in both the marine and paper industries.

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/2	12,7	5 10	2,270 4,540	3879 3883	6.70	4,50
9/16	14,3	5 10	2,270 4,540	3880 3884	5.30	3,56
5/8	15,9	10	4,540	3885	4.10	2,75
11/16	17,5	10	4,540	3886	3.40	2,28
3/4	19,1	10	4,540	3887	2.80	1,88
13/16	20,6	10	4,540	3888	2.40	1,61
7/8	22,2	10	4,540	3889	1.90	1,28
15/16	23,8	10	4,540	3893	1.80	1,21
1	25,4	10	4,540	3894	1.70	1,14
1729 REELS ONLY (25 lb. min.)						
1	25,4	To order		3816	1.70	1,14
1 1/8	28,6	To order		3818	1.35	0,91
1 1/4	31,7	To order		3820	1.06	0,71
1 3/8	34,9	To order		3822	0.98	0,66
1 1/2	38,1	To order		3824	0.82	0,55
1 5/8	41,2	To order		3826	0.70	0,47
1 3/4	44,4	To order		3828	0.60	0,40
1 7/8	47,6	To order		3830	0.51	0,34
2	50,8	To order		3832	0.44	0,29
2 1/8	54,0	To order		3834	0.43	0,28
2 1/4	57,1	To order		3836	0.38	0,26
2 3/8	60,3	To order		3838	0.33	0,22
2 1/2	63,5	To order		3840	0.29	0,19
2 5/8	66,7	To order		3842	0.28	0,18
2 3/4	69,6	To order		3844	0.24	0,16
2 7/8	73,0	To order		3846	0.21	0,14
3	76,2	To order		3848	0.19	0,13
3 1/8	79,4	To order		3850	—	—
3 1/4	82,6	To order		3852	—	—
3 3/8	85,7	To order		3854	—	—
3 1/2	88,9	To order		3856	—	—
3 5/8	92,1	To order		3858	—	—
3 3/4	95,3	To order		3860	—	—
3 7/8	98,4	To order		3862	—	—
4	101,6	To order		3864	—	—

30' and 60' Reels standard for marine use or 1" size

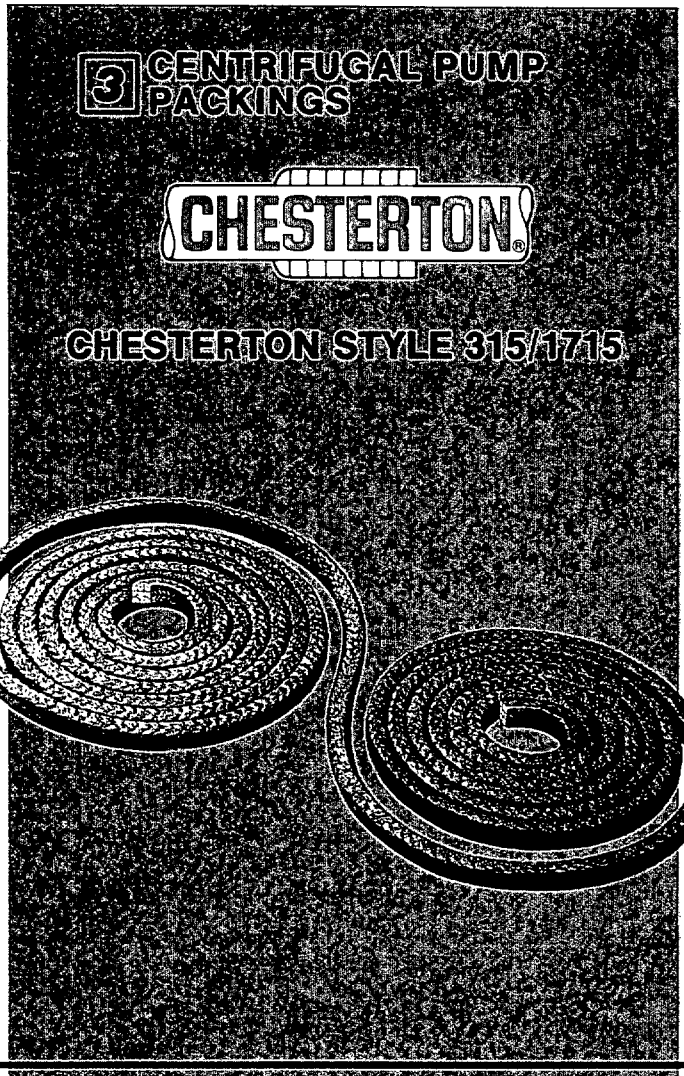


CHESTERTON STYLE 329

CHESTERTON STYLE 329 is the same type of packing as STYLE 1729 in materials, but is manufactured on square plait braiding machinery for those applications where a more flexible, more formable packing is required.

APPROXIMATE DATA						
Size		Packaged ± 10%		Reorder	Lengths/Weight	
Inches	mm	lbs.	kg.	Product No.	Ft./lb.	M/kg.
1/4	6,4	5	2,270	32973	28.20	18,920
5/16	8,0	5	2,270	32974	16.50	11,070
3/8	9,5	5 10	2,270 4,540	32975 32981	11.90	7,980
7/16	11,1	5	2,270	32977	9.00	6,040
1/2	12,7	5 10	2,270 4,540	32979 32983	6.90	4,630
9/16	14,3	5 10	2,270 4,540	32980 32984	5.50	3,690
5/8	15,9	10	4,540	32985	4.30	2,880
11/16	17,5	10	4,540	32986	3.60	2,420
3/4	19,1	10	4,540	32987	3.00	2,010
13/16	20,6	10	4,540	32988	2.60	1,750
7/8	22,2	10	4,540	32989	2.10	1,410
15/16	23,8	10	4,540	32993	2.00	1,340
1	25,4	10	4,540	32994	1.90	1,270
329 REELS ONLY (25 lb. min.)						
1 1/8	28,6	To order		32918	1.70	1,140
1 1/4	31,7	To order		32920	1.30	0,870
1 3/8	34,9	To order		32922	0.98	0,660
1 1/2	38,1	To order		32924	0.84	0,560
1 5/8	41,2	To order		32926	0.62	0,420
1 3/4	44,4	To order		32928	0.60	0,400
1 7/8	47,6	To order		32930	0.56	0,380
2	50,8	To order		32932	0.48	0,320
2 1/8	54,0	To order		32934	0.43	0,290
2 1/4	57,1	To order		32936	0.38	0,250
2 3/8	60,3	To order		32938	0.35	0,230
2 1/2	63,5	To order		32940	0.32	0,210
2 5/8	66,7	To order		32942	0.29	0,185
2 3/4	69,6	To order		32944	0.26	0,170
2 7/8	73,0	To order		32946	0.23	0,154
3	76,2	To order		32948	0.21	0,140

30' and 60' Reels standard for marine use or 1" size



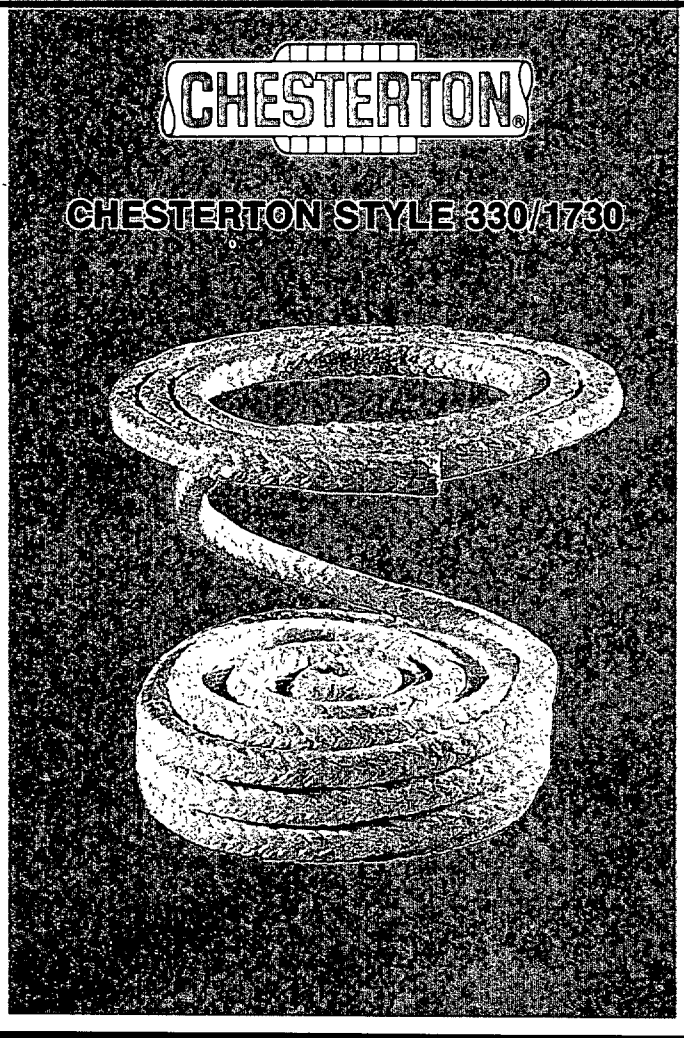
SERVICE

Centrifugal pumps handling hot liquids including water, alcohol, mild acids and caustics.

CHESTERTON STYLE 315 is made from long, selected fibers of Canadian asbestos, manufactured in the square plait method which allows for maximum l rication. STYLE 315 contains Molybdenum Disulfid (MoS_2) and graphite. MoS_2 reduces shaft wear b cause it eases fabric to metal contact; yet it em- bodies very high lubricating qualities, tenaciousl adhering to metal shafts.

CHESTERTON STYLE 1715 is manufactured from the same quality materials as is STYLE 315. STYLE 1715 manufactured in interbraid construction which p vides a denser, stable and more uniformly patter braid.

For chart see page 91



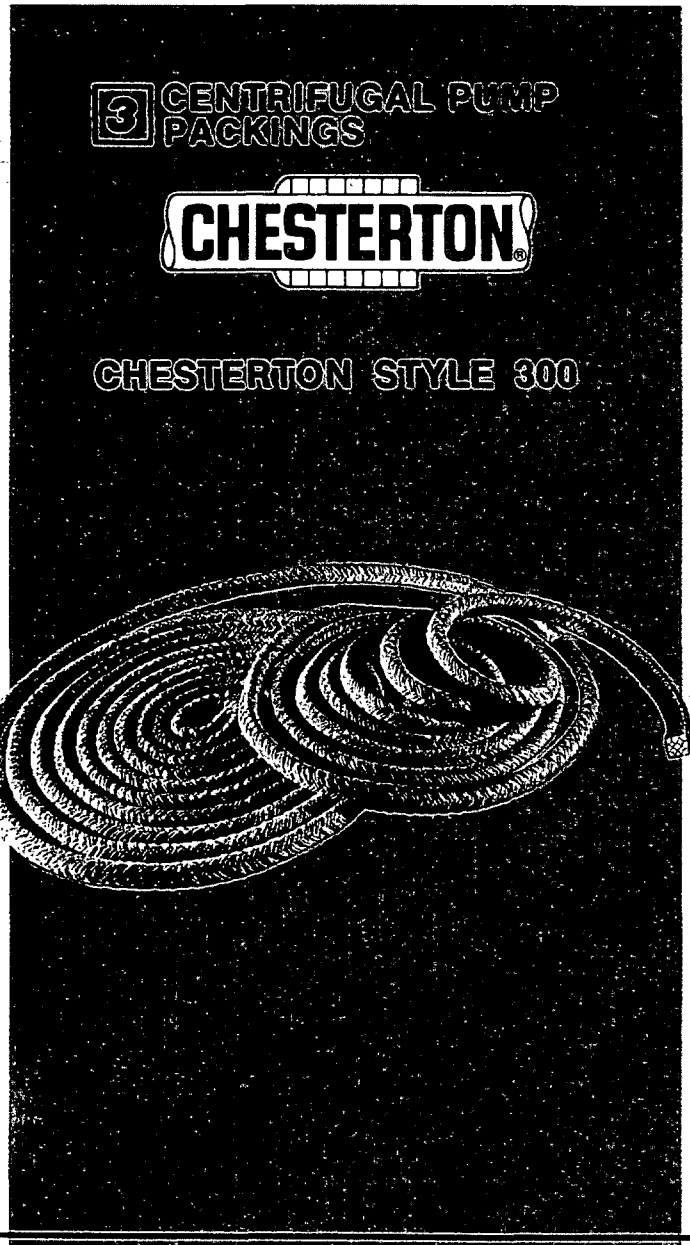
SERVICE

Stainless steel shafts handling stainable products or mild chemicals.

CHESTERTON STYLE 330 is a thoroughly lubricated braided asbestos packing, white in color. Becau contains no graphite, it has proven very servicea for those rotary operations where non-discolorat of stock is an important consideration. Example are paper stock, soaps, pulp, and a wide variety similar materials. Recommended for alcohol; als the weaker acids and caustics with pH values 5 through 10, inclusive.

CHESTERTON STYLE 1730 is similar to STYLE 330 but construction the packing is manufactured in int braid design where the outside fibers are locked near the center of the packing. STYLE 1730 is der and provides more stability than STYLE 330.

For chart see page 91



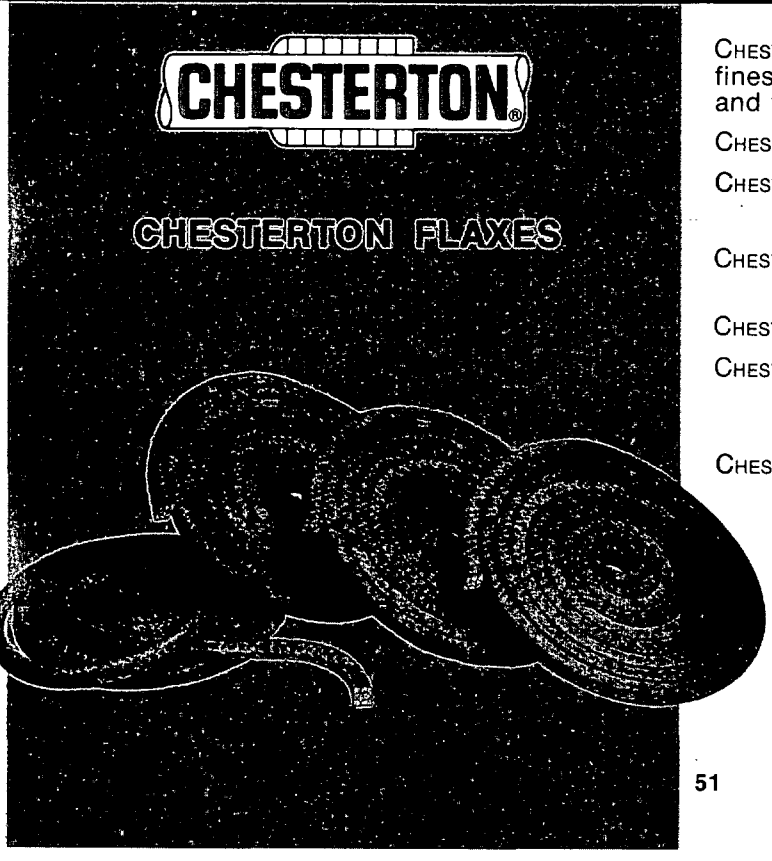
SERVICE

For centrifugal pumps handling all inert liquids up to 225°F. (110°C.)

STYLE 300 is a soft, strong, absorbent, cotton packing that presents a cushioned surface that will not score brass shafts or sleeves because the cotton constantly absorbs the liquid being pumped and maintains a soft, moist, pliable running-face on the shaft. STYLE 300 contains Molybdenum Disulfide (MoS_2) and graphite. MoS_2 reduces shaft wear because it eases fabric to metal contact, yet it embodies very high lubricating qualities, tenaciously adhering to metal shafts. MoS_2 is heat resistant, chemically stable, is insoluble in water, oil, alkalies and most acids.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder	Lengths per Weight	
Inches	mm	lbs.	kg.	Product No.	Ft/lb.	M/kg.
3/16	4,8	2	0,908	30062	29.50	19,79
1/4	6,4	2	0,908	30064	20.50	13,75
		5	2,270	30073	20.50	13,75
5/16	8,0	2	0,908	30065	17.50	11,94
		5	2,270	30074	17.50	11,94
3/8	9,5	2	0,908	30066	12.50	8,40
		5	2,270	30075	12.50	8,40
		10	4,540	30081	12.50	8,40
7/16	11,1	2	0,908	30068	8.30	5 57
		5	2,270	30077	8.30	5,57
1/2	12,7	2	0,908	30070	7.00	4,69
		5	2,270	30079	7.00	4,69
		10	4,540	30083	7.00	4,69
9/16	14,3	5	2,270	30080	5.80	3,89
		10	4,540	30084	5.80	3,89
5/8	15,9	10	4,540	30085	4,50	3,01
11/16	17,5	10	4,540	30086	3.87	2,60
3/4	19,1	10	4,540	30087	3.30	2,21
13/16	20,6	10	4,540	30088	3.10	2,08
7/8	22,2	10	4,540	30089	2.50	1,67
15/16	23,8	10	4,540	30093	2.16	1,45
1	25,4	10	4,540	30094	1.80	1,21



CHESTERTON FLAX PACKINGS are made from the very finest imported flax rovings. They are strong, uniform and free from tow or foreign matter.

CHESTERTON STYLE 80 — lubricated flax packing

CHESTERTON STYLE 81 — graphited, lubricated flax packing

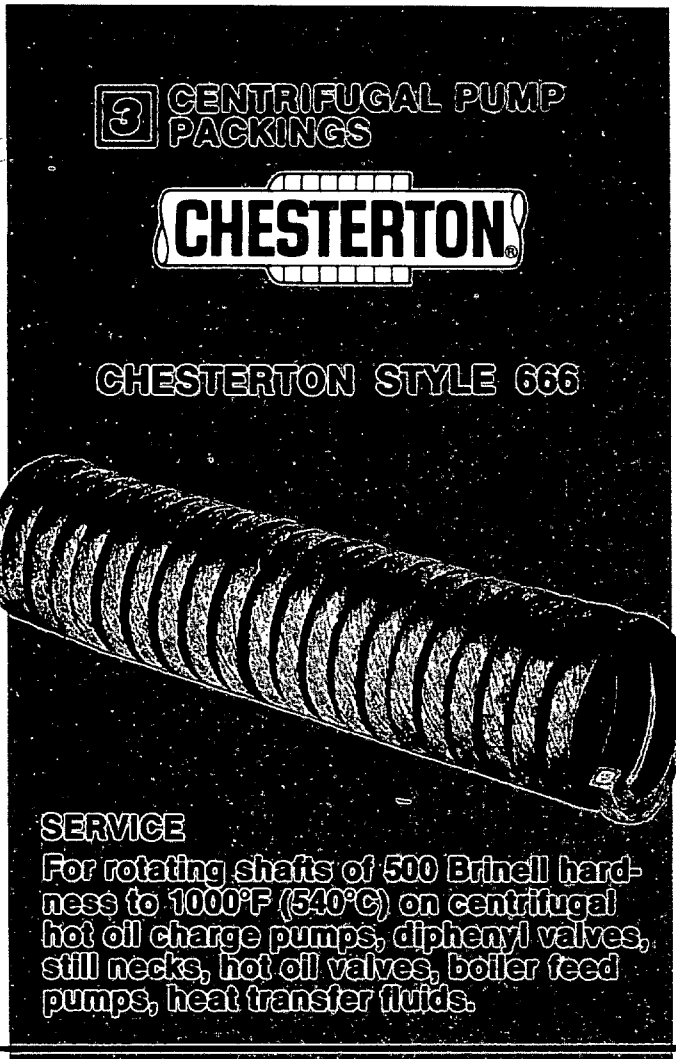
CHESTERTON STYLE 82 — lubricated mixed roving packing

CHESTERTON STYLE 84 — lubricated jute

CHESTERTON STYLE 85 — lubricated flax packing for hydraulic services to 800 psi (57 kg/Cm²)

CHESTERTON STYLE 87 — graphited mixed roving packing

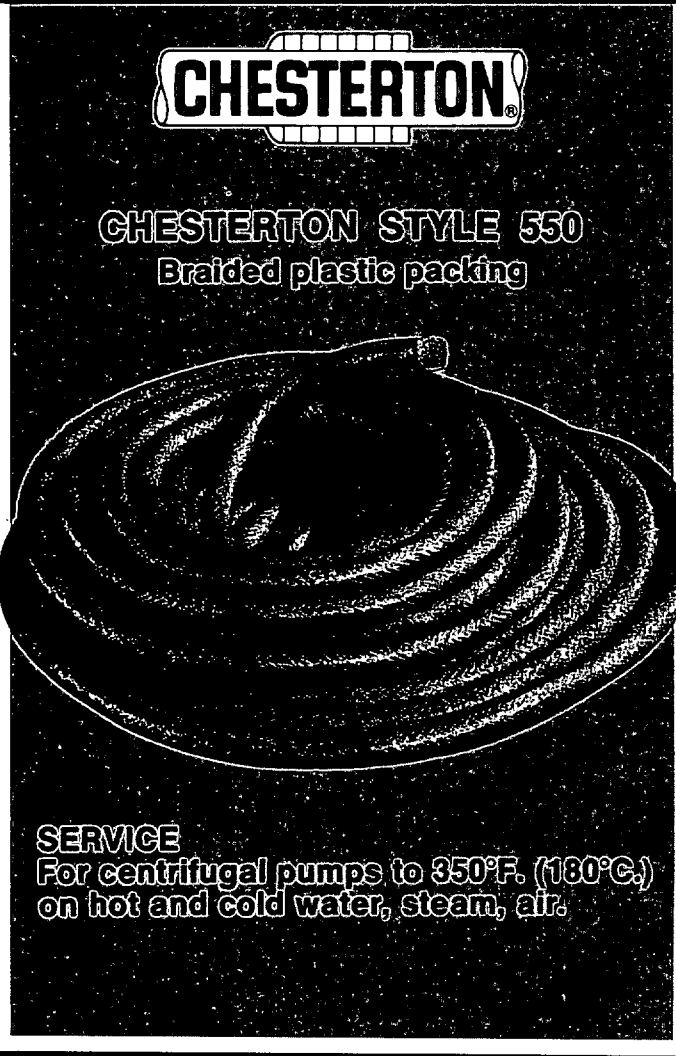
For chart see page 90



STYLE 666 is aluminum ribbon constructed in the same manner as STYLE 555. The lubricant used will not carbonize at high temperatures, thus the heavy concentration of graphite is free to function as a true and unimpeded lubricant. Shafts should be of 500 Brinell hardness or over when STYLE 666 is employed. Typical installations include centrifugal hot oil charge pumps handling crude oil, gas oil, pressure distillate and lower fractions up to maximum temperature. Also suitable for still necks, diphenyl valves, hot oil valves, and boiler feed pumps. It is recommended for equipment found in oil refineries to 1000°F. (540°C.).

APPROXIMATE DATA

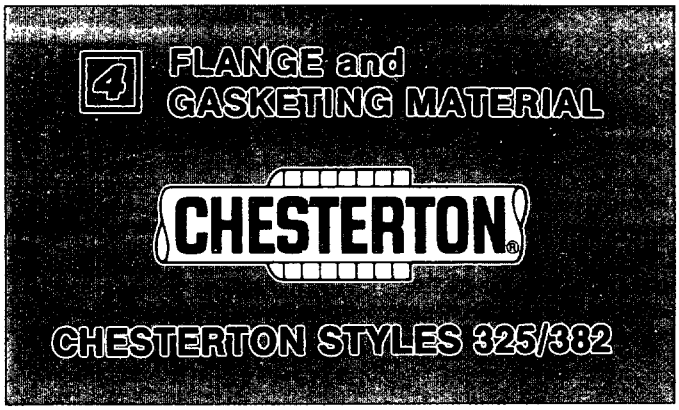
Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
3/16	4,8	1.30	0,59	66603	52.69	35,42
1/4	6,4	1.90	0,86	66604	28.97	19,46
5/16	8,0	1.50	0,68	66605	19.00	12,76
3/8	9,5	1.70	0,77	66606	12.14	8,15
7/16	11,1	1.90	0,86	66607	9.70	6,51
1/2	12,7	2.80	1,27	66608	8.71	5,85
9/16	14,3	3.10	1,41	66609	6.78	3,82
5/8	15,9	3.70	1,68	66610	4.86	3,26
11/16	17,5	4.50	2,04	66611	4.42	2,96
3/4	19,1	4.50	2,04	66612	4.00	2,68
13/16	20,6	4.15	1,88	66613	3.54	2,37
7/8	22,2	4.76	2,16	66614	3.10	2,08
15/16	23,8	5.38	2,44	66615	2.65	1,78
1	25,4	6.06	2,75	66616	2.22	1,49

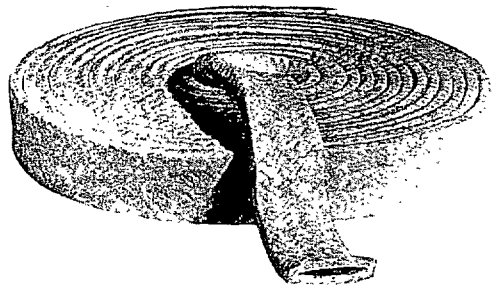


STYLE 550 is composed of long fibre asbestos, graphite, and anti-frictional non-scoring components all bonded together into a homogeneous product. It is covered with a light braided jacket to ensure dimensional stability. STYLE 550 is widely used to 350°F. (180°C.) on centrifugal shafts in contact with hot water, oil, and many solvents. When used with metallic STYLE 555 it is very effective on boiler feed pumps. It is also suggested as a general service packing on steam, air, oil, and water valves.

APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight	
Inches	mm	lbs.	kg.		Ft/lb.	M/kg.
1/8	3,2	2	0,908	55060	83.30	55,90
3/16	4,8	2	0,908	55062	62.50	41,94
1/4	6,4	2 5	0,908 2,270	55064 55073	28.60 28.60	19,19 19,19
5/16	8,0	2 5	0,908 2,270	55065 55074	19.20 19.20	12,88 12,88
3/8	9,5	2 5 10	0,908 2,270 4,540	55066 55075 55081	13.00 13.00 13.00	8,72 8,72 8,72
7/16	11,1	2 5	0,908 2,270	55068 55077	11.40 11.40	7,65 7,65
1/2	12,7	2 5 10	0,908 2,270 4,540	55070 55079 55083	6.80 6.80 6.80	4,56 4,56 4,56
9/16	14,3	5 10	2,270 4,540	55080 55084	5.40 5.40	3,62 3,62
5/8	15,9	10	4,540	55085	4.40	2,95
11/16	17,5	10	4,540	55086	3.66	2,46
3/4	19,1	10	4,540	55087	3.00	2,01
13/16	20,6	10	4,540	55088	2.62	1,76
7/8	22,2	10	4,540	55089	2.20	1,48
15/16	23,8	10	4,540	55093	2.10	1,41
1	25,4	10	4,540	55094	2.00	1,34

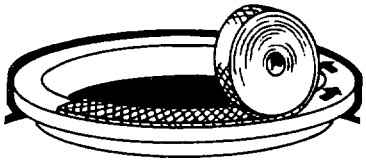




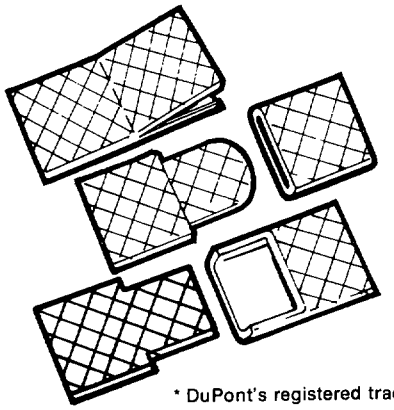
SERVICE

Forms an endless seal for any diameter flange on reactor vessels, tank covers, domes, pipes, etc. Replaces envelope gaskets.

A single role of either of these versatile gasketing materials eliminates the costly stocking of a multiplicity of sizes of conventional, ring-type Teflon* envelope gaskets. It can be cut, shaped, and joined into endless lengths — right on the job! And only an ordinary pencil is needed to make bolt holes, if required.



GASKET LIES FLAT
Construction bends to conform perfectly to flange diameter or possible imperfections. Leakage is prevented.



TONGUE TYPE ENDLESS JOINT
Leak-proof joint formed "on-the-job" by cutting and shaping one end to fit into hollow center of other end.

* DuPont's registered trademark.

CHESTERTON STYLE 325

CHESTERTON STYLE 325 FOOD PROCESS GASKET TAPE is constructed entirely of the same approved materials used in STYLE 1725 Packing and meets the same requirements of the United States Food & Drug Administration (FDA) Code of Federal Regulations (CFR) paragraphs 178.3570 "Lubricants with Incidental Food Contact" and 177.1550 "Perfluorocarbon resins." Accepted by the Animal and Plant Health Inspection Service (APHIS) of the United States Department of Agriculture (USDA). CHESTERTON STYLE 325 FOOD PROCESS GASKET TAPE forms an endless seal on flanges of vessels, mixers, tanks, piping, etc.

CHESTERTON STYLE 382

CHESTERTON STYLE 382 is made of a tough, braided DuPont Teflon fiber treated with special lubricants.

STYLES 325 and 382 are especially suitable for use with glass, glass-lined porcelain, Karbate, FRP or metal flanges where the low flange pressure and flange irregularities require effortless, easy compression of the gasket. Furthermore, no shimming is needed. Tank covers, domes of trucks and tank cars, and pharmaceutical or other vessels offer exceptional opportunities for this versatile gasketing. Because it does not adhere, metal flanges need never be scraped or cleaned; it withstands all chemicals and fuels. Extrusion of the gasket is greatly reduced because of the high mechanical strength of the braided fiber.

There are guidelines as to the use of these styles where temperature and pressure are combined: At a low pressure of 28 psi (2 kg/cm²), STYLES 325/382 are effective slightly above 400°F (205°C). However, as the internal vessel pressure is increased, the maximum temperature must be decreased.

The maximum temperature/pressure combination is 200 psi (14 kg/cm²) at 250°F (120°C). Negative pressures to 28" Hg are permissible.

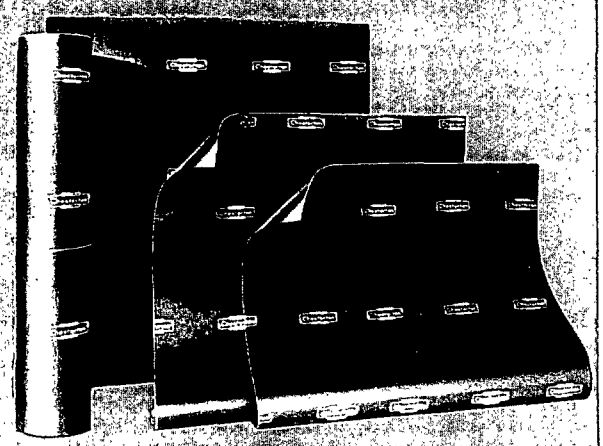
APPROXIMATE DATA

Size		Packaged±10%		Reorder Product No.		Lengths/Weight	
Inches	mm	lbs.	kg.	STYLE 382	STYLE 325	Ft./lb.	M/kg.
⅛ × ½	3,2 × 12,7	25	7,62	38211	38311	16.0	10,75
		50	15,24	38212	38312		
		100	30,48	38213	38313		
		or to order		38214	38314		
⅛ × 1	3,2 × 25,4	25	7,62	38221	38321	7.7	5,17
		50	15,24	38222	38322		
		100	30,48	38223	38323		
		or to order		38224	38324		
¼ × 1	6,4 × 25,4	15	4,57	38231	38331	5.0	3,36
		25	7,62	38232	38332		
		50	15,24	38233	38333		
		or to order		38234	38334		
¼ × 1½	6,4 × 38,1	25	7,62	38241	38341	3.0	2,01
		50	15,24	38242	38342		
		or to order		38243	38343		
¼ × 2	6,4 × 50,8	25	7,62	38251	38351	2.6	1,74
		50	15,24	38252	38352		
		or to order		38253	38353		

4 FLANGE and GASKETING MATERIAL

CHESTERTON®

CHESTERTON STYLE 210



SERVICE
Heavy duty graphited sheet to 750°F. (400°C.) against superheated or saturated steam, air, gas, ammonia, alkalies and many acids.

CHESTERTON STYLE 210 is a heavy-duty compressed asbestos sheet of exceptional quality, suitable for practically all flange use. This superior sheet with its heat-resisting graphite impregnation is recommended for super-heated or saturated steam, compressed air, ammonia, gas, and nearly all chemicals. It is made by a special method which results in an extremely tough, high-tensile sheet, since this construction places the fibres in successive layers crosswise to each other, in contrast to ordinary homogeneous sheets, and each fibre is carefully graphite-lubricated, which insures longer life against hardening.

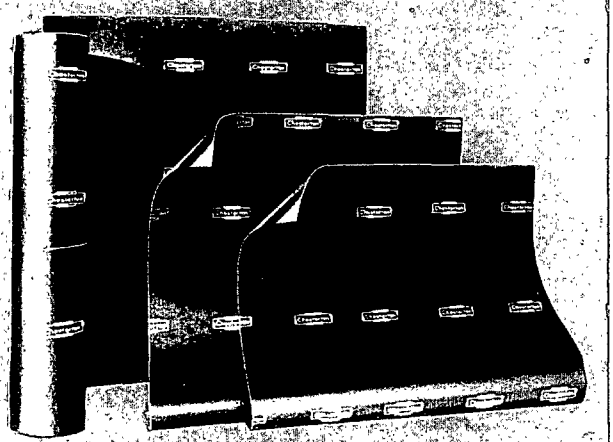
APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	21061	60" × 60"	1,52 × 1,52	3.4	1,54	27
1/32"	0,8	21062	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/16"	1,6	21001	60" × 60"	1,52 × 1,52	13.7	6,22	7
3/32"	2,4	21086	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	21002	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/32"	0,8	21074	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	21071	60" × 120"	1,52 × 3,04	27.4	12,44	4
1/8"	3,2	21072	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON®

CHESTERTON STYLE 211



SERVICE
Heavy duty sheet to 750°F. (400°C.) against superheated or saturated steam, air, gas, ammonia, alkalies and many acids.

STYLE 211 is a heavy-duty compressed asbestos sheet equal in quality and strength to STYLE 210. The difference between these two sheets is that STYLE 211 is coated with CHESTERTON'S new "ANTI-STICK" compound, while STYLE 210 is graphited.

CHESTERTON'S "ANTI-STICK" COATING ON STYLE 211 means easier layout, cutting, and handling while at the same time insuring a material which will release easily from flange surfaces. "ANTI-STICK" invisible film also helps prevent or retard absorption of any medium, thus assuring longer gasket life.

APPROXIMATE DATA

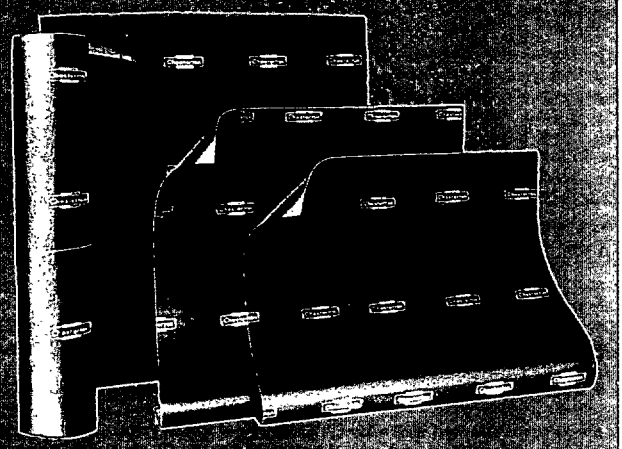
Thickness		Reorder	Dimensions		Approx Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	21161	60" × 60"	1,52 × 1,52	3 4	1,54	27
1/32"	0,8	21162	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/32"	0,8	21174	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	21101	60" × 60"	1,52 × 1,52	13 7	6,22	7
1/16"	1,6	21171	60" × 120"	1,52 × 3,04	27.4	12,44	4
3/32"	2,4	21186	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	21102	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/8"	3,2	21172	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON®

CHESTERTON STYLE 281

Wire Inserted Sheet Packing



SERVICE

All industrial and marine boiler pipeline applications, in all areas requiring reinforced sheet gasketing, for general flanges, especially on lines subject to vibration.

CHESTERTON STYLE 281 is a heavy duty wire-inserted, compressed asbestos sheet of high tensile strength for services to 1000°F (550°C), 2000 psi (140 kg/cm²). Coated with CHESTERTON ANTI-STICK COMPOUND which allows easy gasket removal from pipe flanges, even on superheat applications.

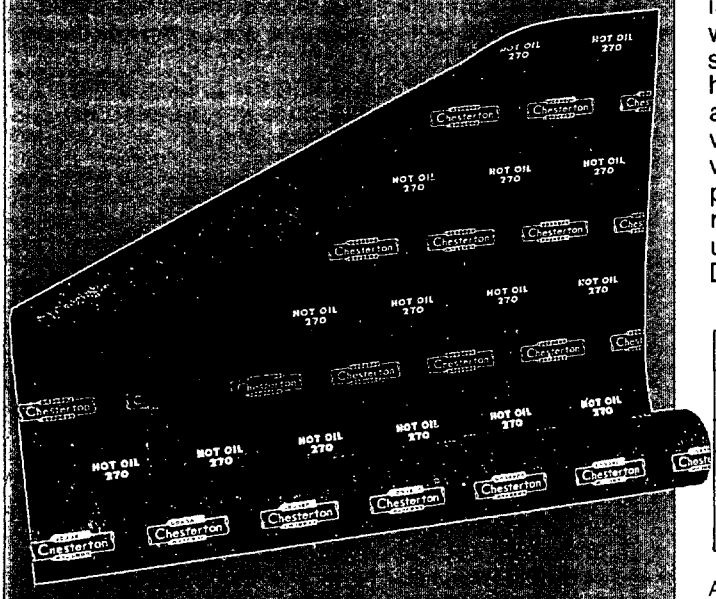
APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets/
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	28162	60" × 60"	1,52 × 1,52	8.9	4,04	12
1/16"	1,6	28101	60" × 60"	1,52 × 1,52	18.6	8,45	6
3/32"	2,4	28166	60" × 60"	1,52 × 1,52	26.0	11,81	4
1/8"	3,2	28102	60" × 60"	1,52 × 1,52	33.9	15,40	3

A Pressure times Temperature factor (P × T°F) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON®

CHESTERTON STYLE 270



SERVICE

For 700°F (370°C) hot oil, solvents, Freon, SO_2, hot gases, superheated steam, natural gases.

CHESTERTON STYLE 270 has been specially designed for hot oils, solvents and aeronautical applications. This is a high quality bonded compressed asbestos sheet which is recommended for use against aromatic solvents, aliphatic hydrocarbons such as butane and hexane. It shows good performance as a gasket against carbon tetrachloride, turpentine, animal and vegetable fats, formaldehyde, fuel oils, Freon, and various alkalies. It is strong and dense and yet compressible enough to compensate for flange irregularities. It is unusually resistant to plastic flow under substantial bolt loads. STYLE 270 meets ASTM D1170, G1122-1 and AMS-3232J and MIL-G-12803A.

APPROXIMATE DATA

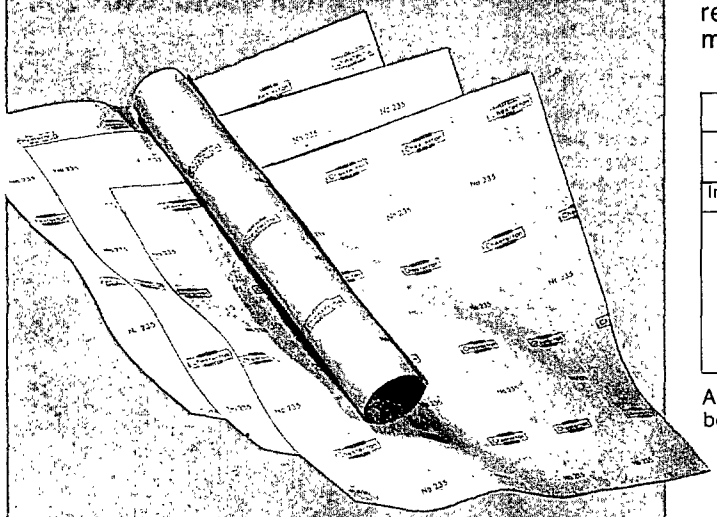
Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	27062	60" × 60"	1,52 × 1,52	7.5	3,40	14
1/16"	1,6	27001	60" × 60"	1,52 × 1,52	15.0	6,81	7
3/32"	3,4	27086	50" × 75"	1,27 × 1,90	21.7	9,85	4
1/8"	3,2	27002	60" × 60"	1,52 × 1,52	30.0	13·62	3

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

4 FLANGE and GASKETING MATERIAL

CHESTERTON

CHESTERTON STYLE 235



SERVICE

For general service to 700°F (370°C) on superheated or saturated steam, air, gas, ammonia alkalies, mild solvents and acids.

Manufactured from carefully selected asbestos fibres, STYLE 235 is cured with a heat-resisting compound, and bonded under great pressure to produce a superior high-quality general-service sheet packing suitable for steam, air, oil, hot gases, and many chemicals. STYLE 235 is extremely workable, resulting in uniform easy to cut gaskets. STYLE 235 meets MIL-G-12803A.

APPROXIMATE DATA

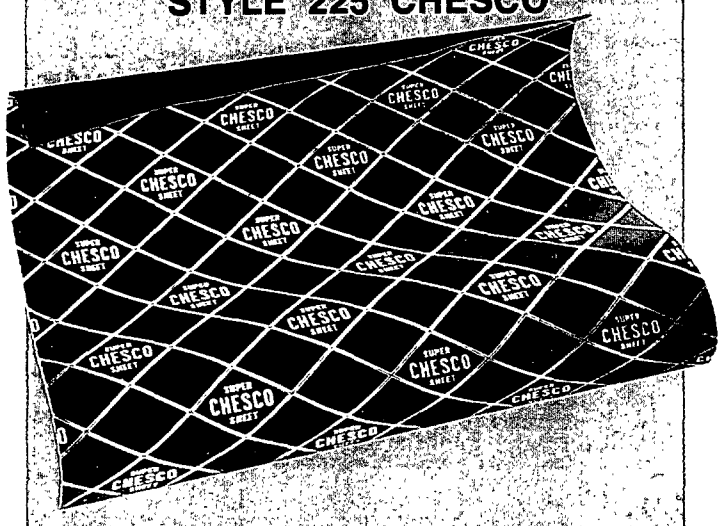
Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/64"	0,4	23561	60" × 60"	1,52 × 1,52	3.4	1,54	27
1/32"	0,8	23562	60" × 60"	1,52 × 1,52	6.8	3,09	14
1/16"	1,6	23501	60" × 60"	1,52 × 1,52	13.7	6,22	7
3/32"	2,4	23586	50" × 75"	1,27 × 1,90	21.3	9,70	4
1/8"	3,2	23502	60" × 60"	1,52 × 1,52	28.5	12,94	3
1/32"	0,8	23574	60" × 120"	1,52 × 3,04	13.6	6,17	7
1/16"	1,6	23571	60" × 120"	1,52 × 3,04	27.4	12,44	4
1/8"	3,2	23572	60" × 120"	1,52 × 3,04	57.0	25,88	2

A Pressure times Temperature factor (P × T°F) of 250,000 should be considered the limit for use of compressed asbestos sheet.

NEW — Both sides of this sheet are now protected by an extra exclusive, ANTI-STICK SURFACING for easy removal of gaskets.

CHESTERTON

STYLE 225 CHESCO™



SERVICE

For general use to 700°F (370°C) against superheated or saturated steam, air, gas, ammonia, solvents, weak alkalies and acids.

CHESTERTON STYLE 225 CHESCO SHEET is an extremely versatile, general service gasket material, coated with "ANTI-STICK," to insure easy gasket removal. This quality sheet is suitable for a wide range of conditions of super-heated or saturated steam, many chemicals, hot gases, compressed air, and mild solvents. STYLE 225 is manufactured from quality Canadian asbestos fibres and bonded under high pressure into a homogeneous sheet of considerable strength. STYLE 225 will meet most major demands in both industrial and marine applications. STYLE 225's versatility makes it an ideal sheet for gasket shop use. Its pliability and medium cure insure ease of cutting. STYLE 225 meets MIL-G-12803A.

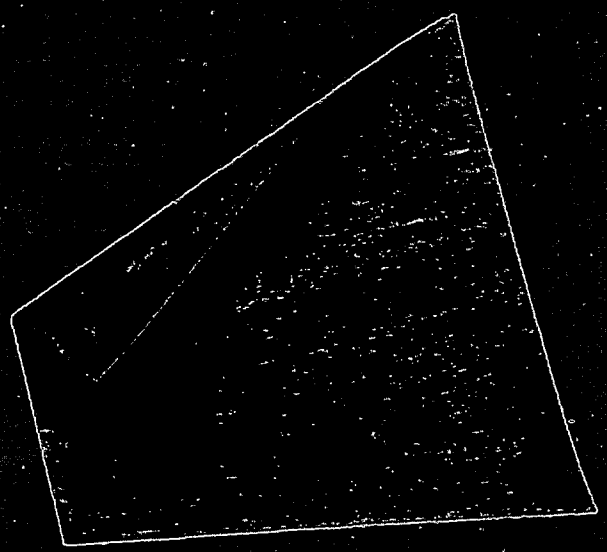
APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	262	50" × 75"	1,27 × 1,90	7.5	3,40	14
1/16"	1,6	201	50" × 75"	1,27 × 1,90	15.0	6,81	7
3/32"	2,4	266	50" × 75"	1,27 × 1,90	22.0	9,98	4
1/8"	3,2	202	50" × 75"	1,27 × 1,90	30.0	13,62	3

A Pressure times Temperature factor (P × T°F.) of 250,000 should be considered the limit for use of compressed asbestos sheet.

CHESTERTON

CHESTERTON STYLE 260



SERVICE

Inorganic (mineral) acids up to 50%; all water-soluble organic acids in any concentration to 700°F. (370°C.).
NOTE: Do not use against concentrated strong mineral acids.

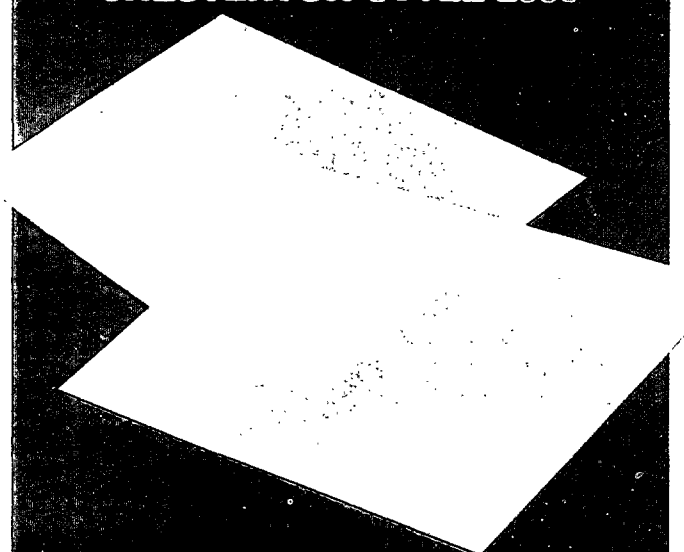
For sulphuric and other strong acids, blue asbestos is generally preferred over white. CHESTERTON STYLE 260 incorporates a blue asbestos fibre that contains no waters of hydration and is chemically pure. When bonded under pressure and vulcanized into a homogeneous sheet, STYLE 260 provides suitable compressibility for gasketing applications against hot or cold mineral acids either alone or in connection with oils or organic solvents.

APPROXIMATE DATA

Thickness		Reorder	Dimensions		Approx. Wts. ± 10%		Sheets /
Inches	mm	Product No.	Inches	mm	lbs.	kg.	Bale
1/32"	0,8	26062	50" × 50"	1,27 × 1,27	5	2,27	20
1/16"	1,6	26001	50" × 50"	1,27 × 1,27	10	4,54	10
3/32"	2,4	26066	50" × 50"	1,27 × 1,27	15	6,81	9
1/8"	3,2	26002	50" × 50"	1,27 × 1,27	20	9,08	5

CHESTERTON

CHESTERTON STYLE 2000



SERVICE

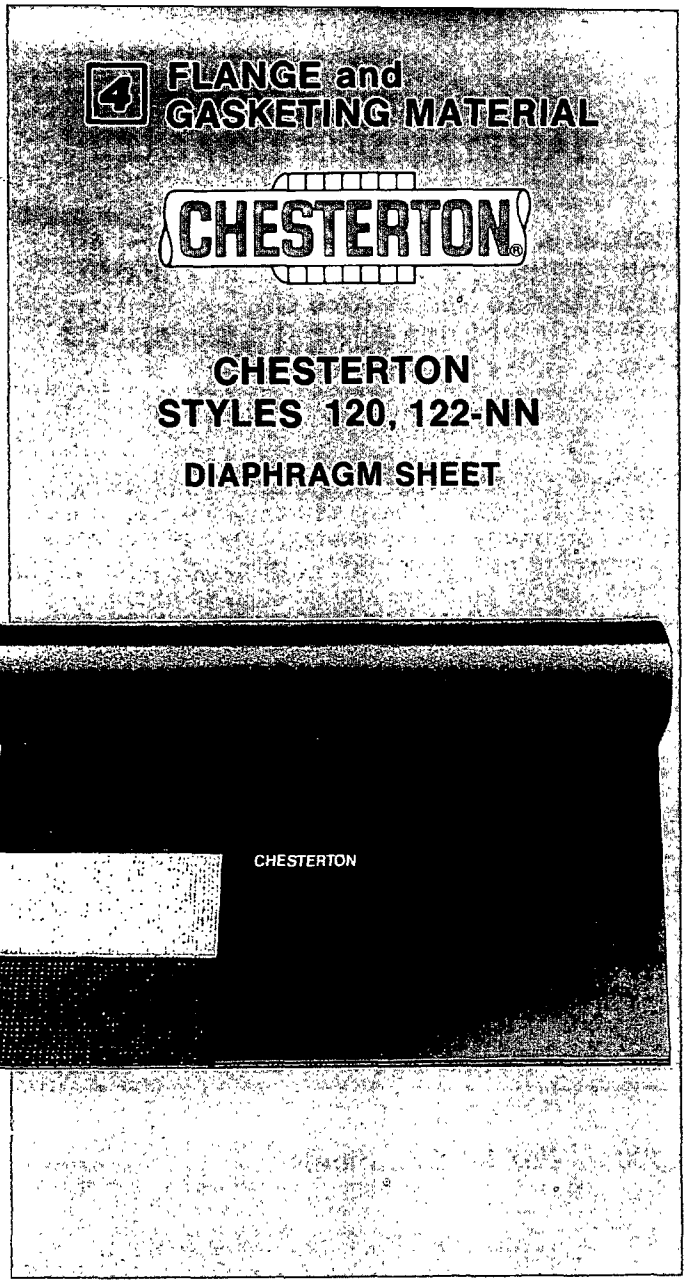
2000 — For All Chemicals.

CHESTERTON STYLE 2000 P.T.F.E. sheet is made of virgin P.T.F.E. It can resist the severest of chemicals and is useful throughout the entire pH range of 1–14. STYLE 2000 is a highly stable material with uniform thickness and close overall tolerances. It can easily be machined, punched or stamped, to produce parts such as washers, mechanical components, or gaskets. The inherent qualities of P.T.F.E. with its low frictional characteristics and non-sticking surfaces make STYLE 2000 the material to be used in a wide variety of applications to 500°F. (260°C.).

APPROXIMATE DATA

Thickness		Weight per Square Foot		Reorder Product No. Available Widths		
Inches	mm	lbs.	kg.	24" × 24"	24" × 48"	48" × 48"
1/64"	0,4	0.20	0,090	2061	2161	2261
1/32"	0,8	0.40	0,180	2062	2162	2262
1/16"	1,6	0.75	0,340	2001	2101	2201
3/32"	2,4	1.20	0,544	2066	2166	2266
1/8"	3,2	1.50	0,680	2002	2102	2202
3/16"	4,8	2.25	1,020	2003	2103	2203
1/4"	6,4	3.00	1,360	2004	2104	2204
3/8"	9,5	4.25	1,750	2006	2106	2206

24" × 24" = 0,610 mm × 0,610 mm
24" × 48" = 0,610 mm × 1,219 mm
48" × 48" = 1,219 mm × 1,219 mm



SERVICE

For Steam, Gas, Air, Oil, Water, Solvents On Regulators, Diaphragm Motors, Reducing Valves, Fuel Pumps

Two different types of diaphragm stock are offered, STYLE 122–NN and STYLE 120. Selection depends upon the service involved. Two factors should be considered: the rubber covering, and the fabric insertion. The purpose of the rubber cover is to seal the fabric against fluid penetration. The type of rubber will depend upon temperature of the fluid and whether or not oil is present. As for the fabric insertion, strength should be combined with flexibility. Additional plies or heavier fabric add to pressure resistance, but the penalty is greater stiffness.

Our regular grade is STYLE 120—and our premium grade heavy-duty oil resistant sheet is our STYLE 122–NN, each described below. The latter is used where pressure, a minimum of extrusion, oil resistance, and resiliency are important.

CHESTERTON STYLE 120
A good grade of diaphragm sheet for general service against steam, water, and gas. Extensively used on regulators and reducing valves. Cover is strong flexible rubber, and the fabric is heavy duck, one ply for each 1/16" of thickness. Furnished in approximate 100# rolls (45,4 kg).

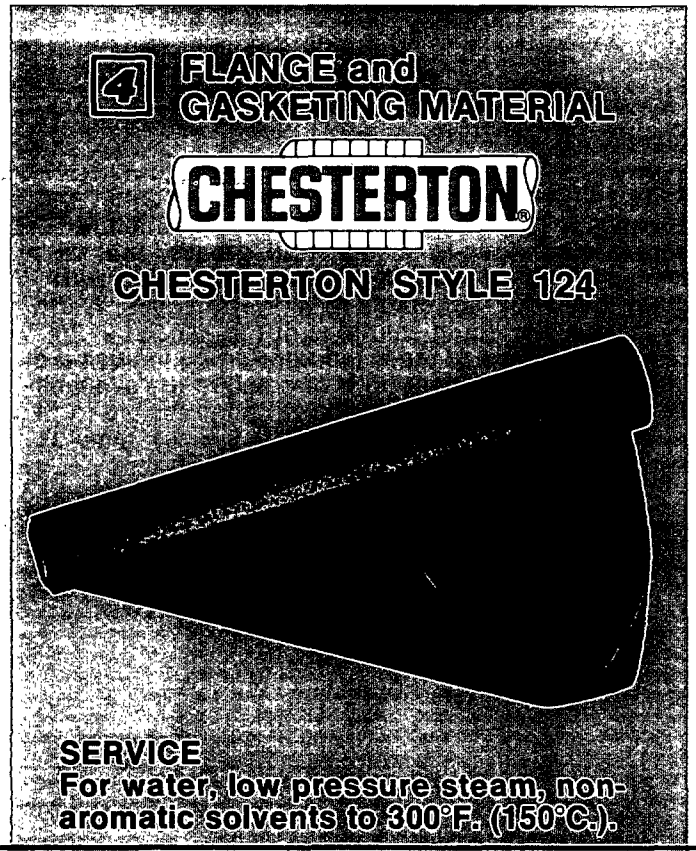
STYLE 120

		psi	kg / cm²
Mullen Burst Test Data 1/16" thickness over a 2" opening (1,6 mm thickness over a 50,8 mm opening)		150	10,71
Tensile Strength— Cover Compound		900	64,2
Width of Material		42"	1,06 m
Weights per Lineal Yard	Reorder Product No.	42" × 36"	1,1 m × ,91 m
1/16" (1,6 mm)	12001	5.84 lbs.	2,65 kg.
1/8" (3,2 mm)	12002	11.68 lbs.	5,30 kg.
3/16" (4,8 mm)	12003	17.52 lbs.	7,96 kg.
1/4" (6,4 mm)	12004	23.40 lbs.	10,62 kg.
Shore Durometer—60; Elongation 340%			

CHESTERTON STYLE 122–NN
Designed for oil and solvents and for excessive pressures where a super-quality diaphragm sheet is indicated. The cover is oil resisting Neoprene. Fabric is Nylon 8.25 oz. double strand 2 × 2 basket weave 33 ×31, 16.5 × 15.5, single ply throughout. While steam has little effect, direct exposure of the fabric insert is necessarily limited to 250°F. (120°C.). Furnished in 100# rolls (45,4 kg).

STYLE 122–NN

		psi	kg / cm²
Mullen Burst Test Data 1/16" thickness over a 2" opening (1,6 mm thickness over a 50,8 mm opening)		650	46,41
Tensile Strength— Cover Compound		1500	107,1
Width of Material		48"	1,22 m
Weights per Lineal Yard	Reorder Product No.	48" × 36"	1,22 m × ,91 m
1/16" (1,6 mm)	12201	4.88 lbs.	2,22 kg.
1/8" (3,2 mm)	12202	10.20 lbs.	4,63 kg.
3/16" (4,8 mm)	12203	16.00 lbs.	7,26 kg.
1/4" (6,4 mm)	12204	21.40 lbs.	8,71 kg.
Shore Durometer—60; Elongation 340%			



CHESTERTON STYLE 124

CHESTERTON STYLE 124 is made of oil resistant materials and a fortified carbon black compound for gasketing against fatty oils or solvents and non-aromatic petroleum products. It is medium-soft in density so that it can be employed not only on precision-finished flanges where resistance to gasket flow under heavy bolt loads is a requirement, but also when bolt loads are light or where flanges are irregular.

This quality sheet should be used when oil resistance is an important consideration, or when temperatures are higher than those considered suitable for red rubber sheet packing. Temperature range is approximately 300°F. (150°C.). Furnished 36" (90cm) wide in 100 lb. rolls. (45,4 kg).

APPROXIMATE DATA

Thickness		Reorder	Weights ± 10%		General
Inches	mm	Product No.	lbs./sq. yd.	kg./m²	Information
1/16"	1,6	12401	4.5	2,45	Tensile — 1200 psi (85 kg/cm²)
1/8"	3,2	12402	9.0	4,90	
3/16"	4,8	12403	13.5	7,35	Elongation — 400%
1/4"	6,4	12404	18.0	9,80	Shore Duro — 60 ± 5
					Density — 1.55
					Color — Black



CHESTERTON STYLE 119

CHESTERTON STYLE 119 is a black rubber cloth inserted sheet packing of great tensile strength, rendering it especially adaptable to heavy hydraulic service. It may be used generally in place of STYLE 100, if preferred, against hot or cold water, low pressure steam and ammonia to 250°F. (120°C.).

The cloth insertion is on the inside, both sides protected by a rubber cover. Because it resists creeping, STYLE 119 makes an excellent flange gasket for hydraulic work. Furnished 36" (90cm) wide.

APPROXIMATE DATA

Thickness		Reorder	Weights ± 10%		Approx. Weights per Roll	
Inches	mm	Product No.	lbs. per yd.	kg./m²	lbs.	kg.
1/16"	1,6	11901	6	3,3	100	45,4
3/32"	2,4	11966	9	4,9	100	45,4
1/8"	3,2	11902	12	6,5	100	45,4
3/16"	4,8	11903	18	9,8	100	45,4
1/4"	6,4	11904	24	13,0	100	45,4

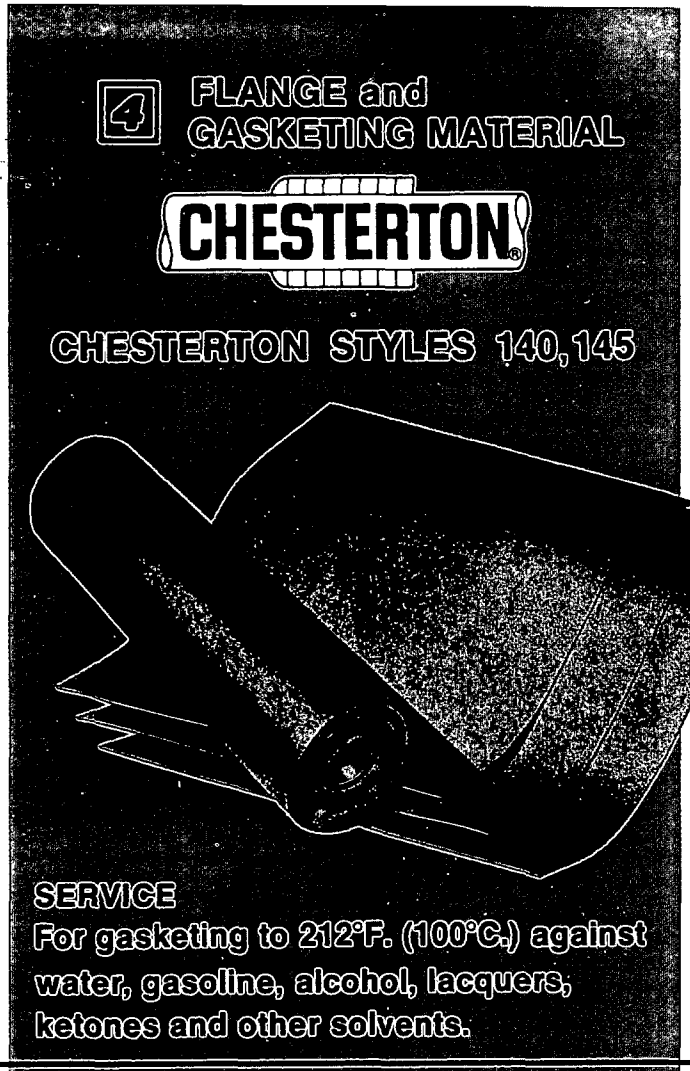


CHESTERTON STYLE 100

CHESTERTON STYLE 100 is a quality red rubber and should not be confused with commercial rubber. It is made from high grade rubber, and compounded so that it remains soft and pliable either in service or in stock. It is particularly suitable and recommended for low pressure or saturated steam, hot or cold water, ammonia, and caustic soda to 250°F. (120°C.). Furnished 36" (90cm) wide.

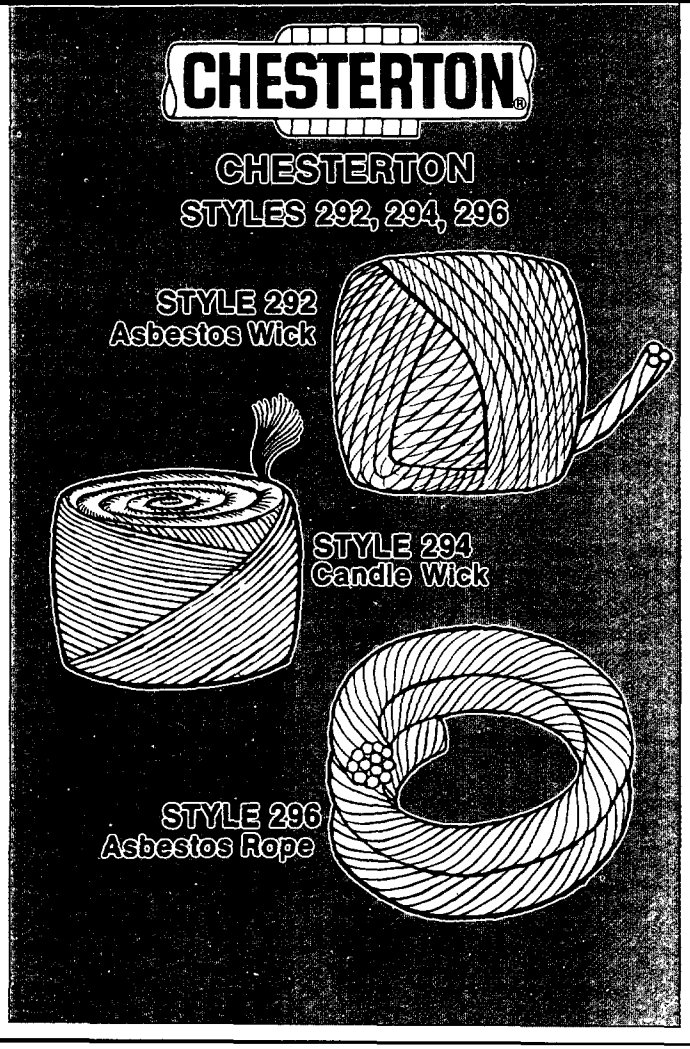
APPROXIMATE DATA

Thickness		Reorder	Weights ± 10%		Approx. Weights per Roll	
Inches	mm	Product No.	lbs. per yd.	kg./m²	lbs.	kg.
1/16"	1,6	10001	6	3,3	100	45,4
3/32"	2,4	10066	9	4,9	100	45,4
1/8"	3,2	10002	12	6,5	100	45,4
3/16"	4,8	10003	18	9,8	100	45,4
1/4"	6,4	10004	24	13,0	100	45,4



STYLE 140 is a vegetable fibre sheet, tan in color, and chemically treated by a special process which renders it impervious to gasoline, oil, grease, coal tar, and water. STYLE 140 is a highly flexible sheet with great resiliency, adaptable to uneven flanges. Width 36 inches. For liquid solutions not to exceed 212°F. (100°C.). NOTE: For those who prefer the inclusion of granulated cork, attention is directed to the availability of STYLE 145. Resilient, highly compressible for liquids in the range of 212°F. (100°C.). Sizes same as for STYLE 140.

APPROXIMATE DATA					
Thickness		Reorder Product No.		Length per Roll	
Inches	mm	140	145	yds.	M
1/64"	0,4	14061	14561	50	45,70
1/32"	0,8	14062	14562	50	45,70
1/16"	1,6	14001	14501	25	22,80
3/32"	2,4	14066	14566	25	22,80
1/8"	3,2	14002	14502	25	22,80
1/4"	6,4	14004	14504	36" Sheets	0,91



STYLE 292 — Asbestos Wick

A twisted asbestos roving 1/4" (6,4mm) in diameter furnished in 1/2 and 1 lb. balls — 43 ft. per lb. (0,227 Kg. and 0,454 Kg. balls, 5,9 M/Kg.)

STYLE 294 — Candle Wick

A cotton wicking consisting of 12 twisted strands totalling 1/16" (1,6mm) diameter. Furnished in 2 oz. (0,06 Kg.) balls, 5 lbs. (2,27 Kg.) per bag.

STYLE 296 — Asbestos Rope

A durable twisted material for blowoff pipes and general gasketing. Furnished in 25 lb. (11,35 Kg.) and 50 lb. (22,7 Kg.) packages.

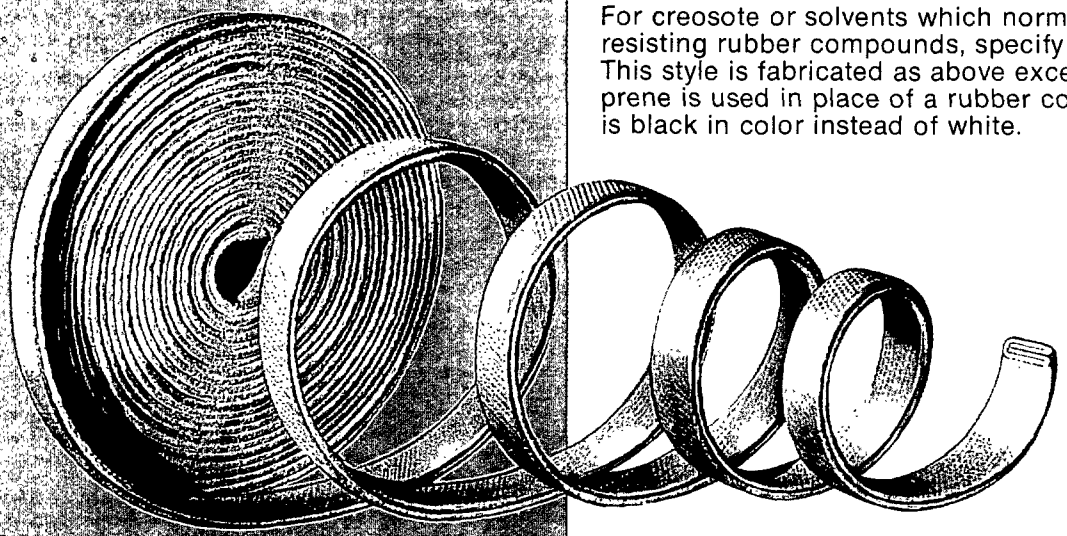
APPROXIMATE DATA				
Style	Size		Reorder Product No.	
	Inch	mm	1/2 lb. (0,227 kg.)	1 lb. (0,454 kg.)
292	1/4"	6,4	29201	29200
294	1/16"	1,6	29401	
			25 lb. (11,35 kg.)	50 lb. (22,7kg.)
296	1/4"	6,4	29604	29654
	3/8"	9,5	29606	29656
	1/2"	12,7	29608	29658
	5/8"	15,9	29610	29660
	3/4"	19,1	29612	29662
	7/8"	22,2	29614	29664
	1"	25,4	29616	29666
	1 1/4"	31,7	29620	29670
	1 1/2"	38,1	29624	29674
	2"	50,8	29632	29682

4 FLANGE and GASKETING MATERIAL

CHESTERTON

CHESTERTON STYLES 290, 291–N

GASKET TAPES

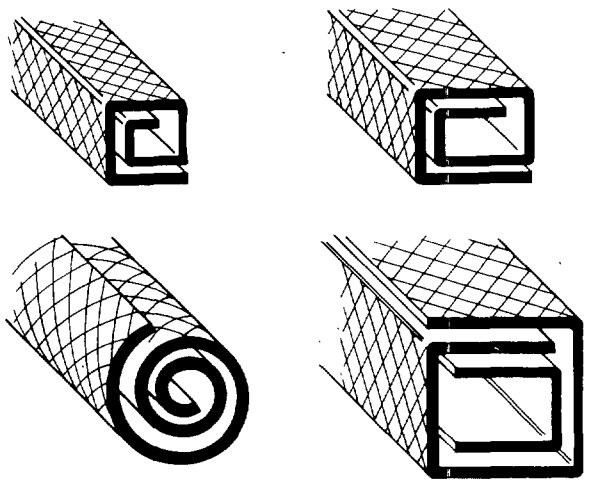


STYLE 290 GASKET TAPE is manufactured from brass wire inserted asbestos cloth coated with a heat resisting rubber compound, white in color. This tape serves a useful purpose in functioning as a high pressure steam gasketing material. Typical installations are the doors or covers of heaters, vulcanizers, kettles, cylinder heads, retorts. It will withstand the wear and abrasion where steam doors must be opened many times daily.

For creosote or solvents which normally attack heat resisting rubber compounds, specify STYLE 291–N. This style is fabricated as above except that Neoprene is used in place of a rubber compound, and it is black in color instead of white.

Gasket tape is furnished in any width, and in thicknesses ranging from $^1/_{16}$" to 1½" (1,6mm to 38,1 mm). May be had in a variety of shapes and dimensions—and in square form from ⅜" to 1½" (9,5 mm to 38,1mm). All tape is made only to special order.

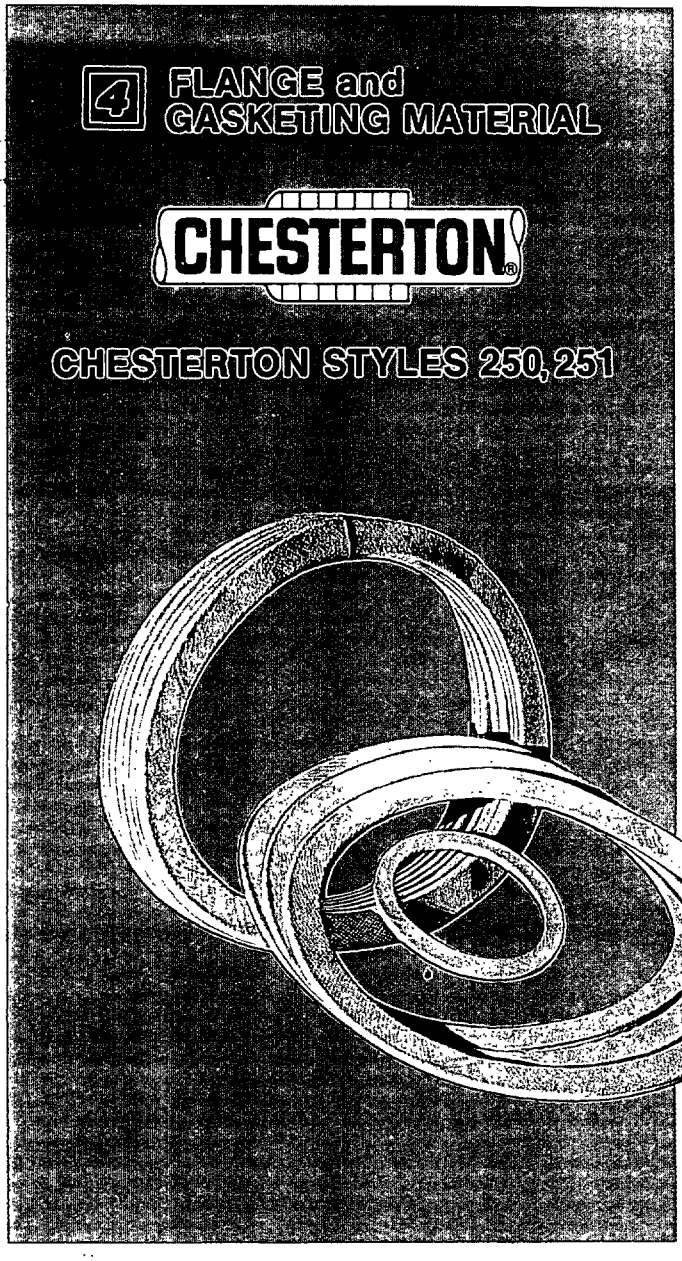
SOME AVAILABLE SHAPES



SERVICE

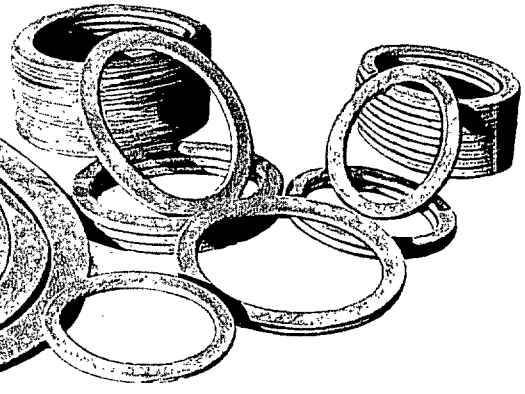
To 400 P.S.I. (28 Kg/cm²) on Cookers, Autoclaves, Vulcanizers, Groove Flanges, Door Gasketing, Against Steam, Air, Gas, Oil, Creosote, Alkalies

STYLES 290, 291–N	
Style	Reorder Product No.
290	290
291–N	291



STYLE 250 MANHOLE and STYLE 251 HANDHOLE GASKETS are an old, reliable, time-tested standard. These superior gaskets are fabricated from long fibres of selected Canadian asbestos, through the yarn of which is spun a fine brass wire which gives these gaskets added reinforcement and strength.

It is noteworthy that 250 and 251, though containing the same amount of asbestos as other reputable brands, are generally lighter in weight. This difference is due to the fact that 250 and 251 contain ample friction compounds, but are not loaded with weight-adding compounds. This results in an economical gasket which will make up and remain tight, assuring maximum service. Compare their performance with that of other gaskets and thus determine to your own satisfaction that 250 and 251 offer more value in dependable gasket service.



SERVICE

Manhole and handhole gaskets for boilers and other applications.

STOCK SIZES of 250 & 251 GASKETS, Standard 4-Ply 1/4" (6,4 mm) Thickness. 12 pieces of a size per box.

APPROXIMATE DATA		
Sizes		[1]Reorder Product No.
Inches	mm	
10 x 14 x 1	254,0 x 355,6 x 25,4	25126
10 x 14 x 1 1/4	254,0 x 355,6 x 31,7	25127
10 x 15 x 1	254,0 x 381,0 x 25,4	25128
10 x 15 x 1 1/4	254,0 x 381,0 x 31,7	25129
10 1/2 x 14 1/2 x 1 1/4	266,7 x 368,3 x 31,7	25130
10 1/2 x 15 x 1	266,7 x 381,0 x 25,4	25131
10 1/2 x 15 x 1 1/4	266,7 x 381,0 x 31,7	25132
11 x 14 x 1 1/4	279,4 x 355,6 x 31,7	25133
11 x 14 1/2 x 1 1/4	279,4 x 368,3 x 31,7	25134
11 x 15 x 1	279,4 x 381,0 x 25,4	25135
11 x 15 x 1 1/4	279,4 x 381,0 x 31,7	25136
12 x 15 x 1	304,8 x 381,0 x 25,4	25137
12 x 15 x 1 1/4	304,8 x 381,0 x 31,7	25138
12 x 16 x 1	304,8 x 406,4 x 25,4	25139
12 x 16 x 1 1/4	304,8 x 406,4 x 31,7	25140

[1]Reorder Product Number is per piece.

APPROXIMATE DATA		
Sizes		[1]Reorder Product No.
Inches	mm	
2 1/2 x 3 x 5/8	63,5 x 76,2 x 15,9	25027
2 1/2 x 3 1/2 x 1/2	63,5 x 88,9 x 12,7	25001
2 1/2 x 3 1/2 x 5/8	63,5 x 88,9 x 15,9	25002
2 1/2 x 4 x 1/2	63,5 x 101,6 x 12,7	25003
3 x 3 1/2 x 5/8	76,2 x 88,9 x 15,9	25004
3 x 4 x 1/2	76,2 x 101,6 x 12,7	25005
3 x 4 x 5/8	76,2 x 101,6 x 15,9	25006
3 x 4 x 3/4	76,2 x 101,6 x 19,1	25007
3 x 4 1/2 x 1/2	76,2 x 114,3 x 12,7	25008
3 x 4 1/2 x 5/8	76,2 x 114,3 x 15,9	25009
3 x 5 x 1/2	76,2 x 127,0 x 12,7	25010
3 x 5 x 5/8	76,2 x 127,0 x 15,9	25011
3 x 5 x 3/4	76,2 x 127,0 x 19,1	25012
3 1/2 x 4 x 1/2	88,9 x 101,6 x 12,7	25013
3 1/2 x 4 x 5/8	88,9 x 101,6 x 15,9	25014
3 1/2 x 4 1/2 x 1/2	88,9 x 114,3 x 12,7	25015
3 1/2 x 4 1/2 x 5/8	88,9 x 114,3 x 15,9	25016
3 1/2 x 4 1/2 x 3/4	88,9 x 114,3 x 19,1	25017
3 1/2 x 5 x 5/8	88,9 x 127,0 x 15,9	25018
3 1/2 x 5 1/2 x 5/8	88,9 x 139,7 x 15,9	25019
4 x 5 x 5/8	101,6 x 127,0 x 15,9	25020
4 x 5 x 3/4	101,6 x 127,0 x 19,1	25021
4 x 5 1/2 x 3/4	101,6 x 139,7 x 19,1	25022
4 x 6 x 5/8	101,6 x 152,4 x 15,9	25023
4 x 6 x 3/4	101,6 x 152,4 x 19,1	25024
4 1/2 x 6 1/2 x 3/4	114,3 x 165,1 x 19,1	25026
6 x 8 x 3/4	152,4 x 203,2 x 19,1	25025
6 x 8 x 1	152,4 x 203,2 x 25,4	25028

[1]Reorder Product Number is per piece.

CHESTERTON®

HYDRAULIC-PNEUMATIC SEALS



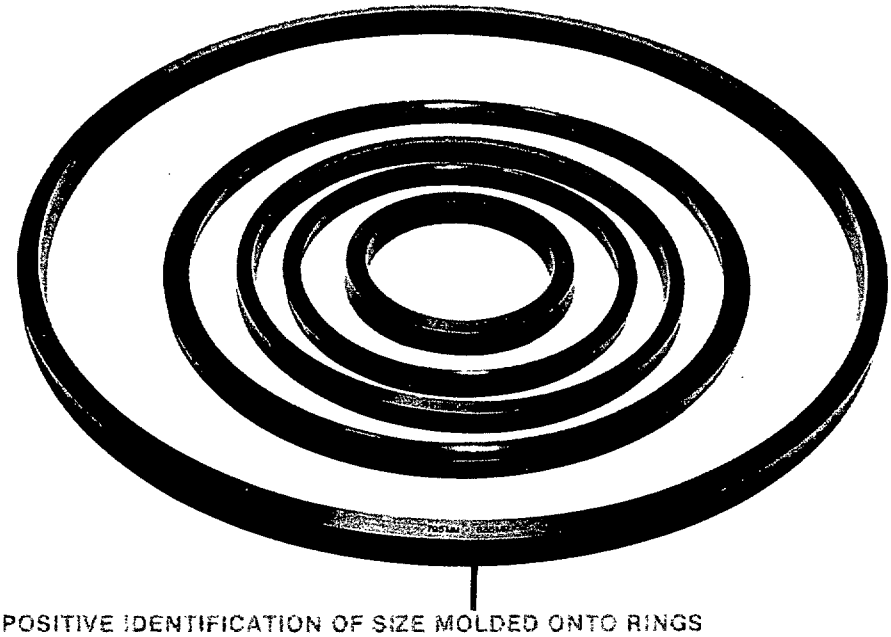
CHESTERTON®

STYLE 10,000 SUPER-MONOSEAL® SINGLE RING

POLYMER CONSTRUCTION
Rod and Piston, Air, Oil, Water Services

No gland adjustments.
Use in either adjustable or fixed depth cavities
Automatically seals zero to 15,000 psig (1000 kg/cm²)
Self-Lubricating

3,500 SIZES AVAILABLE — INCH and METRIC for effective sealing up to 15,000 psig (1000 kg/cm²)



POSITIVE IDENTIFICATION OF SIZE MOLDED ONTO RINGS

Applicable at temperatures from −60°F (−50°C) to 185°F (86°C). For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM

Leather "U" cups have no memory, absorb fluid, swell and bind. In water or air service they dry out, shrink and crack.

Fabric Reinforced Rubber "U" cups absorb fluid, swell, lose physical properties, rag out, extrude, have limited shelf life, retain foreign material or system impurities that cause equipment scoring and excessive wear.

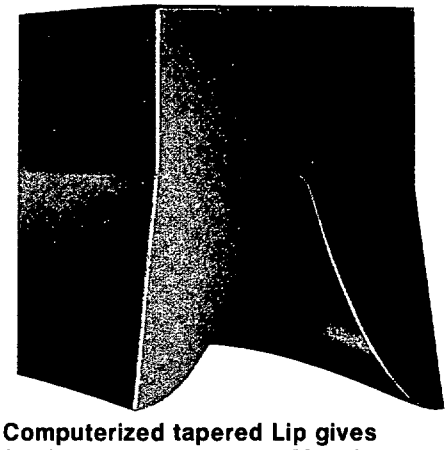
Rubber "U" cups have limited shelf life (harden) and are subject to ozone attack. The products lose resilience which affects positive sealing particularly at lower pressures. Lack of inherent lubrication causes binding, slow cycling and increased seal wear. Result is leakage and shortened life.

THE SOLUTION

CHESTERTON STYLE 10,000 SUPER-MONOSEAL: The answer to the shallow stuffing box problem! A single, **automatic** ring is all that's required to pack all depths of stuffing boxes. No after adjustments.

- Proven CHESTERTON Polymer — resists extrusion, has extended shelf life.
- Molydisulphide lubrication — low friction operation eliminates "slip stick" (chatter).
- High tensile strength — resists wear and abrasion.
- Tapered, flares lip design — automatically seals zero to 15,000 psig (1000 kg/cm²).
- Non-absorbent — retains physical properties, does not "rag-out".
- Excellent memory — retains lip flare.
- Easy installation — lip design gentled for easy insertion.

Result: Leaks controlled, downtime avoided, faster cycling, longer life.

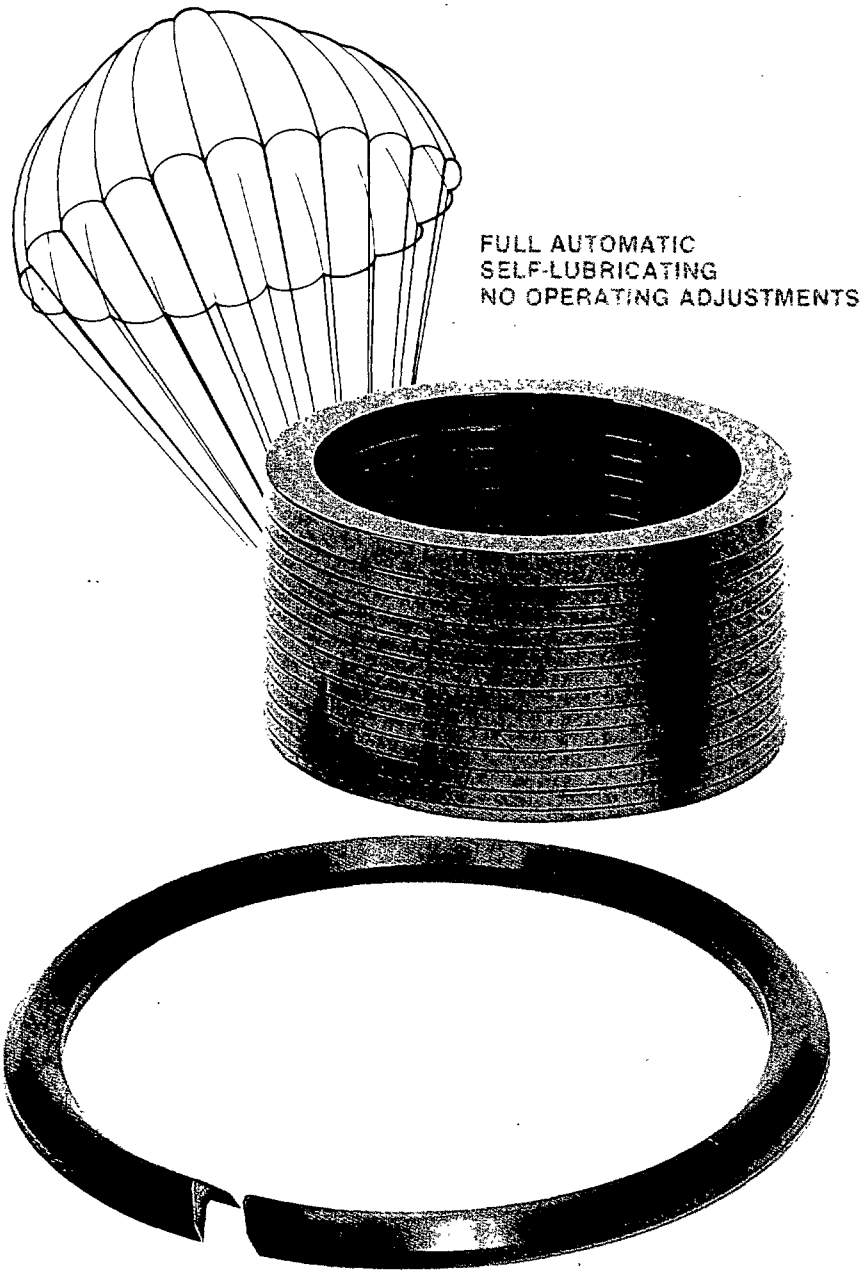


Computerized tapered Lip gives feather-touch response. Massive body withstands shocks.

CHESTERTON®

STYLE 8000 SUPER-PARACHUTE® V-RING SETS

POLYMER CONSTRUCTION
Rod and Piston, Air, Oil, Water Services

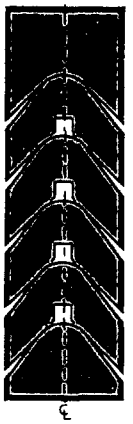


FULL AUTOMATIC
SELF-LUBRICATING
NO OPERATING ADJUSTMENTS

AUTOMATICALLY SEALS,
CONTROLS LEAKAGE ZERO TO MAXIMUM PRESSURE

Applicable at temperatures from −60°F (−50°C) to 185°F (86°C).
For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM



Conventional "V's" require constant critical adjustments during operation and are often overtightened causing binding and excessive wear, or if adjustment is not maintained, rolling and rag-out occurs which leads to leakage and failure.

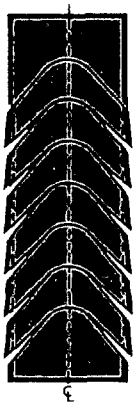
Fabric Reinforced Rubber "V's" absorb fluid, soften, swell,lose physical properties, extrude, leak and fail prematurely.

Leather "V's" absorb fluid, swell and bind. In water service or wet air applications (over a period of equipment shutdown) they dry out and crack.

Homogeneous Rubber "V's" have limited shelf life, **harden,** lose resilience and are subject to ozone attack. Their effectiveness is reduced, and the usual result is leakage at lower pressures.

PTFE "V's" have poor memory characteristics, a tendency to cold flow, and poor abrasion resistance.

THE SOLUTION



CHESTERTON STYLE 8000 SUPER-PARACHUTE:
Fully automatic, molded polymer rings are easy to install and offer superior service life:

- Up to 50% more seal lips per set — less chance of leakage.
- Seal effectively from zero to maximum pressure.
- Molded polymer is permanently lubricated with molydisulphide
  — lower friction
  — faster cycling
  — longer life.
- Available in rod sizes 7/16" (11 mm) to 70" (1780 mm).

(Stack height chart on page 74).

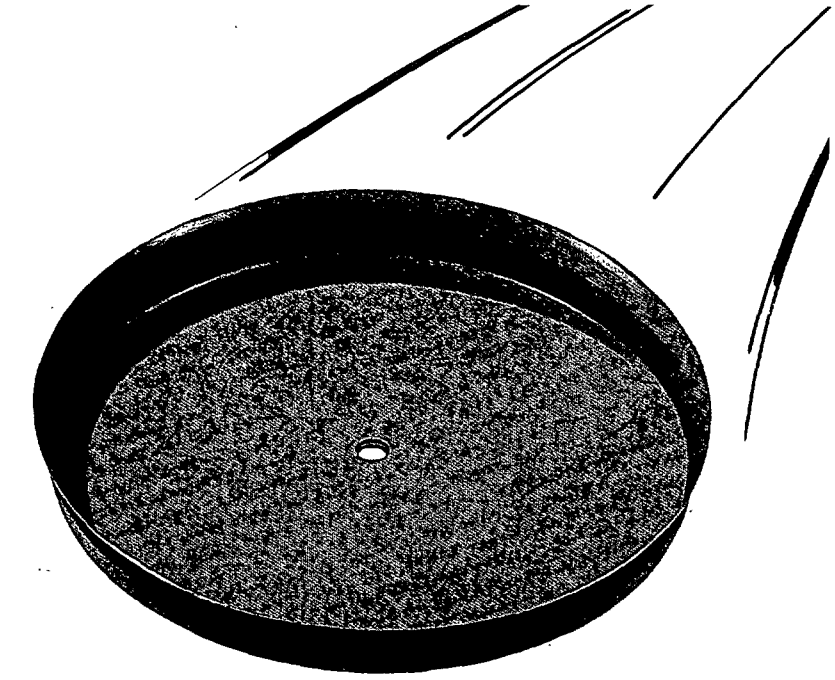
5 HYDRAULIC/PNEUMATIC SEALS

CHESTERTON®

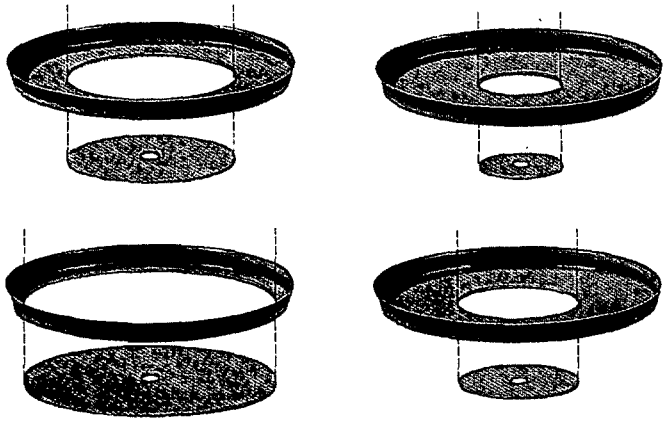
STYLE 7000 SUPERCUP™

METAL REINFORCED — POLYMER CONSTRUCTION
SELF-LUBRICATING (Molydisulphide)

Off-the-shelf in all popular bore sizes
Your Distributor will quickly cut the center hole required or you can easily do it yourself!



Why wait for cups? DO IT YOURSELF!



Applicable at temperatures from −60°F (−50°C) to 185°F (86°C). For water applications specify red polymer. (Blue polymer is limited to a maximum temperature of 150°F (66°C) in water applications.)

THE PROBLEM

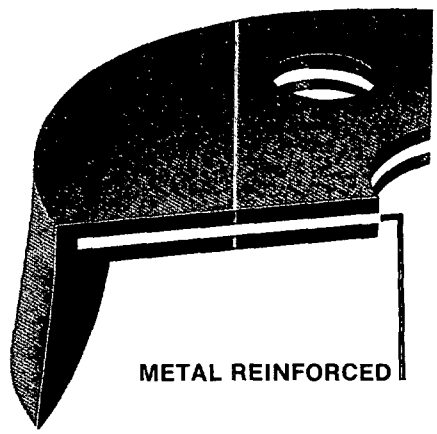
Conventional cups of rubber, fabric reinforced rubber or leather have limited shelf life and are subject to swelling, binding, extrusion and premature wear. A multiplicity of cylinder bore and center hole sizes requires either large inventories or waiting for special cups.

THE SOLUTION

Instead of waiting for special cups or carrying an unwieldy inventory, you can now take a CHESTERTON SUPERCUP in the proper cylinder bore size and cut the center-hole you require.*

STYLE 7000 SUPERCUPS are produced from the same low friction, tough, extrusion resistant polymer proven so successful in our STYLE 10,000 SUPER-MONOSEAL®. A big plus over all conventional cups is the molded in metal reinforcement which permits precision centering along with the stability required to prevent cup failure by heel breakdown.

CHESTERTON SUPERCUP™
THE LONG LIFE CUP . . .
won't swell, deform, drag or bind when properly installed



SUPERCUPS have a metal disc to guard against cold flow and prevent distortion. Special tough polymer body won't swell, extrude or drag. Feather-touch lip reduces friction at both high and low pressures. Breakaway pressure reduced, slip-stick controlled.

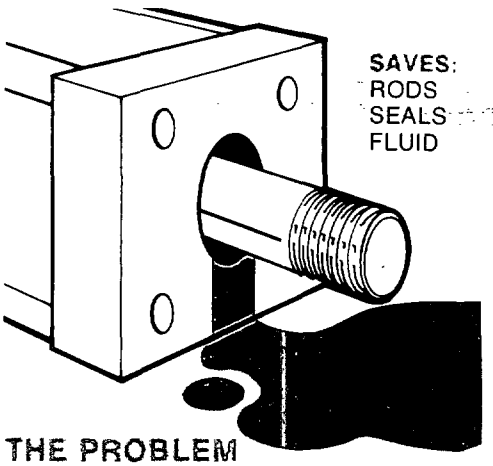
*Consult CHESTERTON

CHESTERTON®

STYLE 5000 SUPER-WIPER™

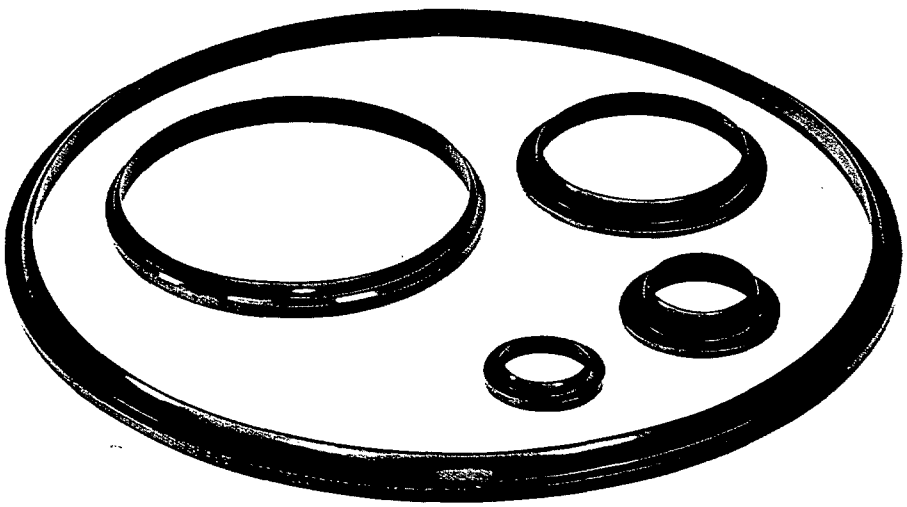
POLYMER CONSTRUCTION

Reciprocating Rod Service
Protects primary rod seal against intrusion of foreign materials.

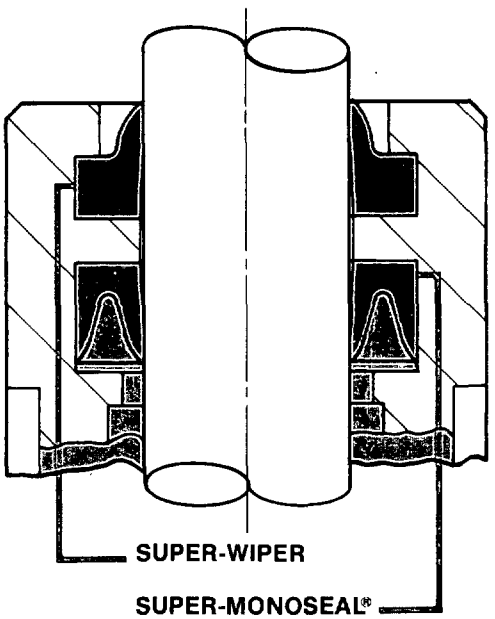


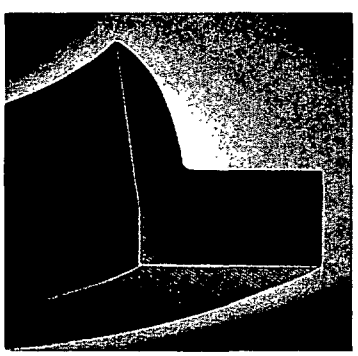
THE PROBLEM

Foreign material (dirt, abrasives, dust, etc.) coming in contact with rods causes scoring, which reduces the life of the rod, rod bushings, and primary rod seals. Conventional soft rubber scrapers are not tough enough to withstand the abrasive action of hostile intruders. The harder metalic devices cannot effectively conform to rods that wander or do not run true. These devices can cause rod damage as well as allowing foreign material entry into seal area resulting in rod seal leakage.



Sizes available to 70" (1780 mm).

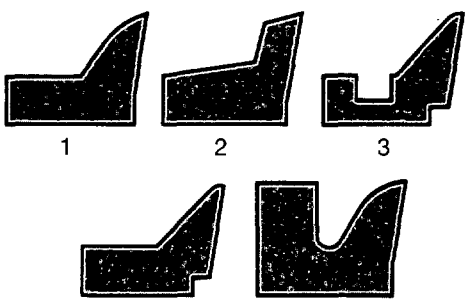




Permanently flared lip.
Minimum friction.
Positive control. Nonabsorbent.
Unaffected by ozone.

CONFIGURATIONS

Type 1 configuration is normally supplied as the standard.



THE SOLUTION

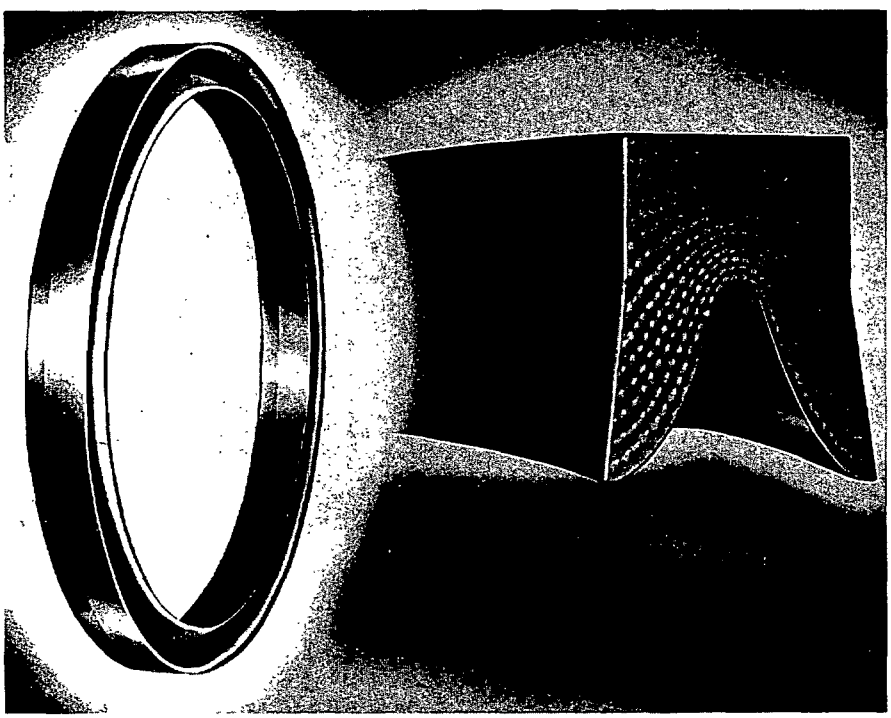
CHESTERTON STYLE 5000 SUPER-WIPERS are manufactured from a flexible, high durometer, highly abrasion resistant polymer, **lubricated with molydisulphide** to reduce friction. SUPER-WIPERS rugged lip design effectively excludes foreign material from entering bearing and seal areas. SUPER-WIPERS function in the temperature range of −60°F to 185°F (−50°C to 86°C) on pneumatic and hydraulic cylinders and presses that utilize petroleum based oils, water, or water with soluble oil.

CHESTERTON®

STYLE 6000 MONOSEAL® SINGLE RINGS

FULLY MOLDED, NEOPRENE COATED FABRIC CONSTRUCTION

Suitable to temperatures of 250°F (120°C)
Neoprene, synthetic-coated, fabric construction
Conforms to worn equipment
For water, oil and air
For stuffing box, gland only



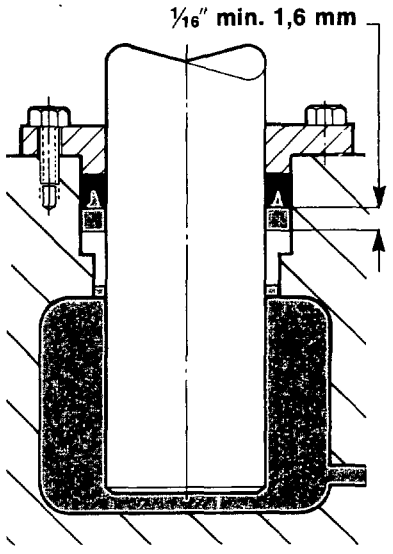
CHESTERTON MONOSEAL® is the answer to the shallow stuffing-box problem. One strong, proven, durable endless ring will seal under high pressure and will not weep at zero pressure because of the feather-touch response of this flared-lip design. MONOSEAL pays for itself through the retention of costly hydraulic fluids. A single unit is for **all** depths of stuffing boxes. MONOSEAL is easily installed with no after adjustments necessary. It functions equally well on oil and water; will not swell or bind the ram or soften as infiltration is prevented through complete coating of the fabric. The massive top construction of MONOSEAL withstands enormous packing shock from press bumping which would normally deform conventional U-rings or nested "V" type seals. This is your assurance of many years of trouble-free service plus savings in labor, fluid, and seal costs. Designed for rams 4¼" (108 mm) and larger, and in cross sections ½" (12,7 mm) and larger.

MONOSEAL STYLE 6000 is molded from Neoprene and fabric into a solid, reinforced single ring responsive to pressures varying from zero to maximum. Recommended for water, oils and air. It conforms effectively to the irregularities that are characteristic of older equipment which has been used on water service and/or where the stuffing box has become rough. Use STYLE 6000 PE as shown below for phosphate ester fluids.

CHESTERTON STYLE 6000 PE MONOSEAL

Recommended for use against straight phosphate esters such as certain types of Pydraul. Not suitable for chlorinated hydrocarbon types.

TYPE OF MOUNTING



Standard conventional stuffing box mounting in a typical hydraulic press.

DIMENSIONS — STYLE 6000

Cross Section		Seal Height*	
Inches	mm	Inches	mm
½"	12,7	1 1/16"	27,0
5/8"	15,9	1 1/16"	27,0
¾"	19,1	1 5/16"	33,3
7/8"	22,2	1 5/16"	33,3
1"	25,4	1 7/16"	36,5

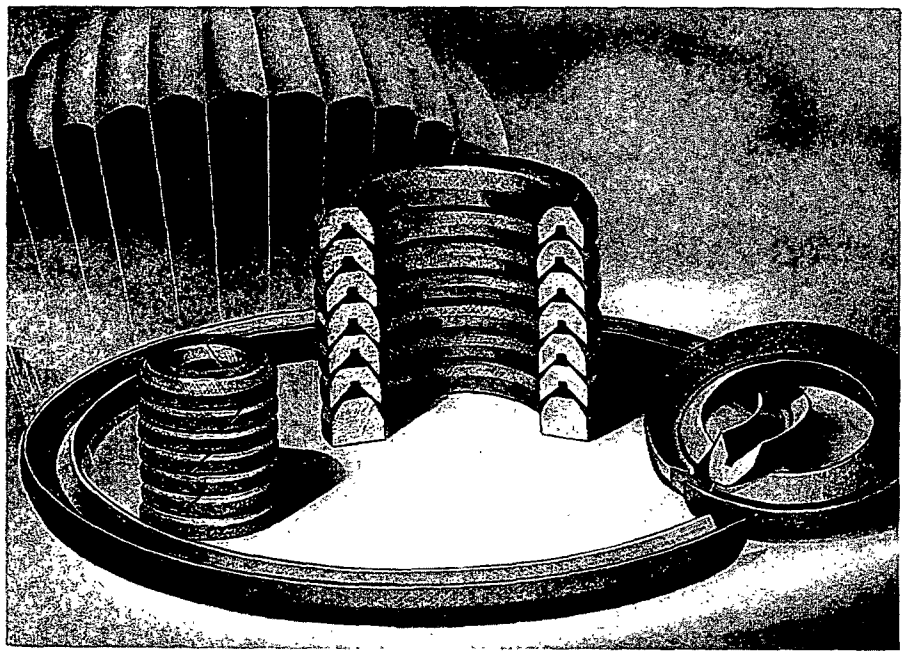
* Dimensions: Stuffing box space required below bottom of gland, after gland face is fully inserted face to face.
Measurements shown include 1/16" (1,6 mm) extra required free space in bottom.

CHESTERTON®

STYLE 600 PARACHUTE® V-RING SETS

FULLY MOLDED, FABRIC REINFORCED, SPLIT RING CONSTRUCTION

For all ram services and pressures — particularly adapted for deep stuffing boxes and odd sized Rams or conditions where endless rings cannot be installed.



CHESTERTON PARACHUTE® is a fully molded fabric reinforced seal which, because of its unique, individual lip seal design, requires little gland pressure. Wear is mostly limited to the energy stroke. Thus, PARACHUTE lasts longer than conventional V seals. No top adapter required because of flat-top surface design. Thick bottom ring is fully molded with straight sides permitting easy insertion.

STYLES AVAILABLE:

600W, **600F** } - Water
600S - Steam and Compressed Air
600CO, **600F** } - Cold Oils
600HO - Hot Oils and Solvents
600PE - Straight Phosphate Ester Fluids, such as certain classes of PYDRAUL

NOTE:

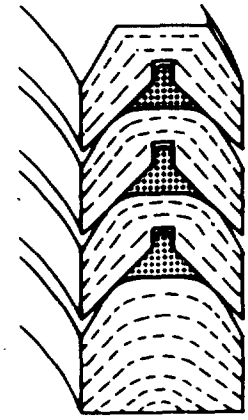
(Regular STYLE 600W or 600-CO is preferred for most stuffing boxes with depth adequate to pressure involved.)

NOTE:

Bull Rings in our STYLE 420 Sq. Braided Copper Packing are available where needed. (Also see STYLE 9000). Normal temperature limit for STYLE 600 is 250°F (120°C). STYLES 600 HO and 600 S temperature limit is slightly higher.

All styles of 600 are neoprene type rubber base except STYLE 600-PE which is a butyl type rubber base.

SPECIAL PARACHUTE STYLE 600-F



Prevents deformation at excessive pressures or where box is shallow in proportion to the pressure. For water or oil to 150°F (65°C). Available ¼" (6,4 mm) up.

(NOTE: Regular STYLE 600W or 600-CA is preferred for most stuffing boxes with depth adequate to pressure involved.)

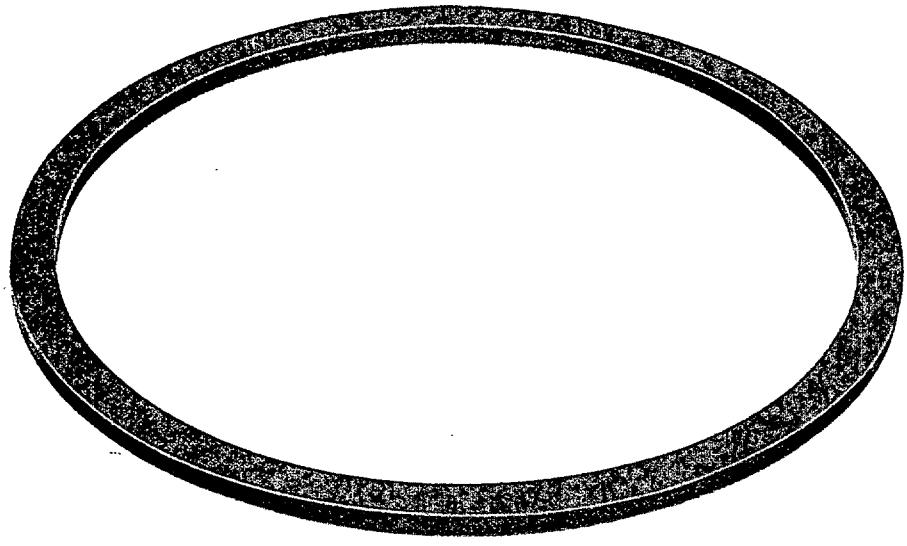
Stack height chart on page 75

CHESTERTON®

STYLE 9000 BACK-UP RINGS

RIGID, NON-METALLIC CONSTRUCTION

Prevents Extrusion
Lengthens seal life at low cost . . .



THE PROBLEM

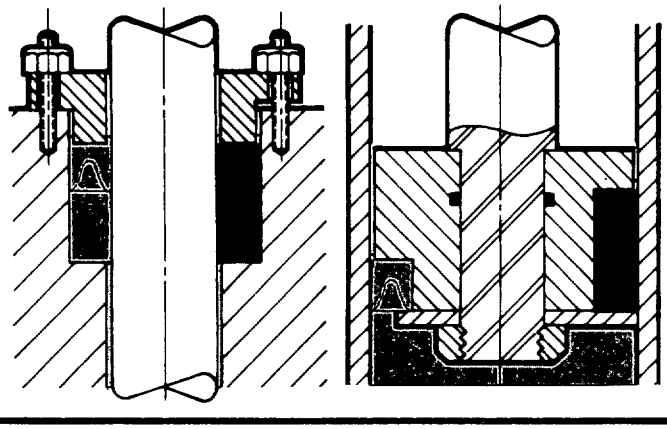
It has long been known that the principle cause of hydraulic/pneumatic seal failure is due to extrusion. Excessive clearances between rods (rams) and follower glands, and pistons and cylinders result in deformation or movement of seals into the clearance areas. This causes nibbling at the heel of the seal, resulting in reduced seal life.

THE SOLUTION

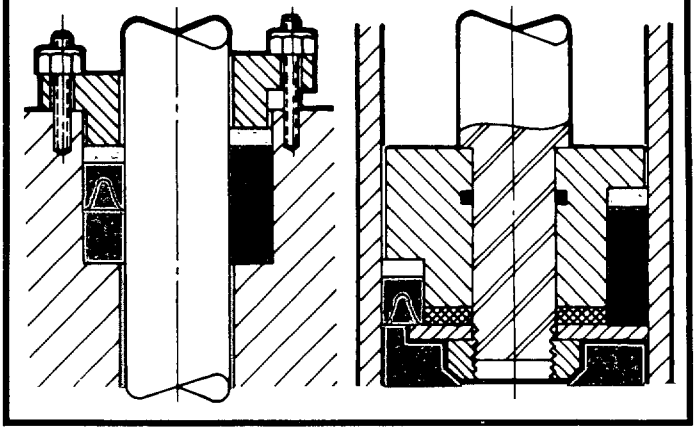
CHESTERTON Polymer and regular hydraulic products are extremely resistant to extrusion. In cases of extreme equipment clearances over .030 inches (0,7 mm) on a diameter some clearance control must be provided in order to achieve maximum service life. The rigid, high density, non-scoring dimensionally stable material from which STYLE 9000 is produced provides a seal back-up with closely controlled clearances. This low cost method of extending hydraulic seal life has proven extremely successful on worn equipment and in extreme pressure services.

The STYLE 9000 back-up ring is usable over the full range of fluids and temperatures for which CHESTERTON Polymer and regular hydraulic seals are recommended. Available up to 70" (1780 mm) diameter. Standard ring thickness 3/8" (9,5 mm).

SEAL EXTRUSION



SEAL EXTRUSION CONTROLLED BY BACK UP RING



CHESTERTON®

HYDRAULIC/PNEUMATIC SEAL APPLICATION GUIDE

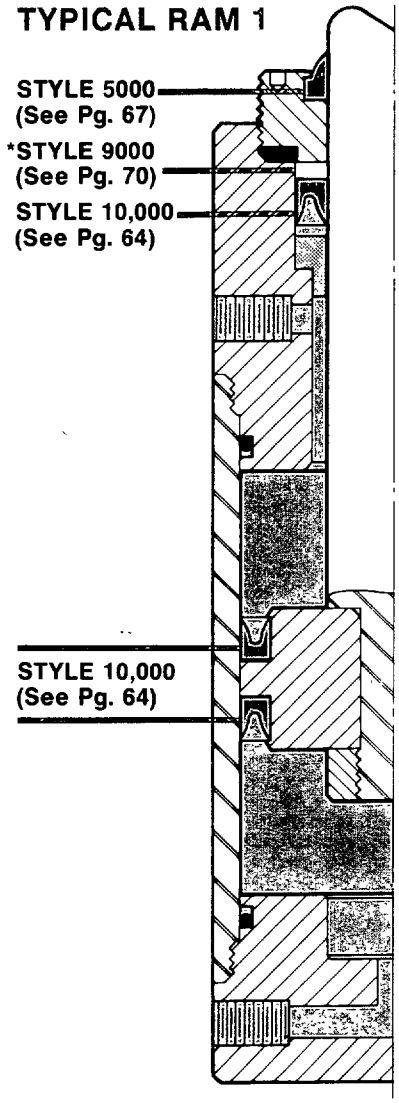
Shown below are typical mountings and equipment configurations for SUPER-WIPERS, SUPER-MONOSEALS,® MONOSEALS,® SUPER-PARACHUTE,® PARACHUTE,® 9000 BACK-UP RINGS, and SUPER-CUP™ seals. This guide is illustrated to show the flexibility and general uses of the various types of CHESTERTON hydraulic and pneumatic sealing devices.

1. Typical groove mounted STYLE 5000 SUPER-WIPER utilizing STYLE 10,000 SUPER-MONOSEAL as both rod and piston seals.

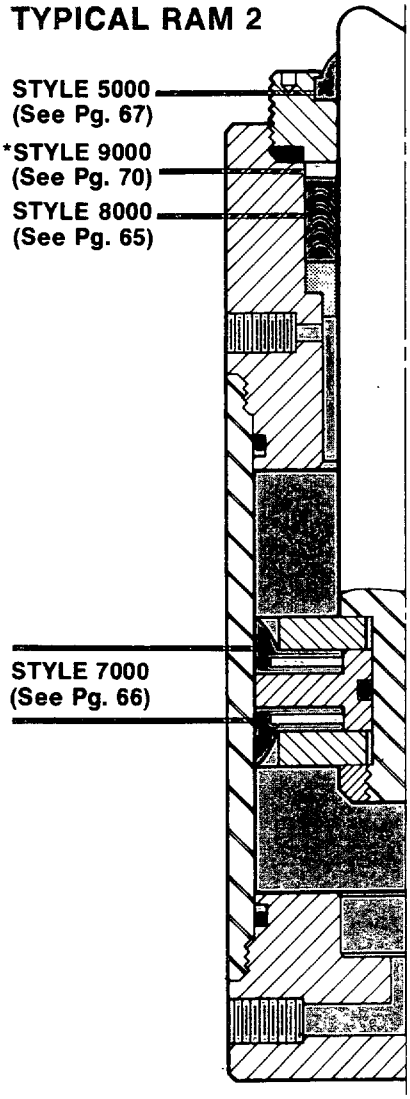
2. Typical groove mounted STYLE 5000 SUPER-WIPER using STYLE 8000 SUPER-PARACHUTE as the primary rod seal and STYLE 7000 SUPERCUP as the double-acting piston seal.

3. Typical groove mounted STYLE 5000 SUPER-WIPER employing STYLE 6000 MONOSEAL as the primary rod seal with STYLE 600 PARACHUTE used as a double-acting piston seal assembly.

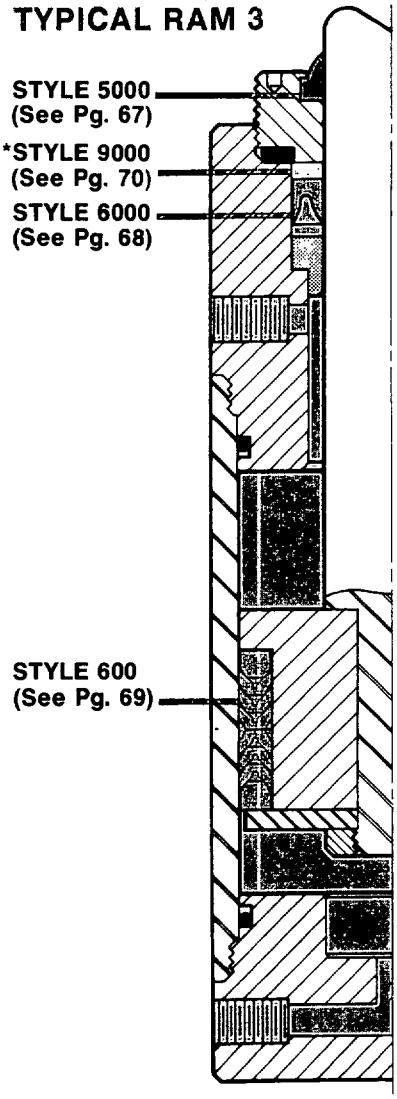
TYPICAL RAM 1



TYPICAL RAM 2



TYPICAL RAM 3



EQUIPMENT REQUIREMENTS FOR ALL SEALS

Finishes Recommended:
15-25 Micro-inch RMS (0,375-0,625 Micro-meter RMS)
(▽▽▽▽) — Dynamic Surfaces
30-45 Micro-inch RMS (0,75-1,125 Micro-meter RMS)
(▽▽▽) — Static Surfaces
Clearances: (Ram to gland or piston to cylinder)
STYLES 5000, 7000, 8000, 10,000 — .030" (0,75 mm)/dia. max.
STYLES 600, 6000 — .015" (0,38 mm)/dia. max.

* Required only to control excess clearances

STYLES OF CHESTERTON® PACKINGS

CONVENTIONAL MOUNT PISTON MOUNT

STYLE 10,000
SUPER-MONOSEAL®
Automatic sealing action
Non-absorbent polymer
High extrusion resistance
Responsive lip design
NOTE: See installation instructions.

STYLE 6,000 MONOSEAL®
Reinforced construction
Conforms to worn equipment
No adjustments
Proven design
NOTE: See installation instructions.

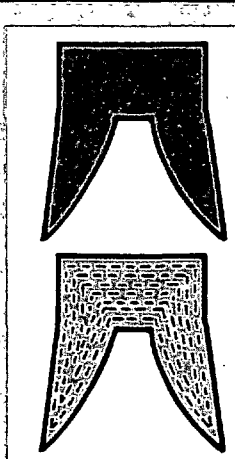


Fig. 1

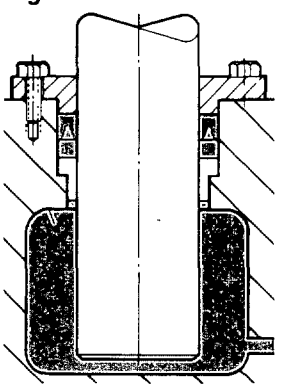
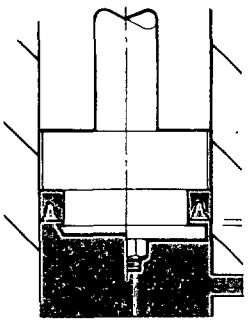


Fig. 4



STYLE 8,000
SUPER-PARACHUTE® PACKING
Easy installation
Near frictionless operation
Fully automatic
High extrusion resistance polymer



Fig. 2

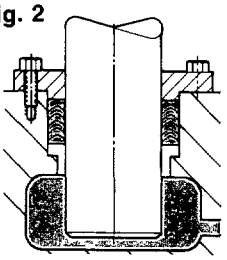
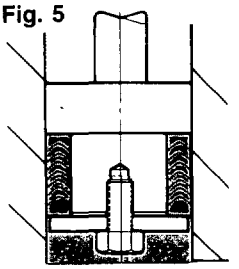


Fig. 5



STYLE 600
PARACHUTE® PACKING
Reinforced construction. No top adapter required. Heavy bottom adapter. Proven performance
HYDRAULIC: — It is suggested that STYLE 600F (with fillers) be used on oil or water if box depth is shallow in proportion to pressure; or if box holds fewer than 7 rings.

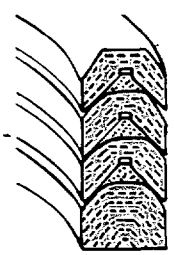


Fig. 3

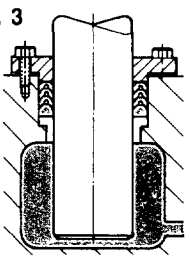
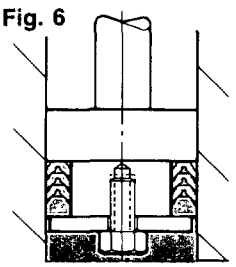


Fig. 6



STYLE 7,000 SUPERCUPS™
Positive sealing. High extrusion resistance polymer.
Will not dry out or oil soften.
Unique metallic reinforcement.
NOTE: See installation instructions.

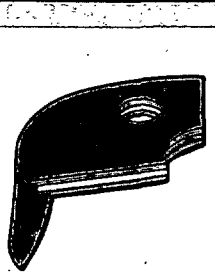
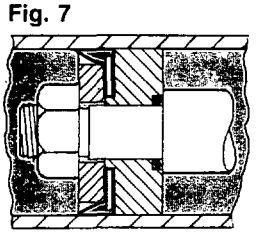
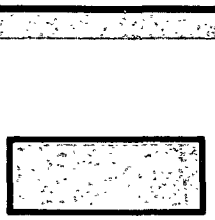
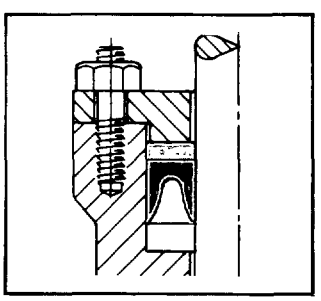


Fig. 7



STYLE 9000 BACK UP RING
Rigid, high density, non-scoring material. Provides back-up with closely controlled clearances. Successful low-cost method of extending hydraulic seal life.

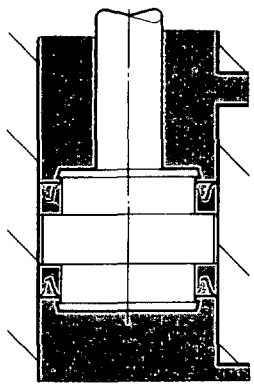




PISTON MOUNT DOUBLE ACTING

CHESTERTON® APPLICATION GUIDE–TYPES OF MOUNTINGS

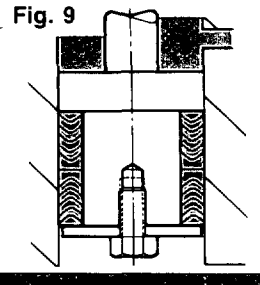
Fig. 8



ADAPTING TO SHALLOW STUFFING BOXES
SUPER-MONOSEAL® remains stationary at the top of the box against the gland. 1/16" (1,6 mm) Minimum additional clearance at the bottom of stuffing box permits hydraulic fluid to actuate the response SUPER-MONOSEAL lips. No gland pressure or gland adjustment is required.

FIG. 1, 2 & 3 — Standard conventional stuffing box mounting in a typical hydraulic press. Note that this is the only type of application for which STYLE 6,000 is intended, while the installations shown in Figures 4 and 8 are for STYLE 10,000 SUPER-MONOSEALS only.

Fig. 9



LIP SHORTENED
Allow for gland lip length in excess of depth of chamfer is possible.

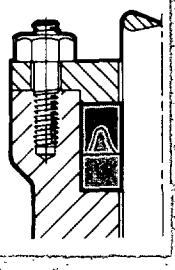
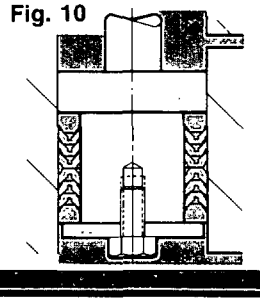


FIG. 4, 5, 6 & 7 — Simple single acting piston mounted design. In Figure 4 the left side shows a snap over ridge for retention of the SUPER-MONOSEAL. This is the preferred method for piston mounting. The right side shows the more conventional bolted cover plate design frequently found in existing equipment as shown in Figures 5 and 6.

Fig. 10



FLAT GLAND
Lip removed to obtain additional depth. (Box chamfer can be a problem.)

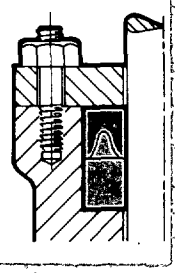
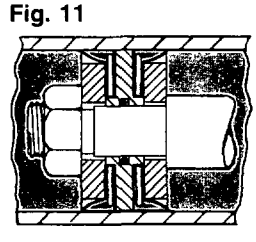
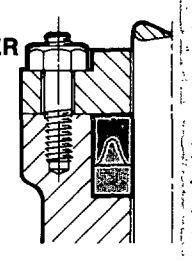


FIG. 8, 9, 10 & 11 — Conventional double-acting, piston mounted design with packing rings positioned back to back with a portion of the piston separating them. The method of retention shown is the preferred snap over ridge design per Figure 4 left, but other methods such as bolted cover plates, snap ring, retainer, etc. can be used.

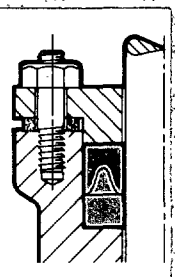
Fig. 11



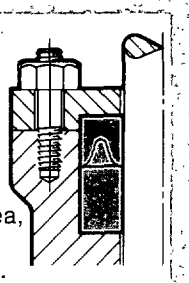
GLAND TURNED OVER
Excellent service will be obtained if I.D. and O.D. clearances are proper. (Box chamfer can be a problem.)



SHIMMED GLAND
Attention should be given to thickness of shims. All should be the exact same thickness. Gland lip should enter beyond box chamfer.



COUNTERBORED GLAND
With sufficient gland thickness, this is a satisfactory method.
NOTE: When stuffing box chamfer becomes part of seal support area, said chamfer must not exceed .030" (.762 mm).



INSTALLATION:

CHESTERTON hydraulic seals are manufactured from only the finest materials available, under the most stringent, controlled conditions. However, to insure maximum service, it is suggested that the following points be adhered to when installing same:

- The stuffing box, groove or piston, and all contacting areas should be free of rough edges, nicks, or burrs, etc.
- Protective fixtures, materials or devices should be implemented whenever the seal is forced over threads, sharp edges, grooves and the like.
- Installation tools should be soft metal or plastic also free of rough edges. The use of screwdrivers and other similar tools should be avoided.
- Lubricants are acceptable and in most cases desirable. The same hydraulic medium can be used to lubricate the seal in installation. Only soft or light weight greases should be considered, if grease is to be used at all.

Because of the wide variety of applications of our products, and the wide range of equipment conditions encountered, together with the unpredictable human factors involved in the installation of these products by the ultimate user, we do not encourage reliance on them without specific prior service experience.

For the reasons indicated, the A.W.CHESTERTON COMPANY makes no warranties, expressed or implied, that products described are guaranteed for any length of time, for any measure of service, or for any specific purpose.

Table of Style 8000 SUPER-PARACHUTE® Approximate Set Heights per number of Rings (Includes top and bottom adapters)

Basic Inch Measurement Sizes

CROSS SECTION — TOTAL NUMBER OF RINGS — ADD PER SEALING RING STACK HEIGHT OF TOP & BOTTOM ADAPTERS

Inches OVER–THRU	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	ins.	ins.
1/4–5/16	13/32	17/32	21/32	25/32	29/32	1 1/32	1 5/32	1 9/32	1 13/32	1 17/32	1 21/32	1 25/32	1 29/32	2 1/32	2 5/32	2 9/32	2 13/32	2 17/32	2 21/32	2 25/32	9/32	1/8
5/16–3/8	1/2	2 1/32	1 3/16	3 1/32	1 1/8	1 9/32	1 7/16	1 19/32	1 3/4	1 29/32	2 1/16	2 7/32	2 3/8	2 17/32	2 11/16	2 27/32	3	3 5/32	3 5/16	3 15/32	1 1/32	5/32
3/8–7/16	1 7/32	1 1/16	2 7/32	1	1 5/32	1 5/16	1 15/32	1 5/8	1 25/32	1 15/16	2 3/32	2 1/4	2 13/32	2 9/16	2 23/32	2 7/8	3 1/32	3 3/16	3 1/32	3 1/2	3/8	5/32
7/16–1/2	9/16	2 3/32	7/8	1 1/32	1 3/16	1 11/32	1 1/2	1 21/32	1 13/16	1 31/32	2 1/8	2 3/32	2 7/16	2 19/32	2 3/4	2 29/32	3 1/16	3 7/32	3 3/8	3 17/32	1 3/32	5/32
1/2–9/16	5/8	1 3/16	1	1 3/16	1 3/8	1 9/16	1 3/4	1 15/16	2 1/8	2 5/16	2 1/2	2 11/16	2 7/8	3 1/16	3 1/4	3 7/16	3 5/8	3 13/16	4	4 3/16	7/16	3/16
9/16–5/8	2 1/32	2 7/32	1 1/32	1 7/32	1 13/32	1 19/32	1 25/32	1 31/32	2 5/32	2 11/32	2 17/32	2 23/32	2 29/32	3 3/32	3 9/32	3 15/32	3 21/32	3 27/32	4 1/32	4 7/32	1 5/32	3/16
5/8–1 1/16	1 1/16	7/8	1 1/16	1 1/4	1 7/16	1 5/8	1 13/16	2	2 3/16	2 3/8	2 9/16	2 3/4	2 15/16	3 1/8	3 5/16	3 1/2	3 11/16	3 7/8	4 1/16	4 1/4	1/2	3/16
1 1/16–3/4	2 7/32	1 3/32	1 11/32	1 19/32	1 27/32	2 3/32	2 11/32	2 19/32	2 27/32	3 3/32	3 11/32	3 19/32	3 27/32	4 3/32	4 11/32	4 19/32	4 27/32	5 3/32	5 11/32	5 19/32	1 9/32	1/4
3/4–13/16	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8	4 7/8	5 1/8	5 3/8	5 5/8	5/8	1/4
13/16–7/8	7/8	1 1/8	1 3/8	1 5/8	1 7/8	2 1/8	2 3/8	2 5/8	2 7/8	3 1/8	3 3/8	3 5/8	3 7/8	4 1/8	4 3/8	4 5/8	4 7/8	5 1/8	5 3/8	5 5/8	5/8	1/4
7/8–15/16	1	1 5/16	1 5/8	1 15/16	2 1/4	2 9/16	2 7/8	3 3/16	3 1/2	3 13/16	4 1/8	4 7/16	4 3/4	5 1/16	5 3/8	5 11/16	6	6 5/16	6 5/8	6 15/16	1 1/16	5/16
15/16–1	1	1 5/16	1 5/8	1 15/16	2 1/4	2 9/16	2 7/8	3 3/16	3 1/2	3 13/16	4 1/8	4 7/16	4 3/4	5 1/16	5 3/8	5 11/16	6	6 5/16	6 5/8	6 15/16	1 1/16	5/16
1	1 1/16	1 3/8	1 11/16	2	2 5/16	2 5/8	2 15/16	3 1/4	3 9/16	3 7/8	4 3/16	4 1/2	4 13/16	5 1/8	5 7/16	5 3/4	6 1/16	6 3/8	6 11/16	7	3/4	5/16

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

Basic Metric Measurement Sizes (mm)

CROSS SECTION — TOTAL NUMBER OF RINGS — ADD PER SEALING RING STACK HEIGHT OF TOP & BOTTOM ADAPTERS

mm OVER–THRU	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	mm	mm
6,4–7,9	10,3	13,5	16,7	19,8	23,0	26,2	29,4	32,5	35,7	38,9	42,1	45,2	48,4	51,6	54,8	57,9	61,1	64,3	67,5	70,6	7,1	3,2
7,9–9,5	12,7	16,7	20,6	24,6	28,6	32,5	36,5	40,5	44,5	48,4	52,4	56,4	60,3	64,3	59,5	72,2	76,2	80,2	84,1	88,1	8,7	4,0
9,5–11,1	13,5	17,5	21,4	25,4	29,4	33,3	37,3	41,3	45,2	49,2	53,2	57,2	61,1	65,1	69,1	73,0	76,9	80,9	84,9	88,9	9,5	4,0
11,1–12,7	14,3	18,3	22,2	26,2	30,2	34,1	38,1	42,1	46,0	50,0	54,0	57,9	61,9	65,9	69,9	73,8	77,8	81,8	85,7	89,7	10,3	4,0
12,7–14,3	15,9	20,6	25,4	30,2	34,9	39,7	44,5	49,2	54,0	58,7	63,5	59,5	72,0	77,8	82,6	87,3	92,1	96,8	101,6	106,4	11,1	4,8
14,3–15,9	16,7	21,4	26,2	31,0	35,7	40,5	45,2	50,0	54,8	59,5	64,3	69,1	73,8	78,6	83,3	88,1	92,9	97,6	102,4	107,2	11,9	4,8
15,9–17,5	17,5	22,2	27,0	31,8	36,5	41,3	46,0	50,8	55,6	60,3	65,1	69,9	74,6	79,4	84,1	88,9	93,6	98,4	103,2	107,9	12,7	4,8
17,5–19,1	21,4	27,8	34,1	40,5	46,8	53,2	59,5	65,9	72,2	78,6	84,9	91,3	97,6	104,0	110,3	116,7	123,0	129,4	135,7	142,1	15,1	6,4
19,1–20,6	22,2	28,6	34,9	41,3	47,6	54,0	60,3	66,7	73,0	79,4	85,7	92,1	98,4	104,8	111,1	117,5	123,8	130,2	136,5	142,9	15,9	6,4
20,6–22,2	22,2	28,6	34,9	41,3	47,6	54,0	60,3	66,7	73,0	79,4	85,7	92,1	98,4	104,8	111,1	117,5	123,8	130,2	136,5	142,9	15,9	6,4
22,2–23,8	25,4	33,3	41,3	49,2	57,2	65,1	73,0	81,0	88,9	96,8	104,8	112,7	120,7	128,6	136,5	144,5	152,4	160,3	168,3	176,2	17,5	7,9
23,8–25,4	25,4	33,3	41,3	49,2	57,2	65,1	73,0	81,0	88,9	96,8	104,8	112,7	120,7	128,6	136,5	144,5	152,4	160,3	168,3	176,2	17,5	7,9
25,4	27,0	34,9	42,9	50,8	58,7	66,7	74,6	82,6	90,5	98,4	106,4	114,3	122,2	130,2	138,1	146,1	153,9	161,9	169,8	177,8	19,1	7,9

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

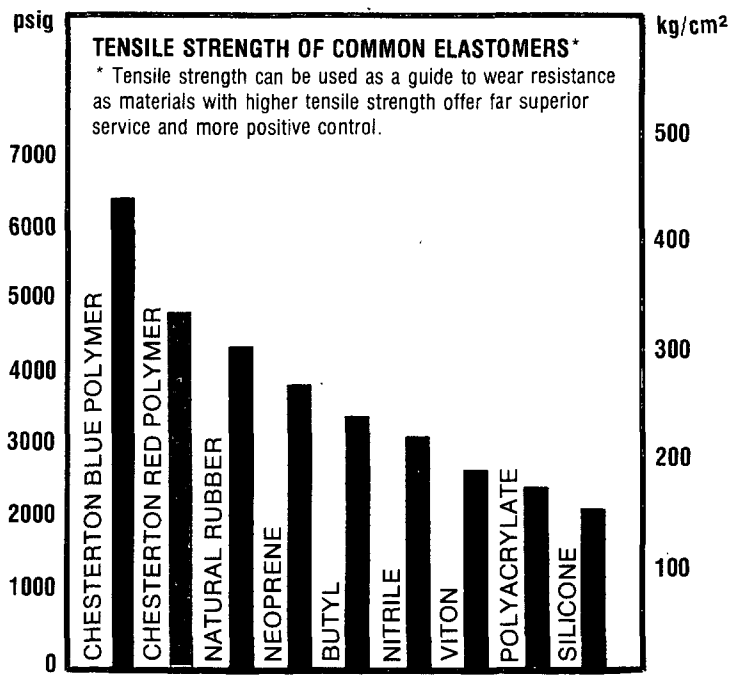
Table of Style 600 PARACHUTE® Approximate Set Heights
(Stack height per set, including one bottom ring rounded down to the nearest 1/16" (1,6 mm) per inch of depth)

	CROSS SECTION	2 RINGS	3 RINGS	4 RINGS	5 RINGS	6 RINGS	7 RINGS	8 RINGS	9 RINGS	10 RINGS	11 RINGS	12 RINGS	13 RINGS	14 RINGS	15 RINGS
INCH	3/16"	3/8	1/2	11/16	7/8	1	1 3/16	1 3/8	1 9/16	1 11/16	1 7/8	2 1/16	2 1/4	2 3/8	2 9/16
METRIC	4,8	9,5	12,7	17,5	22,2	25,4	30,2	34,9	39,7	42,9	47,6	52,4	57,2	60,3	65,1
INCH	1/4"	7/16	5/8	13/16	1 1/16	1 1/4	1 7/16	1 5/8	1 7/8	2 1/16	2 1/4	2 7/16	2 11/16	2 7/8	3 1/16
METRIC	6,4	11,1	15,9	20,6	27,0	31,8	36,5	41,3	47,6	52,4	57,2	61,9	68,3	73,0	77,8
INCH	5/16"	9/16	3/4	1	1 1/4	1 7/16	1 11/16	1 15/16	2 3/16	2 3/8	2 5/8	2 7/8	3 1/8	3 5/16	3 9/16
METRIC	7,9	14,3	19,1	25,4	31,8	36,5	42,9	49,2	55,6	60,3	66,7	73,0	79,4	84,12	90,5
INCH	3/8"	9/16	3/4	1	1 1/4	1 7/16	1 11/16	1 15/16	2 3/16	2 3/8	2 5/8	2 7/8	3 1/8	3 5/16	3 9/16
METRIC	9,5	14,3	19,1	25,4	31,8	36,5	42,9	49,2	55,6	60,3	66,7	73,0	79,4	84,12	90,5
INCH	7/16"	5/8	7/8	1 1/8	1 3/8	1 5/8	1 15/16	2 3/16	2 7/16	2 11/16	3	3 1/4	3 1/2	3 3/4	4 1/16
METRIC	11,1	15,9	22,2	28,6	34,9	41,3	49,2	55,6	61,9	68,3	76,2	82,6	88,9	95,3	103,2
INCH	1/2"	5/8	7/8	1 1/8	1 3/8	1 5/8	1 15/16	2 3/16	2 7/16	2 11/16	3	3 1/4	3 1/2	3 3/4	4 1/16
METRIC	12,7	15,9	22,2	28,6	34,9	41,3	49,2	55,6	61,9	68,3	76,2	82,6	88,9	95,3	103,2
INCH	9/16"	1 1/16	1	1 1/4	1 9/16	1 7/8	2 3/16	2 7/16	2 3/4	3 1/16	3 3/8	3 5/8	3 15/16	4 1/4	4 9/16
METRIC	14,3	17,5	25,4	31,8	39,7	47,6	55,6	61,9	69,9	77,8	85,7	92,1	100,0	108,0	115,9
INCH	5/8"	1 3/16	1 1/8	1 7/16	1 3/4	2 1/16	2 7/16	2 3/4	3 1/16	3 3/8	3 3/4	4 1/16	4 3/8	4 11/16	5 1/16
METRIC	15,9	20,6	28,6	36,5	44,5	52,4	61,9	69,9	77,8	85,7	95,3	103,2	111,1	119,1	128,6
INCH	11/16"	7/8	1 3/16	1 9/16	1 15/16	2 1/4	2 5/8	3	3 3/8	3 11/16	4 1/16	4 7/16	4 13/16	5 1/8	5 1/2
METRIC	17,5	22,2	30,2	39,7	49,2	57,2	66,7	76,2	85,7	93,7	103,2	112,7	122,2	130,2	139,7
INCH	3/4"	15/16	1 5/16	1 11/16	2 1/8	2 1/2	2 7/8	3 1/4	3 11/16	4 1/16	4 7/16	4 13/16	5 1/4	5 5/8	6
METRIC	19,1	23,8	33,3	42,9	54,0	63,5	73,0	82,6	93,7	103,2	112,7	122,2	133,4	142,9	152,4
INCH	13/16"	1	1 7/16	1 13/16	2 1/4	2 11/16	3 1/8	3 1/2	3 15/16	4 3/8	4 13/16	5 3/16	5 5/8	6 1/16	6 1/2
METRIC	20,6	25,4	36,5	46,0	57,2	68,3	79,4	88,9	100,0	111,1	122,2	131,8	142,9	154,0	165,1
INCH	7/8"	1 1/8	1 9/16	2	2 7/16	2 15/16	3 3/8	3 13/16	4 1/4	4 11/16	5 3/16	5 5/8	6 1/16	6 1/2	7
METRIC	22,2	28,6	39,7	50,8	61,9	74,6	85,7	96,8	108,0	119,1	131,8	142,9	154,0	165,1	177,8
INCH	15/16"	1 3/16	1 11/16	2 1/8	2 5/8	3 1/8	3 5/8	4 1/16	4 9/16	5 1/16	5 9/16	6	6 1/2	7	7 1/2
METRIC	23,8	30,2	42,9	54,0	66,7	79,4	92,1	103,2	115,9	128,6	141,3	152,4	165,1	177,8	190,5
INCH	1"	1 1/4	1 3/4	2 1/4	2 13/16	3 5/16	3 13/16	4 5/16	4 7/8	5 3/8	5 7/8	6 7/16	6 15/16	7 7/16	7 15/16
METRIC	25,4	31,8	44,5	57,2	71,4	84,1	96,8	109,5	123,8	136,5	149,2	163,5	176,2	188,9	201,6

Stack heights beyond the table range can be calculated by adding the stack height of the top & bottom adapter to the height per sealing ring as listed above.

Physical Properties

PHYSICAL PROPERTIES		CHESTERTON® BLUE POLYMER	CHESTERTON® RED POLYMER
Hardness Durometer A			95
Tensile psi			5000
Tensile Modulus psi at extension	50%		—
	100%		1900
	300%		3400
Compression Set Method B %22 hrs. @ 158°F (70°C)			28



CHEMICAL RESISTANCES

COMPATABILITY RATINGS

1. SATISFACTORY 2. FAIR
3. INSUFFICIENT DATA 4. UNSATISFACTORY

	STYLES 600, 6000	5000, 7000, 8000, 9000, 10,000	600PE, 6000PE
Aero Lubriplate	1	1	4
Aero Shell IAC	2	1	4
Aero Shell 7A Grease	2	1	4
Aero Shell 17 Grease	2	1	4
Air,	1	1	1
200°F	1	1	1
Atlantic Utro Gear EP Lube.	2	1	4
Aluminum Bromide	1	1	1
Aluminum Chloride	1	1	1
Aluminum Fluoride	1	1	1
Aluminum Salts	1	1	1
Aluminum Sulphate	1	1	1
Alums—NH_3—CR—K	1	1	1
Ambrex 830 (Mobil)	2	1	3
Amyl Acetate	4	1	4
AN-O-3 Grade M	2	1	4
AN-O-6	2	1	4
ANO-366	2	1	4
Argon	1	1	1
Aurex 903R (Mobil)	2	1	4
ASTM Oil, No. 1	1	1	4
ASTM Reference Fuel A	2	1	4
Barium Chloride	1	1	1
Barium Salts	1	1	1
Barium Sulfide	1	1	1
Borax	4	1	1
Boric Acid	1	1	1
Brayco 885 (MIL-L-6085A)	4	1	4
Butter—Animal Fat	2	1	2
Calcium Bisulfite	1	1	4
Calcium Chloride	1	1	1
Calcium Nitrate	1	1	1
Calcium Phosphate	2	1	1
Calcium Salts	1	1	1
Calcium Sulfide	1	1	1
Calcium Sulfite	1	1	1
Calcium Thiosulfate	1	1	1
Caliche Liquors	1	1	1
Carbon Dioxide, Dry	2	1	2
Carbon Monoxide	2	1	1
Carbonic Acid	1	1	1
Castor Oil	1	1	2
Circo Light Process Oil	2	1	4
City Service Koolmotor-AP Gear Oil 140—E.P. lube	2	1	4
Cobalt Chloride	1	1	1
Cod Liver Oil	2	1	1
Copper Chloride	2	1	1
Copper Cyanide	1	1	1
Copper Salts	1	1	1
Copper Sulfate	1	1	2
Cutting Oil	2	1	4
Cyclohexane	3	1	4
Diethyl Ether	3	1	4
Dow Corning — 3	1	1	1
— 4	1	1	1
— 5	1	1	1
— 11	1	1	1
— 33	1	1	1
— 44	1	1	1
— 55	1	1	1
Dow Corning — 200	1	1	1
— 220	1	1	1
— 510	1	1	1
— 550	1	1	1
— 710	1	1	1
— 1208	1	1	1
— 4050	1	1	1
— 6620	1	1	1
— F60	1	1	1
— F61	1	1	1
— XF60	1	1	1
Elco 28—EP lubricant	3	1	4
Esso XP90-EP lubricant	2	1	4
Ethylcyclopentane	3	1	4
Ethylene Glycol	1	2	1
F-60 Fluid (Dow Corning)	1	1	1
F-61 Fluid (Dow Corning)	1	1	1
Ferric Chloride	2	1	1
Ferric Nitrate	1	1	1
Freon, 12	1	1	2
Freon, 14	1	1	1
Freon, 113	1	1	4
Freon, PCA	1	1	4
TF	1	1	4
Fyrquel A60	4	4	2
90, 100, 150, 220, 300, 500	4	4	1
Glycols	1	4	1
Green Sulphate Liquor	2	3	1
Gulfcrown Grease	2	1	4
Gulf Endurance Oils	2	1	4
Gulf FR Fluids (Emulsion)	2	1	4
Gulf Harmony Oils	2	1	4
Gulf High Temperature Grease	2	1	4
Gulf Legion Oils	2	1	4
Hannifin Lube A	1	1	4
Helium	1	1	1
Hydraulic Oil (Petroleum Base)	2	1	4
Hydrogen Gas, Cold	1	1	1
Hot	1	1	1
Hydrolube—Water/ Ethylene Glycol	2	4	2
Kerosene (Similar to RP-1 and JP-1)	2	1	4
Keystone #87HX—Grease	4	1	4
Lard, Animal Fat	2	1	2
Lehigh X1169	2	1	4
Lehigh X1170	2	1	4
Light Grease	4	1	4
Liquid Petroleum Gas (LPG)	2	1	4
Magnesium Chloride	1	1	1
Magnesium Salts	1	1	1
MIL-L-2104	2	1	4
MIL-S-3136, Type I Fuel	2	1	4
Type III Fuel	4	1	4
Type IV Oil, Low Swell	1	1	4
Type V Oil, Med. Swell	2	1	4
Type VI Oil, High Swell	4	1	4
MIL-O-3503	2	1	4
MIL-G-3545	2	1	4
MIL-L-4343	1	1	1
MIL-L-6081	2	1	4
MIL-L-6082	2	1	4
MIL-H-6083	1	1	4
MIL-L-6085	4	1	4
MIL-L-6387	4	1	4
MIL-C-7024	4	1	4
MIL-G-7118	2	1	4
MIL-G-7187	4	1	4
MIL-G-7711	4	1	4
MIL-H-8446 (MLO-8515)	1	1	4
MIL-L-9000	2	1	4
MIL-G-10924	4	1	4
MIL-L-15016	2	1	4
MIL-L-15017	2	1	4
MIL-G-15793	2	1	4
MIL-L-17331	2	1	4
MIL-L-21260	2	1	4
MIL-G-21568	1	1	1
MIL-G-25013	2	1	4
MIL-G-25537	2	1	4
MIL-F-25558 (RJ-1)	2	1	4
MIL-R-25576 (RP-1)	2	1	4
MIL-S-81087	1	1	1
Mineral Oils	2	1	3
MLO-8200 Hydr.	1	1	4
MLO-8515	1	1	4
Mobiloil SAE 20	2	1	4
Neatsfoot Oil	4	1	2
Neon	1	1	1
Niter Cake	1	1	1
Nitrogen	1	1	1
Octadecane	2	1	4
Olive Oil	2	1	2
Oronite 8200	1	1	4
Oronite 8515	1	1	4
Oxygen, Cold (1)	1	1	1
Ozone	3	1	2
Parker O Lube	1	1	4
Petrolatum	2	1	4
Petroleum Oil, Crude	2	1	4
Pneumatic Service	1	1	1
Potassium Chloride	1	1	1
Potassium Cupro Cyanide	1	1	1
Potassium Cyanide	1	1	1
Potassium Nitrate	1	1	1
Potassium Salts	1	1	1
Potassium Sulphate	1	1	1
Potassium Sulphite or Nitrate	1	1	1
Producer Gas	2	1	4
Pydraul, 10E, 29ELT	4	4	1
30E, 50E, 65E, 90E	4	4	1
115E	4	4	1
230E, 312C, 540C	4	4	4
Pyrogard 42, 43, 53, 55	4	4	1
Pyrogard C, D	2	4	4
Red Oil (MIL-H-5606)	2	1	4
Red Line 100 Oil	2	1	4
RJ-I (MIL-F-25558)	2	1	4
RP-I (MIL-R-25576)	2	1	4
Sal Ammoniac	1	1	1
Shell Alvania Grease #2	2	1	4
Shell Iris 905	2	1	4
Tellus #27, Pet, Base	2	1	4
Tellus #33	2	1	4
UMF (5% Aromatic)	2	1	4
Silicate Esters	1	1	4
Silicone Greases	1	1	1
Silicone Oils	1	1	1
Silver Nitrate	1	1	1
Sinclair Opaline CX-EP Lube	2	1	4
Skydrol 500	4	4	2
Skydrol 7000	4	4	1
Socony Mobile Type A Vacuum PD959B	2	1	4
Sodium Chloride	1	1	1
Sodium Phosphate (Mono)	2	1	1
Sodium Phosphate (Dibasic)	2	1	1
Sodium Phosphate (Tribasic)	2	1	1
Sodium Salts	2	1	1
Sodium Sulphate	1	1	1
Sodium Sulphide and Sulfite	1	1	1
Sodium Thiosulfate	1	1	1
Spry	2	1	2
Standard Oil Mobilube GX90-EP Lube	2	1	4
Stoddard Solvent	2	1	4
Sunoco SAE 10	2	1	4
#3661	2	1	4
All purpose grease	2	1	4
Swan Finch EP Lube	4	1	4
Hypoid-90	2	1	4
Texaco 3450 Gear Oil	4	1	4
Texaco Regal B	4	1	4
Texaco Uni-Temp. Grease	2	1	4
Texas 1500 Oil	2	1	4
Tidewater Oil—Beedol Multigear 140, EP Lube	2	1	4
Transformer Oil	2	1	4
Transmission Fluid Type A	2	1	4
Turbine Oil	4	1	4
Turbo Oil #35	2	1	4
Type I Fuel (MIL-S-3136)	2	1	4
Univis 40 (Hydr. Fluid)	2	1	4
Univolt #35 (Mineral Oil)	2	1	4
Versilube F-50	1	1	1
Wemco C	2	1	4
White Oil	2	1	4
Wolmar Salt	2	1	1
Xenon	1	1	1
Zinc Salts	1	1	1

(1) Compounds are suggested only. Customer should evaluate carefully for specific application.

6 SPECIALIZED PRODUCTS

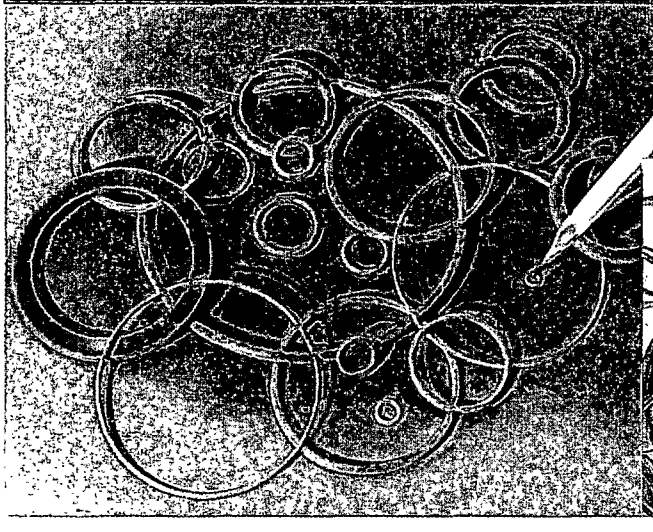
CHESTERTON

CHESTERTON VANWAY® O-RING

U.S. Patents 3,549,156 and 3,586,586—Foreign Patents Applied For.
Complies with FDA regulation 121.2555

A totally different O-Ring having a resilient, synthetic rubber core which is encased in a continuous, thick Teflon* encapsulation.

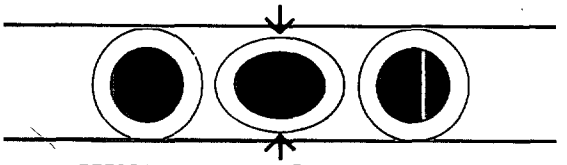
Vanway O-Ring — 1968 Top Honor John C. Vaaler Award Winner



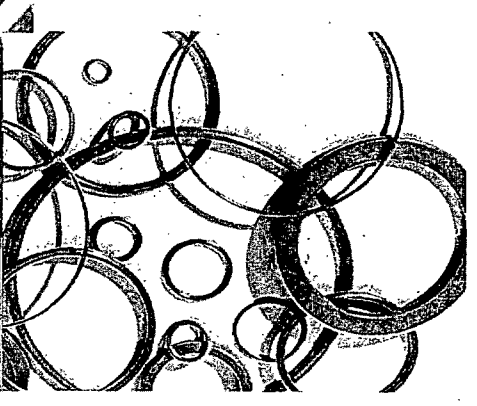
The VANWAY O-RING provides the simple, one-piece solution for chemical, bio-medical, industrial, aircraft and hazardous fluid handling applications.

Repeated flexing without deterioration, handling of constant lateral movement, and resistance to corrosive liquids are some of the service conditions that the composite VANWAY O-RING can withstand in extended use in normal service. It acts as a virtually universal seal in applications now filled by elastomeric O-Rings or by solid Teflon materials where performance is frequently less than satisfactory.

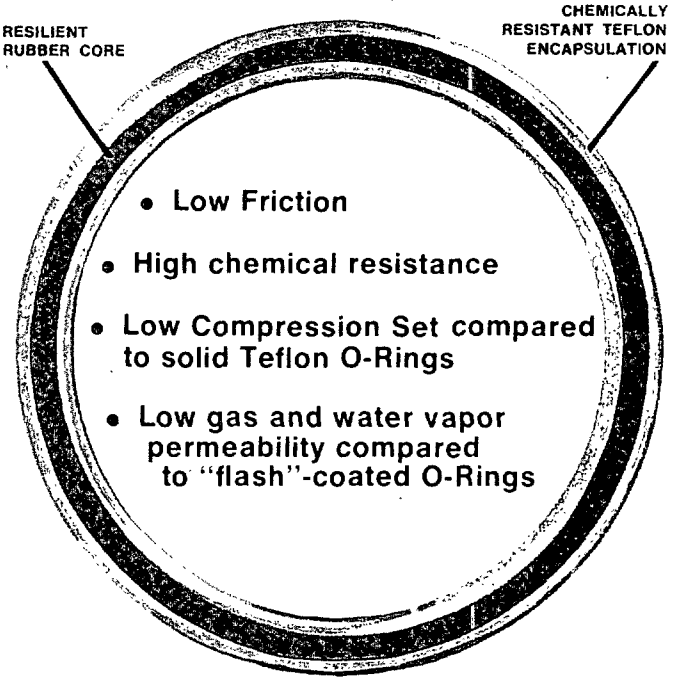
CROSS SECTION



BEFORE COMPRESSION | UNDER COMPRESSION | AFTER COMPRESSION



VANWAY O-RINGS are available with either Viton* or silicone rubber core.



Vanway O-Ring with silicone rubber core is authorized by the United States Department of Agriculture (USDA) for use in federally inspected meat and poultry plants.

SERVICES

Provides fluid sealing in O-Ring applications for harsh chemicals and for temperatures to 400°F. (205°C.); non-sticking gaskets for glass, metal, plastic, Teflon systems; and in filters; pipelines; valves; instruments and mechanical seals.

The CHESTERTON VANWAY® O-RING is the ideal answer to the classic problem requiring a "rubbery" Teflon. This unique O-Ring solves the sealing problems where the chemical inertness of Teflon is a MUST and where maintenance-free dependability and long service life are required.

* DuPont's registered trademark

6 SPECIALIZED PRODUCTS

CHESTERTON

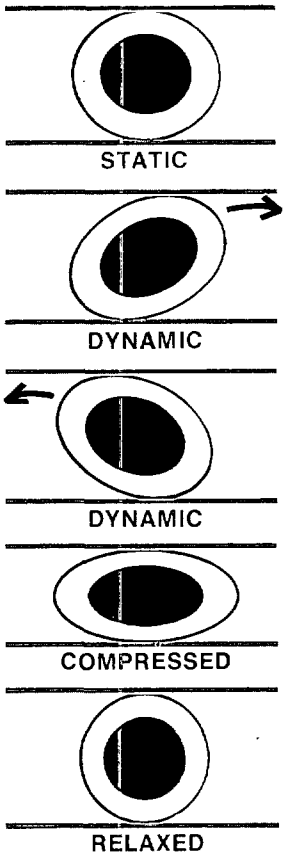
CHESTERTON STYLE 76 O-RINGS

Exclusive CHESTERTON O-ring for either static or dynamic applications where both chemical resistance and resilience are required.



The CHESTERTON STYLE 76 O-RING is a low friction Teflon* encapsulated o-ring manufactured in standard (AS-568A) 1/16", 3/32", 1/8", 3/16", and 1/4" nominal cross section sizes. In manufacturing the Viton* core is first made by joining its ends together; secondly, the Teflon film is joined and flowed together over the Viton core ring forming a unique Teflon encapsulated yet resilient rubber type o-ring. This unique construction gives CHESTERTON the capability of producing nonstandard, odd size diameter rings for special customer requirements up to 10' in diameter and also the capability to quickly provide sizes required, thus avoiding long lead time delays.

CROSS SECTIONS IN VARIOUS CONDITIONS



SERVICE:

Provides maximum sealing capability in static and dynamic conditions in mechanical seals, and for chemical or nonsticking gaskets for glass, metal, plastic, Teflon systems; and in filters, pipelines, valves and instruments.

The major advantage of STYLE 76 O-RINGS is their effectiveness in dynamic seal applications, primarily due to the thin film thickness of the Teflon which allows greater flexibility and resiliency. The higher rubber to Teflon ratio increases the contact area in both static and dynamic operating condition, reducing the possibility of compression set failure.

CHESTERTON STYLE 76 O-RINGS are easily identifiable (the inner core is marked with the word CHESTERTON) offering the flexibility of a rubber type seal and the corrosion resistance of solid Teflon

* DuPont's registered trademark.
USDA Authorization applied for.

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-001	1/32	3/32	1/32	.029	.003	.040	.003	0.74	.08	1.02	.08				-001
-002	3/64	9/64	3/64	.042	.003	.050	.003	1.07	.08	1.27	.08				-002
-003	1/16	3/16	1/16	.056	.003	.060	.003	1.42	.08	1.52	.08				-003
-004	5/64	13/64	1/16	.070	.005	.070	.003	1.78	.13	1.78	.08				-004
-005	3/32	7/32	1/16	.101	.005	.070	.003	2.57	.13	1.78	.08				-005
-006	1/8	1/4	1/16	.114	.005	.070	.003	2.90	.13	1.78	.08				-006
-007	5/32	9/32	1/16	.145	.005	.070	.003	3.68	.13	1.78	.08				-007
-008	3/16	5/16	1/16	.176	.005	.070	.003	4.47	.13	1.78	.08				-008
-009	7/32	11/32	1/16	.208	.005	.070	.003	5.28	.13	1.78	.08				-009
-010	1/4	3/8	1/16	.239	.005	.070	.003	6.07	.13	1.78	.08	VW-01000	VW-01099		-010
-011	5/16	7/16	1/16	.301	.005	.070	.003	7.65	.13	1.78	.08	VW-01100	VW-01199		-011
-012	3/8	1/2	1/16	.364	.005	.070	.003	9.25	.13	1.78	.08	VW-01200	VW-01299		-012
-013	7/16	9/16	1/16	.426	.005	.070	.003	10.82	.13	1.78	.08				-013
-014	1/2	5/8	1/16	.489	.005	.070	.003	12.42	.13	1.78	.08				-014
-015	9/16	11/16	1/16	.551	.007	.070	.003	14.00	.18	1.78	.08				-015
-016	5/8	3/4	1/16	.614	.009	.070	.003	15.60	.23	1.78	.08				-016
-017	11/16	13/16	1/16	.676	.009	.070	.003	17.17	.23	1.78	.08				-017
-018	3/4	7/8	1/16	.739	.009	.070	.003	18.77	.23	1.78	.08				-018
-019	13/16	15/16	1/16	.801	.009	.070	.003	20.35	.23	1.78	.08				-019
-020	7/8	1	1/16	.864	.009	.070	.003	21.95	.23	1.78	.08	VW-02000	VW-02099	76-02098	-020
-021	15/16	1 1/16	1/16	.926	.009	.070	.003	23.52	.23	1.78	.08			76-02198	-021
-022	1	1 1/8	1/16	.989	.010	.070	.003	25.12	.25	1.78	.08	VW-02200	VW-02299	76-02298	-022
-023	1 1/16	1 3/16	1/16	1.051	.010	.070	.003	26.70	.25	1.78	.08			76-02398	-023
-024	1 1/8	1 1/4	1/16	1.114	.010	.070	.003	28.30	.25	1.78	.08			76-02498	-024
-025	1 3/16	1 5/16	1/16	1.176	.011	.070	.003	29.87	.28	1.78	.08	VW-02500	VW-02599	76-02598	-025
-026	1 1/4	1 3/8	1/16	1.239	.011	.070	.003	31.47	.28	1.78	.08			76-02698	-026
-027	1 5/16	1 7/16	1/16	1.301	.011	.070	.003	33.05	.28	1.78	.08			76-02798	-027
-028	1 3/8	1 1/2	1/16	1.364	.013	.070	.003	34.65	.33	1.78	.08	VW-02800	VW-02899	76-02898	-028
-029	1 1/2	1 5/8	1/16	1.489	.013	.070	.003	37.82	.33	1.78	.08			76-02998	-029
-030	1 5/8	1 3/4	1/16	1.614	.013	.070	.003	41.00	.33	1.78	.08			76-03098	-030
-031	1 3/4	1 7/8	1/16	1.739	.015	.070	.003	44.17	.38	1.78	.08			76-03198	-031
-032	1 7/8	2	1/16	1.864	.015	.070	.003	47.35	.38	1.78	.08			76-03298	-032
-033	2	2 1/8	1/16	1.989	.018	.070	.003	50.52	.46	1.78	.08			76-03398	-033
-034	2 1/8	2 1/4	1/16	2.114	.018	.070	.003	53.70	.46	1.78	.08			76-03498	-034
-035	2 1/4	2 3/8	1/16	2.239	.018	.070	.003	56.87	.46	1.78	.08			76-03598	-035
-036	2 3/8	2 1/2	1/16	2.364	.018	.070	.003	60.05	.46	1.78	.08			76-03698	-036
-037	2 1/2	2 5/8	1/16	2.489	.018	.070	.003	63.22	.46	1.78	.08			76-03798	-037
-038	2 5/8	2 3/4	1/16	2.614	.020	.070	.003	66.40	.51	1.78	.08			76-03898	-038
-039	2 3/4	2 7/8	1/16	2.739	.020	.070	.003	69.57	.51	1.78	.08			76-03998	-039
-040	2 7/8	3	1/16	2.864	.020	.070	.003	72.75	.51	1.78	.08			76-04098	-040
-041	3	3 1/8	1/16	2.989	.024	.070	.003	75.92	.61	1.78	.08			76-04198	-041
-042	3 1/4	3 3/8	1/16	3.239	.024	.070	.003	82.27	.61	1.78	.08			76-04298	-042
-043	3 1/2	3 5/8	1/16	3.489	.024	.070	.003	88.62	.61	1.78	.08			76-04398	-043
-044	3 3/4	3 7/8	1/16	3.739	.027	.070	.003	94.97	.69	1.78	.08			76-04498	-044
-045	4	4 1/8	1/16	3.989	.027	.070	.003	101.32	.69	1.78	.08			76-04598	-045
-046	4 1/4	4 3/8	1/16	4.239	.030	.070	.003	107.67	.76	1.78	.08			76-04698	-046
-047	4 1/2	4 5/8	1/16	4.489	.030	.070	.003	114.02	.76	1.78	.08			76-04798	-047
-048	4 3/4	4 7/8	1/16	4.739	.030	.070	.003	120.37	.76	1.78	.08			76-04898	-048
-049	5	5 1/8	1/16	4.989	.037	.070	.003	126.72	.94	1.78	.08			76-04998	-049
-050	5 1/4	5 3/8	1/16	5.239	.037	.070	.003	133.07	.94	1.78	.08			76-05098	-050
*051 THRU *101				*O-RING SIZES NOT ASSIGNED											
-102	1/16	1/4	3/32	.049	.004	.103	.003	1.24	.10	2.62	.08				-102
-103	3/32	9/32	3/32	.081	.005	.103	.003	2.06	.13	2.62	.08				-103
-104	1/8	5/16	3/32	.112	.005	.103	.003	2.84	.13	2.62	.08				-104
-105	5/32	11/32	3/32	.143	.005	.103	.003	3.63	.13	2.62	.08				-105
-106	3/16	3/8	3/32	.174	.005	.103	.003	4.42	.13	2.62	.08				-106
-107	7/32	13/32	3/32	.206	.005	.103	.003	5.23	.13	2.62	.08				-107
-108	1/4	7/16	3/32	.237	.005	.103	.003	6.02	.13	2.62	.08				-108
-109	5/16	1/2	3/32	.299	.005	.103	.003	7.50	.13	2.62	.08				-109
-110	3/8	9/16	3/32	.362	.005	.103	.003	9.19	.13	2.62	.08	VW-11000	VW-11099		-110
-111	7/16	5/8	3/32	.424	.005	.103	.003	10.77	.13	2.62	.08	VW-11100	VW-11199		-111
-112	1/2	11/16	3/32	.487	.005	.103	.003	12.37	.13	2.62	.08	VW-11200	VW-11299		-112
-113	9/16	3/4	3/32	.549	.007	.103	.003	13.94	.18	2.62	.08	VW-11300	VW-11399		-113
-114	5/8	13/16	3/32	.612	.009	.103	.003	15.54	.23	2.62	.08	VW-11400	VW-11499		-114
-115	11/16	7/8	3/32	.674	.009	.103	.003	17.12	.23	2.62	.08	VW-11500	VW-11599		-115
-116	3/4	15/16	3/32	.737	.009	.103	.003	18.72	.23	2.62	.08	VW-11600	VW-11699		-116
-117	13/16	1	3/32	.799	.010	.103	.003	20.30	.25	2.62	.08	VW-11700	VW-11799		-117
-118	7/8	1 1/16	3/32	.862	.010	.103	.003	21.89	.25	2.62	.08	VW-11800	VW-11899		-118
-119	15/16	1 1/8	3/32	.924	.010	.103	.003	23.47	.25	2.62	.08	VW-11900	VW-11999	76-11998	-119
-120	1	1 3/16	3/32	.987	.010	.103	.003	25.07	.25	2.62	.08	VW-12000	VW-12099	76-12098	-120
-121	1 1/16	1 1/4	3/32	1.049	.010	.103	.003	26.64	.25	2.62	.08	VW-12100	VW-12199	76-12198	-121
-122	1 1/8	1 5/16	3/32	1.112	.010	.103	.003	28.24	.25	2.62	.08	VW-12200	VW-12299	76-12298	-122
-123	1 3/16	1 3/8	3/32	1.174	.012	.103	.003	29.82	.30	2.62	.08	VW-12300	VW-12399	76-12398	-123
-124	1 1/4	1 7/16	3/32	1.237	.012	.103	.003	31.42	.30	2.62	.08	VW-12400	VW-12499	76-12498	-124
-125	1 5/16	1 1/2	3/32	1.299	.012	.103	.003	32.99	.30	2.62	.08	VW-12500	VW-12599	76-12598	-125
-126	1 3/8	1 9/16	3/32	1.362	.012	.103	.003	34.59	.30	2.62	.08	VW-12600	VW-12699	76-12698	-126
-127	1 7/16	1 5/8	3/32	1.424	.012	.103	.003	36.17	.30	2.62	.08	VW-12700	VW-12799	76-12798	-127
-128	1 1/2	1 11/16	3/32	1.487	.012	.103	.003	37.77	.30	2.62	.08	VW-12800	VW-12899	76-12898	-128
-129	1 9/16	1 3/4	3/32	1.549	.015	.103	.003	39.34	.38	2.62	.08	VW-12900	VW-12999	76-12998	-129
-130	1 5/8	1 13/16	3/32	1.612	.015	.103	.003	40.94	.38	2.62	.08	VW-13000	VW-13099	76-13098	-130
-131	1 11/16	1 7/8	3/32	1.674	.015	.103	.003	42.52	.38	2.62	.08	VW-13100	VW-13199	76-13198	-131
-132	1 3/4	1 15/16	3/32	1.737	.015	.103	.003	44.12	.38	2.62	.08	VW-13200	VW-13299	76-13298	-132
-133	1 13/16	2	3/32	1.799	.015	.103	.003	45.69	.38	2.62	.08	VW-13300	VW-13399	76-13398	-133
-134	1 7/8	2 1/16	3/32	1.862	.015	.103	.003	47.29	.38	2.62	.08	VW-13400	VW-13499	76-13498	-134
-135	1 15/16	2 1/8	3/32	1.925	.017	.103	.003	48.90	.43	2.62	.08	VW-13500	VW-13599	76-13598	-135
-136	2	2 3/16	3/32	1.987	.017	.103	.003	50.47	.43	2.62	.08	VW-13600	VW-13699	76-13698	-136

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-137	2 1/16	2 1/4	3/32	2.050	0.17	.103	.003	52.07	.43	2.62	.08	VW-13700	VW-13799	76-13798	-137
-138	2 1/8	2 5/16	3/32	2.112	.017	.103	.003	53.64	.43	2.62	.08	VW-13800	VW-13899	76-13898	-138
-139	2 3/16	2 3/8	3/32	2.175	.017	.103	.003	55.25	.43	2.62	.08	VW-13900	VW-13999	76-13998	-139
-140	2 1/4	2 7/16	3/32	2.237	.017	.103	.003	56.82	.43	2.62	.08	VW-14000	VW-14099	76-14098	-140
-141	2 5/16	2 1/2	3/32	2.300	.020	.103	.003	58.42	.51	2.62	.08	VW-14100	VW-14199	76-14198	-141
-142	2 3/8	2 9/16	3/32	2.362	.020	.103	.003	59.99	.51	2.62	.08	VW-14200	VW-14299	76-14298	-142
-143	2 7/16	2 5/8	3/32	2.425	.020	.103	.003	61.60	.51	2.62	.08	VW-14300	VW-14399	76-14398	-143
-144	2 1/2	2 11/16	3/32	2.487	.020	.103	.003	63.17	.51	2.62	.08	VW-14400	VW-14499	76-14498	-144
-145	2 9/16	2 3/4	3/32	2.550	.020	.103	.003	64.77	.51	2.62	.08	VW-14500	VW-14599	76-14598	-145
-146	2 5/8	2 13/16	3/32	2.612	.020	.103	.003	66.34	.51	2.62	.08	VW-14600	VW-14699	76-14698	-146
-147	2 11/16	2 7/8	3/32	2.675	.022	.103	.003	67.95	.56	2.62	.08	VW-14700	VW-14799	76-14798	-147
-148	2 3/4	2 15/16	3/32	2.737	.022	.103	.003	69.52	.56	2.62	.08	VW-14800	VW-14899	76-14898	-148
-149	2 13/16	3	3/32	2.800	.022	.103	.003	71.12	.56	2.62	.08	VW-14900	VW-14999	76-14998	-149
-150	2 7/8	3 1/16	3/32	2.862	.022	.103	.003	72.69	.56	2.62	.08	VW-15000	VW-15099	76-15098	-150
-151	3	3 3/16	3/32	2.987	.024	.103	.003	75.87	.61	2.62	.08	VW-15100	VW-15199	76-15198	-151
-152	3 1/4	3 7/16	3/32	3.237	.024	.103	.003	82.22	.61	2.62	.08	VW-15200	VW-15299	76-15298	-152
-153	3 1/2	3 11/16	3/32	3.487	.024	.103	.003	88.57	.61	2.62	.08	VW-15300	VW-15399	76-15398	-153
-154	3 3/4	3 15/16	3/32	3.737	.028	.103	.003	94.92	.71	2.62	.08	VW-15400	VW-15499	76-15498	-154
-155	4	4 1/16	3/32	3.987	.028	.103	.003	101.27	.71	2.62	.08	VW-15500	VW-15599	76-15598	-155
-156	4 1/4	4 5/16	3/32	4.237	.030	.103	.003	107.62	.76	2.62	.08	VW-15600	VW-15699	76-15698	-156
-157	4 1/2	4 11/16	3/32	4.487	.030	.103	.003	113.97	.76	2.62	.08	VW-15700	VW-15799	76-15798	-157
-158	4 3/4	4 15/16	3/32	4.737	.030	.103	.003	120.32	.76	2.62	.08	VW-15800	VW-15899	76-15898	-158
-159	5	5 1/16	3/32	4.987	.035	.103	.003	126.67	.89	2.62	.08	VW-15900	VW-15999	76-15998	-159
-160	5 1/4	5 7/16	3/32	5.237	.035	.103	.003	133.02	.89	2.62	.08	VW-16000	VW-16099	76-16098	-160
-161	5 1/2	5 11/16	3/32	5.487	.035	.103	.003	139.37	.89	2.62	.08			76-16198	-161
-162	5 3/4	5 15/16	3/32	5.737	.035	.103	.003	145.72	.89	2.62	.08			76-16298	-162
-163	6	6 1/16	3/32	5.987	.035	.103	.003	152.07	.89	2.62	.08			76-16398	-163
-164	6 1/4	6 5/16	3/32	6.237	.040	.103	.003	158.42	1.02	2.62	.08			76-16498	-164
-165	6 1/2	6 11/16	3/32	6.487	.040	.103	.003	164.77	1.02	2.62	.08			76-16598	-165
-166	6 3/4	6 15/16	3/32	6.737	.040	.103	.003	171.12	1.02	2.62	.08			76-16698	-166
-167	7	7 1/16	3/32	6.987	.040	.103	.003	177.47	1.02	2.62	.08			76-16798	-167
-168	7 1/4	7 7/16	3/32	7.237	.045	.103	.003	183.82	1.14	2.62	.08			76-16898	-168
-169	7 1/2	7 11/16	3/32	7.487	.045	.103	.003	190.17	1.14	2.62	.08			76-16998	-169
-170	7 3/4	7 15/16	3/32	7.737	.045	.103	.003	196.52	1.14	2.62	.08			76-17098	-170
-171	8	8 1/16	3/32	7.987	.045	.103	.003	202.87	1.14	2.62	.08			76-17198	-171
-172	8 1/4	8 7/16	3/32	8.237	.050	.103	.003	209.22	1.27	2.62	.08			76-17298	-172
-173	8 1/2	8 11/16	3/32	8.487	.050	.103	.003	215.57	1.27	2.62	.08			76-17398	-173
-174	8 3/4	8 15/16	3/32	8.737	.050	.103	.003	221.92	1.27	2.62	.08			76-17498	-174
-175	9	9 1/16	3/32	9.987	.050	.103	.003	228.27	1.27	2.62	.08			76-17598	-175
-176	9 1/4	9 7/16	3/32	9.237	.055	.103	.003	234.62	1.40	2.62	.08			76-17698	-176
-177	9 1/2	9 11/16	3/32	9.487	.055	.103	.003	240.97	1.40	2.62	.08			76-17798	-177
-178	9 3/4	9 15/16	3/32	9.737	.055	.103	.003	247.32	1.40	2.62	.08			76-17898	-178
-179 THRU -200	O-RING SIZES NOT ASSIGNED														
-201	3/16	7/16	1/8	1.171	.005	.139	.004	4.34	.13	3.53	.10				-201
-202	1/4	1/2	1/8	.234	.005	.139	.004	5.94	.13	3.53	.10				-202
-203	5/16	9/16	1/8	.296	.005	.139	.004	7.52	.13	3.53	.10				-203
-204	3/8	5/8	1/8	.359	.005	.139	.004	9.12	.13	3.53	.10				-204
-205	7/16	11/16	1/8	.421	.005	.139	.004	10.69	.13	3.53	.10				-205
-206	1/2	3/4	1/8	.484	.005	.139	.004	12.29	.13	3.53	.10				-206
-207	9/16	13/16	1/8	.546	.007	.139	.004	13.87	.18	3.53	.10				-207
-208	5/8	7/8	1/8	.609	.009	.139	.004	15.47	.23	3.53	.10				-208
-209	11/16	15/16	1/8	.671	.009	.139	.004	17.04	.23	3.53	.10				-209
-210	3/4	1	1/8	.734	.010	.139	.004	18.64	.25	3.53	.10	VW-21000	VW-21099		-210
-211	13/16	1 1/16	1/8	.796	.010	.139	.004	20.22	.25	3.53	.10	VW-21100	VW-21199		-211
-212	7/8	1 1/8	1/8	.859	.010	.139	.004	21.82	.25	3.53	.10	VW-21200	VW-21299		-212
-213	15/16	1 3/16	1/8	.921	.010	.139	.004	23.39	.25	3.53	.10	VW-21300	VW-21399		-213
-214	1	1 1/4	1/8	.984	.010	.139	.004	24.99	.25	3.53	.10	VW-21400	VW-21499	76-21498	-214
-215	1 1/16	1 5/16	1/8	1.046	.010	.139	.004	26.57	.25	3.53	.10	VW-21500	VW-21599	76-21598	-215
-216	1 1/8	1 3/8	1/8	1.109	.012	.139	.004	28.17	.30	3.53	.10	VW-21600	VW-21699	76-21698	-216
-217	1 3/16	1 7/16	1/8	1.171	.012	.139	.004	29.74	.30	3.53	.10	VW-21700	VW-21799	76-21798	-217
-218	1 1/4	1 1/2	1/8	1.234	.012	.139	.004	31.34	.30	3.53	.10	VW-21800	VW-21899	76-21898	-218
-219	1 5/16	1 9/16	1/8	1.296	.012	.139	.004	32.92	.30	3.53	.10	VW-21900	VW-21999	76-21998	-219
-220	1 3/8	1 5/8	1/8	1.359	.012	.139	.004	34.52	.30	3.53	.10	VW-22000	VW-22099	76-22098	-220
-221	1 7/16	1 11/16	1/8	1.421	.012	.139	.004	36.09	.30	3.53	.10	VW-22100	VW-22199	76-22198	-221
-222	1 1/2	1 3/4	1/8	1.484	.015	.139	.004	37.69	.38	3.53	.10	VW-22200	VW-22299	76-22298	-222
-223	1 5/8	1 7/8	1/8	1.609	.015	.139	.004	40.87	.38	3.53	.10	VW-22300	VW-22399	76-22398	-223
-224	1 3/4	2	1/8	1.734	.015	.139	.004	44.04	.38	3.53	.10	VW-22400	VW-22499	76-22498	-224
-225	1 7/8	2 1/8	1/8	1.859	.018	.139	.004	47.22	.46	3.53	.10	VW-22500	VW-22599	76-22598	-225
-226	2	2 1/4	1/8	1.984	.018	.139	.004	50.39	.46	3.53	.10	VW-22600	VW-22699	76-22698	-226
-227	2 1/8	2 3/8	1/8	2.109	.018	.139	.004	53.57	.46	3.53	.10	VW-22700	VW-22799	76-22798	-227
-228	2 1/4	2 1/2	1/8	2.234	.020	.139	.004	56.74	.51	3.53	.10	VW-22800	VW-22899	76-22898	-228
-229	2 3/8	2 5/8	1/8	2.359	.020	.139	.004	59.92	.51	3.53	.10	VW-22900	VW-22999	76-22998	-229
-230	2 1/2	2 3/4	1/8	2.484	.020	.139	.004	63.09	.51	3.53	.10	VW-23000	VW-23099	76-23098	-230
-231	2 5/8	2 7/8	1/8	2.609	.020	.139	.004	66.27	.51	3.53	.10	VW-23100	VW-23199	76-23198	-231
-232	2 3/4	3	1/8	2.734	.024	.139	.004	69.44	.61	3.53	.10	VW-23200	VW-23299	76-23298	-232
-233	2 7/8	3 1/8	1/8	2.859	.024	.139	.004	72.62	.61	3.53	.10	VW-23300	VW-23399	76-23398	-233
-234	3	3 1/4	1/8	2.984	.024	.139	.004	75.79	.61	3.53	.10	VW-23400	VW-23499	76-23498	-234
-235	3 1/8	3 3/8	1/8	3.109	.024	.139	.004	78.97	.61	3.53	.10	VW-23500	VW-23599	76-23598	-235
-236	3 1/4	3 1/2	1/8	3.234	.024	.139	.004	82.14	.61	3.53	.10	VW-23600	VW-23699	76-23698	-236
-237	3 3/8	3 5/8	1/8	3.359	.024	.139	.004	85.32	.61	3.53	.10	VW-23700	VW-23799	76-23798	-237
-238	3 1/2	3 3/4	1/8	3.484	.024	.139	.004	88.49	.61	3.53	.10	VW-23800	VW-23899	76-23898	-238
-239	3 5/8	3 7/8	1/8	3.609	.028	.139	.004	91.67	.71	3.53	.10	VW-23900	VW-23999	76-23998	-239
-240	3 3/4	4	1/8	13.734	.028	.139	.004	94.84	.71	3.53	.10	VW-24000	VW-24099	76-24098	-240
-241	3 7/8	4 1/8	1/8	3.859	.028	.139	.004	98.02	.71	3.53	.10	VW-24100	VW-24199	76-24198	-241
-242	4	4 1/4	1/8	3.984	.028	.139	.004	101.19	.71	3.53	.10	VW-24200	VW-24299	76-24298	-242
-243	4 1/8	4 3/8	1/8	4.109	.028	.139	.004	104.37	.71	3.53	.10	VW-24300	VW-24399	76-24398	-243

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-244	4¼	4½	1/8	4.234	.030	.139	.004	107.54	.76	3.53	.10	VW-24400	VW-24499	76-24498	-244
-245	4⅜	4⅝	1/8	4.359	.030	.139	.004	110.72	.76	3.53	.10	VW-24500	VW-24599	76-24598	-245
-246	4½	4¾	1/8	4.484	.030	.139	.004	113.89	.76	3.53	.10	VW-24600	VW-24699	76-24698	-246
-247	4⅝	4⅞	1/8	4.609	.030	.139	.004	117.07	.76	3.53	.10	VW-24700	VW-24799	76-24798	-247
-248	4¾	5	1/8	4.734	.030	.139	.004	120.24	.76	3.53	.10	VW-24800	VW-24899	76-24898	-248
-249	4⅞	5⅛	1/8	4.859	.035	.139	.004	123.42	.89	3.53	.10	VW-24900	VW-24999	76-24998	-249
-250	5	5¼	1/8	4.984	.035	.139	.004	126.59	.89	3.53	.10	VW-25000	VW-25099	76-25098	-250
-251	5⅛	5⅜	1/8	5.109	.035	.139	.004	129.77	.89	3.53	.10	VW-25100	VW-25199	76-25198	-251
-252	5¼	5½	1/8	5.234	.035	.139	.004	132.94	.89	3.53	.10	VW-25200	VW-25299	76-25298	-252
-253	5⅜	5⅝	1/8	5.359	.035	.139	.004	136.12	.89	3.53	.10	VW-25300	VW-25399	76-25398	-253
-254	5½	5¾	1/8	5.484	.035	.139	.004	139.29	.89	3.53	.10	VW-25400	VW-25499	76-25498	-254
-255	5⅝	5⅞	1/8	5.609	.035	.139	.004	142.47	.89	3.53	.10	VW-25500	VW-25599	76-25598	-255
-256	5¾	6	1/8	5.734	.035	.139	.004	145.64	.89	3.53	.10	VW-25600	VW-25699	76-25698	-256
-257	5⅞	6⅛	1/8	5.859	.035	.139	.004	148.82	.89	3.53	.10	VW-25700	VW-25799	76-25798	-257
-258	6	6¼	1/8	5.984	.035	.139	.004	151.99	.89	3.53	.10	VW-25800	VW-25899	76-25898	-258
-259	6¼	6½	1/8	6.234	.040	.139	.004	158.34	1.02	3.53	.10	VW-25900	VW-25999	76-25998	-259
-260	6½	6¾	1/8	6.484	.040	.139	.004	164.69	1.02	3.53	.10	VW-26000	VW-26099	76-26098	-260
-261	6¾	7	1/8	6.734	.040	.139	.004	171.04	1.02	3.53	.10	VW-26100	VW-26199	76-26198	-261
-262	7	7¼	1/8	6.984	.040	.139	.004	177.39	1.02	3.53	.10	VW-26200	VW-26299	76-26298	-262
-263	7¼	7½	1/8	7.234	.045	.139	.004	183.74	1.14	3.53	.10	VW-26300	VW-26399	76-26398	-263
-264	7½	7¾	1/8	7.484	.045	.139	.004	190.09	1.14	3.53	.10	VW-26400	VW-26499	76-26498	-264
-265	7¾	8	1/8	7.734	.045	.139	.004	196.44	1.14	3.53	.10	VW-26500	VW-26599	76-26598	-265
-266	8	8¼	1/8	7.984	.045	.139	.004	202.79	1.14	3.53	.10	VW-26600	VW-26699	76-26698	-266
-267	8¼	8½	1/8	8.234	.050	.139	.004	209.14	1.27	3.53	.10	VW-26700	VW-26799	76-26798	-267
-268	8½	8¾	1/8	8.484	.050	.139	.004	215.49	1.27	3.53	.10	VW-26800	VW-26899	76-26898	-268
-269	8¾	9	1/8	8.734	.050	.139	.004	221.84	1.27	3.53	.10	VW-26900	VW-26999	76-26998	-269
-270	9	9¼	1/8	8.984	.050	.139	.004	228.19	1.27	3.53	.10	VW-27000	VW-27099	76-27098	-270
-271	9¼	9½	1/8	9.234	.055	.139	.004	234.54	1.40	3.53	.10	VW-27100	VW-27199	76-27198	-271
-272	9½	9¾	1/8	9.484	.055	.139	.004	240.89	1.40	3.53	.10	VW-27200	VW-27299	76-27298	-272
-273	9¾	10	1/8	9.734	.055	.139	.004	247.24	1.40	3.53	.10	VW-27300	VW-27399	76-27398	-273
-274	10	10¼	1/8	9.984	.055	.139	.004	253.59	1.40	3.53	.10			76-27498	-274
-275	10½	10¾	1/8	10.484	.055	.139	.004	266.29	1.40	3.53	.10			76-27598	-275
-276	11	11¼	1/8	10.984	.065	.139	.004	278.99	1.65	3.53	.10			76-27698	-276
-277	11½	11¾	1/8	11.484	.065	.139	.004	291.69	1.65	3.53	.10			76-27798	-277
-278	12	12¼	1/8	11.984	.065	.139	.004	304.39	1.65	3.53	.10			76-27898	-278
-279	13	13¼	1/8	12.984	.065	.139	.004	329.79	1.65	3.53	.10			76-27998	-279
-280	14	14¼	1/8	13.984	.065	.139	.004	355.19	1.65	3.53	.10			76-28098	-280
-281	15	15¼	1/8	14.984	.065	.139	.004	380.59	1.65	3.53	.10			76-28198	-281
-282	16	16¼	1/8	15.955	.075	.139	.004	405.26	1.91	3.53	.10			76-28298	-282
-283	17	17¼	1/8	16.955	.080	.139	.004	430.66	2.03	3.53	.10			76-28398	-283
-284	18	18¼	1/8	17.955	.085	.139	.004	456.06	2.16	3.53	.10			76-28498	-284
*285 THRU *308				*O-RING SIZES NOT ASSIGNED											
-309	7/16	1 3/16	3/16	.412	.005	.210	.005	10.46	.13	5.33	.13				-309
-310	½	⅞	3/16	.475	.005	.210	.005	12.07	.13	5.33	.13				-310
-311	9/16	1 5/16	3/16	.537	.007	.210	.005	13.64	.18	5.33	.13				-311
-312	⅝	1	3/16	.600	.009	.210	.005	15.24	.23	5.33	.13				-312
-313	1 1/16	1 1/8	3/16	.662	.009	.210	.005	16.81	.23	5.33	.13				-313
-314	¾	1⅛	3/16	.725	.009	.210	.005	18.42	.23	5.33	.13				-314
-315	13/16	1 3/16	3/16	.787	.009	.210	.005	19.99	.23	5.33	.13				-315
-316	⅞	1¼	3/16	.850	.009	.210	.005	21.59	.23	5.33	.13				-316
-317	15/16	1 5/16	3/16	.912	.009	.210	.005	23.16	.23	5.33	.13	VW-31700	VW-31799		-317
-318	1	1⅜	3/16	.975	.010	.210	.005	24.77	.25	5.33	.13	VW-31800	VW-31899		-318
-319	1 1/16	1 7/16	3/16	1.037	.010	.210	.005	26.34	.25	5.33	.13				-319
-320	1⅛	1½	3/16	1.100	.010	.210	.005	27.94	.25	5.33	.13	VW-32000	VW-32099		-320
-321	1 3/16	1 9/16	3/16	1.162	.011	.210	.005	29.51	.28	5.33	.13				-321
-322	1¼	1⅝	3/16	1.225	.011	.210	.005	31.12	.28	5.33	.13	VW-32200	VW-32299		-322
-323	1 5/16	1 11/16	3/16	1.287	.011	.210	.005	32.69	.28	5.33	.13				-323
-324	1 3/8	1¾	3/16	1.350	.011	.210	.005	34.29	.28	5.33	.13	VW-32400	VW-32499		-324
-325	1½	1⅞	3/16	1.475	.015	.210	.005	37.47	.38	5.33	.13	VW-32500	VW-32599		-325
-326	1⅝	2	3/16	1.600	.015	.210	.005	40.64	.38	5.33	.13	VW-32600	VW-32699		-326
-327	1¾	2⅛	3/16	1.725	.015	.210	.005	43.82	.38	5.33	.13	VW-32700	VW-32799		-327
-328	1⅞	2¼	3/16	1.850	.015	.210	.005	46.99	.38	5.33	.13	VW-32800	VW-32899		-328
-329	2	2⅜	3/16	1.975	.018	.210	.005	50.17	.46	5.33	.13	VW-32900	VW-32999		-329
-330	2⅛	2½	3/16	2.100	.018	.210	.005	53.34	.46	5.33	.13	VW-33000	VW-33099		-330
-331	2¼	2⅝	3/16	2.225	.018	.210	.005	56.52	.46	5.33	.13	VW-33100	VW-33199		-331
-332	2⅜	2¾	3/16	2.350	.018	.210	.005	59.69	.46	5.33	.13	VW-33200	VW-33299		-332
-333	2½	2⅞	3/16	2.475	.020	.210	.005	62.87	.51	5.33	.13	VW-33300	VW-33399	76-33398	-333
-334	2⅝	3	3/16	2.600	.020	.210	.005	66.04	.51	5.33	.13	VW-33400	VW-33499	76-33498	-334
-335	2¾	3⅛	3/16	2.725	.020	.210	.005	69.22	.51	5.33	.13	VW-33500	VW-33599	76-33598	-335
-336	2⅞	3¼	3/16	2.850	.020	.210	.005	72.39	.51	5.33	.13	VW-33600	VW-33699	76-33698	-336
-337	3	3⅜	3/16	2.975	.024	.210	.005	75.57	.61	5.33	.13	VW-33700	VW-33799	76-33798	-337
-338	3⅛	3½	3/16	3.100	.024	.210	.005	78.74	.61	5.33	.13	VW-33800	VW-33899	76-33898	-338
-339	3¼	3⅝	3/16	3.225	.024	.210	.005	81.92	.61	5.33	.13	VW-33900	VW-33999	76-33998	-339
-340	3⅜	3¾	3/16	3.350	.024	.210	.005	85.09	.61	5.33	.13	VW-34000	VW-34099	76-34098	-340
-341	3½	3⅞	3/16	3.475	.024	.210	.005	88.27	.61	5.33	.13	VW-34100	VW-34199	76-34198	-341
-342	3⅝	4	3/16	3.600	.028	.210	.005	91.44	.71	5.33	.13	VW-34200	VW-34299	76-34298	-342
-343	3¾	4⅛	3/16	3.725	.028	.210	.005	94.62	.71	5.33	.13	VW-34300	VW-34399	76-34398	-343
-344	3⅞	4¼	3/16	3.850	.028	.210	.005	97.79	.71	5.33	.13	VW-34400	VW-34499	76-34498	-344
-345	4	4⅜	3/16	3.975	.028	.210	.005	100.97	.71	5.33	.13	VW-34500	VW-34599	76-34598	-345
-346	4⅛	4½	3/16	4.100	.028	.210	.005	104.14	.71	5.33	.13	VW-34600	VW-34699	76-34698	-346
-347	4¼	4⅝	3/16	4.225	.030	.210	.005	107.32	.76	5.33	.13	VW-34700	VW-34799	76-34798	-347
-348	4⅜	4¾	3/16	4.350	.030	.210	.005	110.49	.76	5.33	.13	VW-34800	VW-34899	76-34898	-348
-349	4½	4⅞	3/16	4.475	.030	.210	.005	113.67	.76	5.33	.13	VW-34900	VW-34999	76-34998	-349
-350	4⅝	5	3/16	4.600	.030	.210	.005	116.84	.76	5.33	.13	VW-35000	VW-35099	76-35098	-350
-351	4¾	5⅛	3/16	4.725	.030	.210	.005	120.02	.76	5.33	.13	VW-35100	VW-35199	76-35198	-351
-352	4⅞	5¼	3/16	4.850	.030	.210	.005	123.19	.76	5.33	.13	VW-35200	VW-35299	76-35298	-352

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-353	5	5⅜	3/16	4.975	.037	.210	.005	126.37	.94	5.33	.13			76-35398	-353
-354	5⅛	5½	3/16	5.100	.037	.210	.005	129.54	.94	5.33	.13			76-35498	-354
-355	5¼	5⅝	3/16	5.225	.037	.210	.005	132.72	.94	5.33	.13			76-35598	-355
-356	5⅜	5¾	3/16	5.350	.037	.210	.005	135.89	.94	5.33	.13			76-35698	-356
-357	5½	5⅞	3/16	5.475	.037	.210	.005	139.07	.94	5.33	.13			76-35798	-357
-358	5⅝	6	3/16	5.600	.037	.210	.005	142.24	.94	5.33	.13			76-35898	-358
-359	5¾	6⅛	3/16	5.725	.037	.210	.005	145.42	.94	5.33	.13			76-35998	-359
-360	5⅞	6¼	3/16	5.850	.037	.210	.005	148.59	.94	5.33	.13			76-36098	-360
-361	6	6⅜	3/16	5.975	.037	.210	.005	151.77	.94	5.33	.13			76-36198	-361
-362	6¼	6⅝	3/16	6.225	.040	.210	.005	158.12	1.02	5.33	.13			76-36298	-362
-363	6½	6⅞	3/16	6.475	.040	.210	.005	164.47	1.02	5.33	.13			76-36398	-363
-364	6¾	7⅛	3/16	6.725	.040	.210	.005	170.82	1.02	5.33	.13			76-36498	-364
-365	7	7⅜	3/16	6.975	.040	.210	.005	177.17	1.02	5.33	.13			76-36598	-365
-366	7¼	7⅝	3/16	7.225	.045	.210	.005	183.52	1.14	5.33	.13			76-36698	-366
-367	7½	7⅞	3/16	7.475	.045	.210	.005	189.87	1.14	5.33	.13			76-36798	-367
-368	7¾	8⅛	3/16	7.725	.045	.210	.005	196.22	1.14	5.33	.13			76-36898	-368
-369	8	8⅜	3/16	7.975	.045	.210	.005	202.57	1.14	5.33	.13			76-36998	-369
-370	8¼	8⅝	3/16	8.225	.050	.210	.005	208.92	1.27	5.33	.13			76-37098	-370
-371	8½	8⅞	3/16	8.475	.050	.210	.005	215.27	1.27	5.33	.13			76-37198	-371
-372	8¾	9⅛	3/16	8.725	.050	.210	.005	221.62	1.27	5.33	.13			76-37298	-372
-373	9	9⅜	3/16	8.975	.050	.210	.005	227.97	1.27	5.33	.13			76-37398	-373
-374	9¼	9⅝	3/16	9.225	.055	.210	.005	234.32	1.40	5.33	.13			76-37498	-374
-375	9½	9⅞	3/16	9.475	.055	.210	.005	240.67	1.40	5.33	.13			76-37598	-375
-376	9¾	10⅛	3/16	9.725	.055	.210	.005	247.02	1.40	5.33	.13			76-37698	-376
-377	10	10⅜	3/16	9.975	.055	.210	.005	253.37	1.40	5.33	.13			76-37798	-377
-378	10½	10⅞	3/16	10.475	.060	.210	.005	266.07	1.52	5.33	.13			76-37898	-378
-379	11	11⅜	3/16	10.975	.060	.210	.005	278.77	1.52	5.33	.13			76-37998	-379
-380	11½	11⅞	3/16	11.475	.065	.210	.005	291.47	1.65	5.33	.13			76-38098	-380
-381	12	12⅜	3/16	11.975	.065	.210	.005	304.17	1.65	5.33	.13			76-38198	-381
-382	13	13⅜	3/16	12.975	.065	.210	.005	329.57	1.65	5.33	.13			76-38298	-382
-383	14	14⅜	3/16	13.975	.070	.210	.005	354.97	1.78	5.33	.13			76-38398	-383
-384	15	15⅜	3/16	14.975	.070	.210	.005	380.37	1.78	5.33	.13			76-38498	-384
-385	16	16⅜	3/16	15.955	.075	.210	.005	405.26	1.91	5.33	.13			76-38598	-385
-386	17	17⅜	3/16	16.955	.080	.210	.005	430.66	2.03	5.33	.13			76-38698	-386
-387	18	18⅜	3/16	17.955	.085	.210	.005	456.06	2.16	5.33	.13			76-38798	-387
-388	19	19⅜	3/16	18.955	.090	.210	.005	481.41	2.29	5.33	.13			76-38898	-388
-389	20	20⅜	3/16	19.955	.095	.210	.005	506.81	2.41	5.33	.13			76-38998	-389
-390	21	21⅜	3/16	20.955	.095	.210	.005	532.21	2.41	5.33	.13			76-39098	-390
-391	22	22⅜	3/16	21.955	.100	.210	.005	557.61	2.54	5.33	.13			76-39198	-391
-392	23	23⅜	3/16	22.940	.105	.210	.005	582.68	2.67	5.33	.13			76-39298	-392
-393	24	24⅜	3/16	23.940	.110	.210	.005	608.08	2.79	5.33	.13			76-39398	-393
-394	25	25⅜	3/16	24.940	.115	.210	.005	633.48	2.92	5.33	.13			76-39498	-394
-395	26	26⅜	3/16	25.940	.120	.210	.005	658.88	3.05	5.33	.13			76-39598	-395
-396 THRU -424	*O-RING SIZES NOT ASSIGNED														
-425	4½	5	1/4	4.475	.033	.275	.006	113.67	.84	6.99	.15	VW-42500	VW-42599	76-42598	-425
-426	4⅝	5⅛	1/4	4.600	.033	.275	.006	116.84	.84	6.99	.15			76-42698	-426
-427	4¾	5¼	1/4	4.725	.033	.275	.006	120.02	.84	6.99	.15			76-42798	-427
-428	4⅞	5⅜	1/4	4.850	.033	.275	.006	123.19	.84	6.99	.15	VW-42800	VW-42899	76-42898	-428
-429	5	5½	1/4	4.975	.037	.275	.006	126.37	.94	6.99	.15			76-42998	-429
-430	5⅛	5⅝	1/4	5.100	.037	.275	.006	129.54	.94	6.99	.15			76-43098	-430
-431	5¼	5¾	1/4	5.225	.037	.275	.006	132.72	.94	6.99	.15			76-43198	-431
-432	5⅜	5⅞	1/4	5.350	.037	.275	.006	135.89	.94	6.99	.15			76-43298	-432
-433	5½	6	1/4	5.475	.037	.275	.006	139.07	.94	6.99	.15			76-43398	-433
-434	5⅝	6⅛	1/4	5.600	.037	.275	.006	142.24	.94	6.99	.15			76-43498	-434
-435	5¾	6¼	1/4	5.725	.037	.275	.006	145.42	.94	6.99	.15	VW-43500	VW-43599	76-43598	-435
-436	5⅞	6⅜	1/4	5.850	.037	.275	.006	148.59	.94	6.99	.15			76-43698	-436
-437	6	6½	1/4	5.975	.037	.275	.006	151.77	.94	6.99	.15			76-43798	-437
-438	6¼	6¾	1/4	6.225	.037	.275	.006	158.12	.94	6.99	.15	VW-43800	VW-43899	76-43898	-438
-439	6½	7	1/4	6.475	.040	.275	.006	164.47	1.02	6.99	.15			76-43998	-439
-440	6¾	7¼	1/4	6.725	.040	.275	.006	170.82	1.02	6.99	.15			76-44098	-440
-441	7	7½	1/4	6.975	.040	.275	.006	177.17	1.02	6.99	.15	VW-44100	VW-44199	76-44198	-441
-442	7¼	7¾	1/4	7.225	.045	.275	.006	183.52	1.14	6.99	.15	VW-44200	VW-44299	76-44298	-442
-443	7½	8	1/4	7.475	.045	.275	.006	189.87	1.14	6.99	.15	VW-44300	VW-44399	76-44398	-443
-444	7¾	8¼	1/4	7.725	.045	.275	.006	196.22	1.14	6.99	.15			76-44498	-444
-445	8	8½	1/4	7.975	.045	.275	.006	202.57	1.14	6.99	.15	VW-44500	VW-44599	76-44598	-445
-446	8½	9	1/4	8.475	.045	.275	.006	215.27	1.14	6.99	.15	VW-44600	VW-44699	76-44698	-446
-447	9	9½	1/4	8.975	.055	.275	.006	227.97	1.40	6.99	.15			76-44798	-447
-448	9½	10	1/4	9.475	.055	.275	.006	240.67	1.40	6.99	.15	VW-44800	VW-44899	76-44898	-448
-449	10	10½	1/4	9.975	.055	.275	.006	253.37	1.40	6.99	.15	VW-44900	VW-44999	76-44998	-449
-450	10½	11	1/4	10.475	.060	.275	.006	266.07	1.52	6.99	.15			76-45098	-450
-451	11	11½	1/4	10.975	.060	.275	.006	278.77	1.52	6.99	.15			76-45198	-451
-452	11½	12	1/4	11.475	.060	.275	.006	291.47	1.52	6.99	.15			76-45298	-452
-453	12	12½	1/4	11.975	.060	.275	.006	304.17	1.52	6.99	.15			76-45398	-453
-454	12½	13	1/4	12.475	.060	.275	.006	316.87	1.52	6.99	.15			76-45498	-454
-455	13	13½	1/4	12.975	.060	.275	.006	329.57	1.52	6.99	.15			76-45598	-455
-456	13½	14	1/4	13.475	.070	.275	.006	342.27	1.78	6.99	.15			76-45698	-456
-457	14	14½	1/4	13.975	.070	.275	.006	354.97	1.78	6.99	.15			76-45798	-457
-458	14½	15	1/4	14.475	.070	.275	.006	367.67	1.78	6.99	.15			76-45898	-458
-459	15	15½	1/4	14.975	.070	.275	.006	380.37	1.78	6.99	.15			76-45998	-459
-460	15½	16	1/4	15.475	.070	.275	.006	393.07	1.78	6.99	.15			76-46098	-460
-461	16	16½	1/4	15.955	.075	.275	.006	405.26	1.91	6.99	.15			76-46198	-461
-462	16½	17	1/4	16.455	.075	.275	.006	417.96	1.91	6.99	.15			76-46298	-462
-463	17	17½	1/4	16.955	.080	.275	.006	430.66	2.03	6.99	.15			76-46398	-463
-464	17½	18	1/4	17.455	.085	.275	.006	443.36	2.16	6.99	.15			76-46498	-464
-465	18	18½	1/4	17.955	.085	.275	.006	456.06	2.16	6.99	.15			76-46598	-465
-466	18½	19	1/4	18.455	.085	.275	.006	468.76	2.16	6.99	.15			76-46698	-466

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

O-RING SIZE CROSS REFERENCE CHART — TABLE C1

Dash No.	NOMINAL SIZE (Inches) (REF. ONLY) I.D.	O.D.	W.	STANDARD O-RING SIZE (Units Are in Inches) ACTUAL* PER AS -568A I.D.	±	W	±	METRIC O-RING SIZE (Units Are in Millimeters) I.D.	±	W	±	REORDER PRODUCT NUMBER VANWAY® SILICONE VW-XXX00	VANWAY® VITON* VW-XXX99	STYLE 76 VITON 76-XXX98	Dash No.
-467	19	19½	¼	18.955	.090	.275	.006	481.46	2.29	6.99	.15			76-46798	-467
-468	19½	20	¼	19.455	.090	.275	.006	494.16	2.29	6.99	.15			76-46898	-468
-469	20	20½	¼	19.955	.095	.275	.006	506.86	2.41	6.99	.15			76-46998	-469
-470	21	21½	¼	20.955	.095	.275	.006	532.26	2.41	6.99	.15			76-47098	-470
-471	22	22½	¼	21.955	.100	.275	.006	557.66	2.54	6.99	.15			76-47198	-471
-472	23	23½	¼	22.940	.105	.275	.006	582.68	2.67	6.99	.15			76-47298	-472
-473	24	24½	¼	23.940	.110	.275	.006	608.08	2.79	6.99	.15			76-47398	-473
-474	25	25½	¼	24.940	.115	.275	.006	633.48	2.92	6.99	.15			76-47498	-474
-475	26	26½	¼	25.940	.120	.275	.006	658.88	3.05	6.99	.15			76-47598	-475

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

* DuPont's Registered Trademark

CUSTOM SIZE VANWAY® O-RING CROSS REFERENCE CHART — TABLE C2

VW-CUSTOM DASH NO.	NOMINAL SIZE I.D.	W.	ACTUAL SIZE* INCHES I.D.	±	W.	±	MILLIMETERS I.D.	±	W.	±	REORDER NUMBER VANWAY® SILICONE	VANWAY® VITON	VW-CUSTOM DASH NO.
-28 mm	1 9/64	3/16	1.077	.010	.210	.005	27.36	.25	5.33	.13	VW-28 mm 00	VW-28 mm 99	-28 mm
-30 mm	1 5/32	3/16	1.156	.011	.210	.005	29.36	.28	5.33	.13	VW-30 mm 00	VW-30 mm 99	-30 mm
-32 mm	1 15/64	3/16	1.235	.011	.210	.005	31.37	.28	5.33	.13	VW-32 mm 00	VW-32 mm 99	-32 mm
-40 mm	1 35/64	3/16	1.550	.015	.210	.005	39.37	.38	5.33	.13	VW-40 mm 00	VW-40 mm 99	-40 mm
-45 mm	1 47/64	3/16	1.747	.015	.210	.005	44.37	.38	5.33	.13	VW-45 mm 00	VW-45 mm 99	-45 mm
-50 mm	1 15/16	3/16	1.944	.018	.210	.005	49.38	.46	5.33	.13	VW-50 mm 00	VW-50 mm 99	-50 mm
-55 mm	2 5/64	3/16	2.145	.018	.210	.005	54.48	.46	5.33	.13	VW-55 mm 00	VW-55 mm 99	-55 mm
-65 mm	2 17/32	3/16	2.534	.020	.210	.005	64.36	.51	5.33	.13	VW-65 mm 00	VW-65 mm 99	-65 mm
-11.250	1 11/4	3/32	1.128	.030	.103	.003	286.5	1.52	2.62	.08	VW-11.25000	VW-11.25099	-11.250
-66 × 4 mm	2 19/32	5/32	2.598	.020	.158	.005	66	5.1	4	.11	VW-66 × 4 mm	VW-66 × 4 mm	-66 × 4 mm
-70 × 4 mm	2¾	5/32	2.756	.020	.158	.005	70	61	4	.11	VW-70 × 4 mm	VW-70 × 4 mm	-70 × 4 mm
-90 × 4 mm	3 35/64	5/32	3.543	.028	.158	.005	90	71	4	.11	VW-90 × 4 mm	VW-90 × 4 mm	-90 × 4 mm
-95.3 × 4 mm	3¾	5/32	3.752	.028	.158	.005	95.3	71	4	.11	VW-95.3 × 4 mm	VW-95.3 × 4 mm	-95.3 × 4 mm
-130 × 5 mm	5 1/64	3/16	5.118	.037	.210	.005	130	89	5.33	.13	VW-130 × 5 mm	VW-130 × 5 mm	-130 × 5 mm
-146 × 5 mm	5¾	3/16	5.748	.037	.210	.005	146	94	5.33	.13	VW-146 × 5 mm	VW-146 × 5 mm	-146 × 5 mm
-150 × 5 mm	5 29/32	3/16	5.906	.037	.210	.005	150	94	5.33	.13	VW-150 × 5 mm	VW-150 × 5 mm	-150 × 5 mm
-160 × 5 mm	6 3/32	3/16	6.299	.040	.210	.005	160	102	5.33	.13	VW-160 × 5 mm	VW-160 × 5 mm	-160 × 5 mm
-170 × 5 mm	6 45/64	3/16	6.693	.040	.210	.005	170	102	5.33	.13	VW-170 × 5 mm	VW-170 × 5 mm	-170 × 5 mm
-195 × 5 mm	7 43/64	3/16	7.677	.045	.210	.005	195	114	5.33	.13	VW-195 × 5 mm	VW-195 × 5 mm	-195 × 5 mm

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

CHESTERTON® VANWAY® GASKET CROSS REFERENCE CHART — TABLE C3

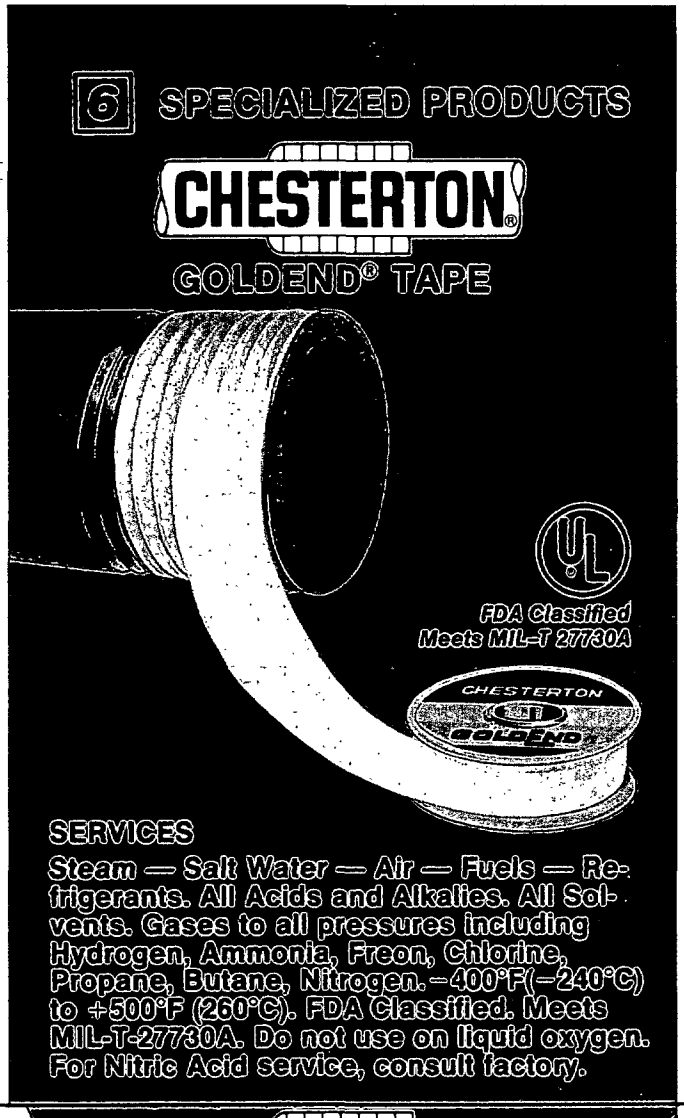
VANWAY® GASKET DASH NO.	ACTUAL SIZE INCHES I.D.	O.D.	W.	MILLIMETERS I.D.	O.D.	W.	REORDER NUMBER
-2" GASKET	2	2⅝	¼	50.80	66.675	6.35	VW-2" GASKET SILICONE
-2 ⅜" GASKET	2⅜	3⅛	¼	60.325	79.375	6.35	VW-2 ⅜ GAS. SILICONE
-4" GASKET	3¾	4⅞	¼	95.25	123.825	6.35	VW-4" GASKET SILICONE

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.

CUSTOM SIZE STYLE 76 O-RING CROSS REFERENCE CHART SERIES 76-7xxx TABLE C4

STD. -7xxx SIZE	I.D.	+	W	+	METRIC -7xxx SIZE	I.D.	+	W	+	RE-ORDER NO.
-7505	3.475	.024	.275	.006	-7505	88.27	.61	6.99	.15	50598
-7509	4.350	.033	.275	.006	-7509	110.49	.84	6.99	.15	50998
-7504	8.225	.045	.275	.006	-7504	208.92	1.14	6.99	.15	50498
-7507	8.717	.045	.275	.006	-7507	221.40	1.14	6.99	.15	50598
-7501	10.234	.005	.139	.004	-7501	259.94	1.40	3.53	.10	50198
-7503	10.725	.060	.275	.006	-7503	272.42	1.52	6.99	.15	50398
-7502	22.225	.100	.275	.006	-7502	564.52	2.54	6.99	.15	50298
-7506	39.370	.185	.275	.006	-7506	1000.00	4.70	6.99	.15	50698
-7508	71.740	.100	.210	.005	-7508	1822.20	2.54	5.33	.13	50898

* Material with unusual expansion or shrinkage during molding will give slightly different dimensions. Contact Sales Office for information.



CHESTERTON GOLDEND® thread seal tape is manufactured to the highest tape specifications. As such, it is the highest quality P.T.F.E. tape available which results in savings at the user level. It is easier to install, usually requires only one layer to effect a seal, will not leak due to vibration or severe chemical contact, yet releases easily when joints need to be removed.

CHESTERTON GOLDEND TAPE will withstand pressures to 2500 psig. (170 kg/cm²). It is effective from −400°F. to +500°F. (−240°C. to +260°C.).

CHESTERTON GOLDEND TAPE is UL listed, meets MIL-T-27730A

PACKAGED			
Size	Reorder Prod. No.	Spools/ Ctn.	Ctn./ Master
½" × 180" (12,7 mm × 4,57M)	801[1]	12	12
½" × 540" (12,7 mm × 13,72M)	802[1]	12	12
½" × 1296" (12,7 mm × 32,92M)	803[1]	12	12

[1] Reorder Product Number is for individual item.



CHESTERTON GOLDEND® PASTE is a non-corrosive, non-toxic, odorless paste that stops leakage thru threads. Mouldable Teflon* particles crush to form a continuous, vibration-proof seal. GOLDEND PASTE doesn't harden; joints are easily made, easily opened thus saving fittings for reuse. GOLDEND PASTE is not messy and will not drip or run.

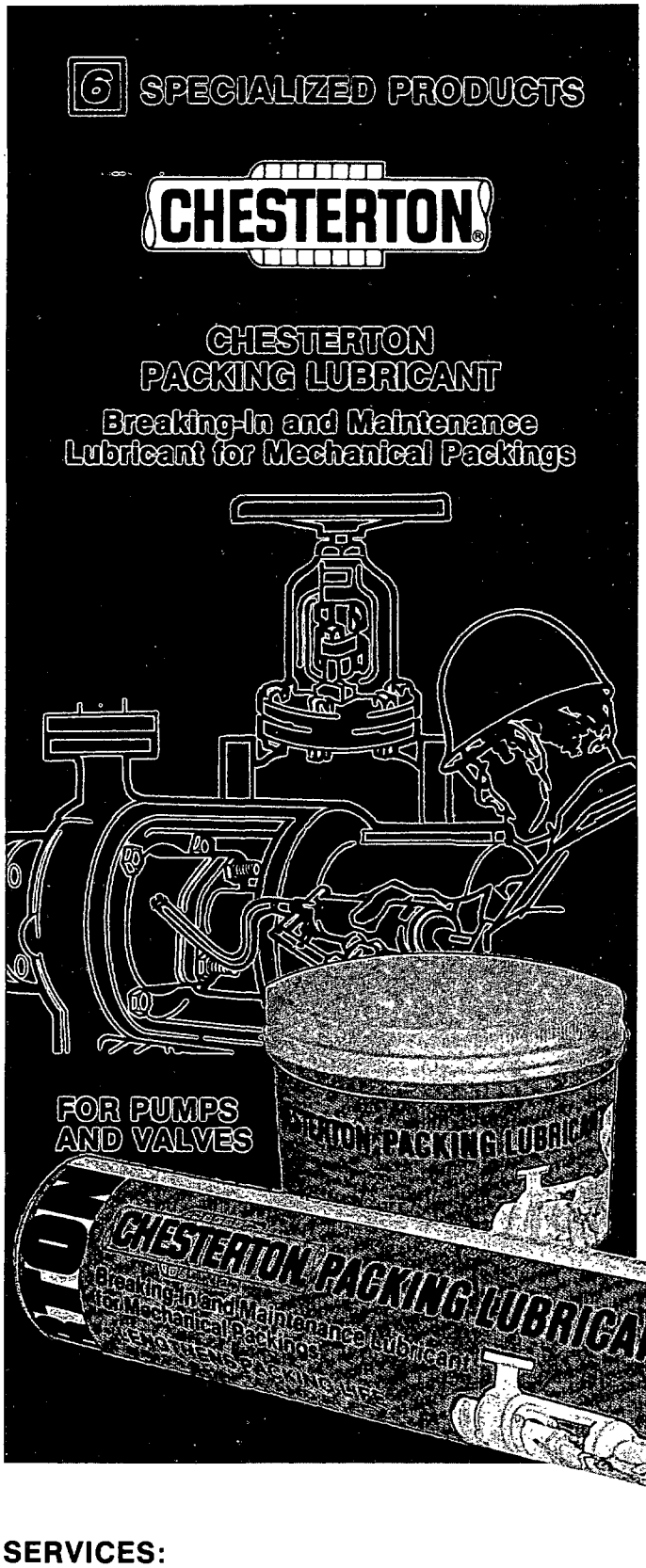
CHESTERTON GOLDEND PASTE is classified by Underwriters Laboratories, Inc., as to fire hazard only.

CHESTERTON GOLDEND PASTE classed 10 to 20 with paraffin oil in respect to fire hazard. For use in devices handling gasoline, petroleum oil, natural gas (pressure not over 100 P.S.I.G.), butane or propane. See UL Index of Classified Products.

CHESTERTON GOLDEND PASTE may be used on steam, salt water, air, fuels, refrigerants, all acids, alkalies, and solvents. It may also be used on gases such as hydrogen, ammonia, freon, chlorine, propane, butane and nitrogen. CHESTERTON GOLDEND PASTE will operate from −400°F. to +500°F. (−240°C. to +260°C.). Do not use on liquid or gaseous oxygen.

PACKAGED			
REORDER PRODUCT NO.	INDIV. NET CONTENTS	QUANTITY PER CARTON	CARTONS PER MASTER CARTON
901[1]	Cans 1 lb. (454 gms.)	12	6
902[1]	Tubes 8 oz. (227 gms.)	24	6

[1]Reorder Product Number is for individual item.

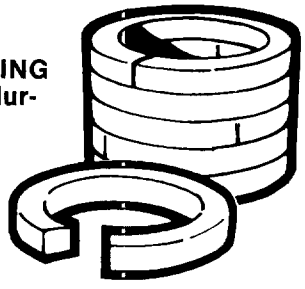


1. A high temperature, nonglazing special lubricant protects shaft and packing during start-up, break-in, and normal running operation.

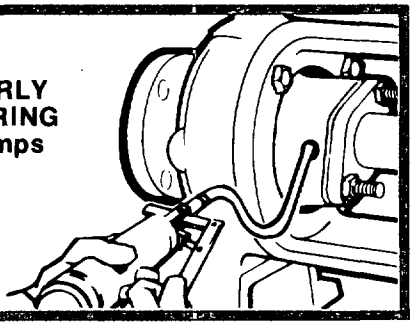
2. Graphite flake particles provide nonmigrating lubricant and act as a blocking agent.

3. Extreme high pressure, high temperature molybdenum disulphide lubricates even when contact pressure between packing and shaft (or stem) is excessive.

PRELUBRICATE PACKING RINGS for protection during critical breaking-in period.



INJECT REGULARLY INTO LANTERN RING (seal cage) of pumps to fill voids and relubricate worn packings.



SERVICES:
Protects packings, pump shafts, sleeves and valve stems against undue friction. Blocks water and other fluids. Reduces packing wear on shafts or sleeves. Unique three-stage lubrication compound was developed by CHESTERTON, America's oldest manufacturer of mechanical packings.

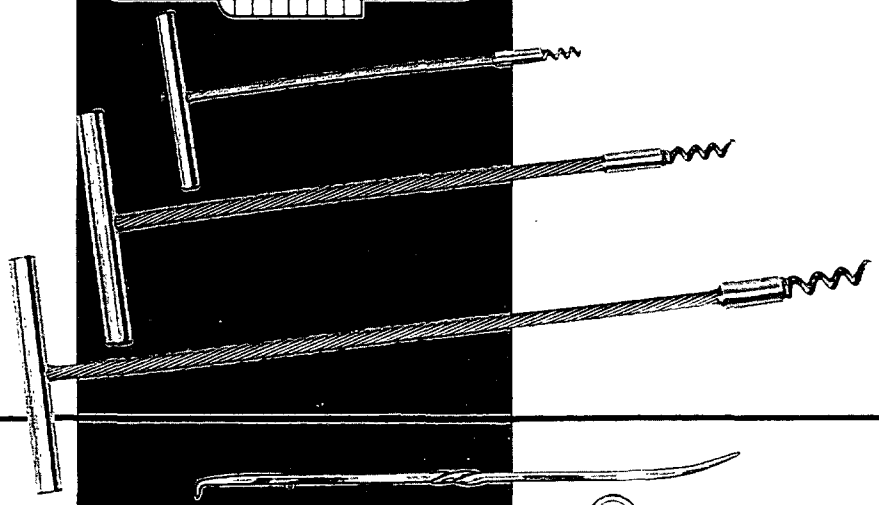
This lubricant is formulated for packing lubrication only. It is not intended as a metal to metal lubricant. Not for use in nitric acid applications.

PACKAGED			
Reorder Product No.	Individual Net Contents	Quantity per Carton	Cartons per Master Carton
3601	Cartridge 21 ozs. (595 gms.)	12	12
3603	Plastic Container 2 lbs. (908 gms.)	6	6

SPECIALIZED PRODUCTS

CHESTERTON®

CHESTERTON PACKING TOOLS

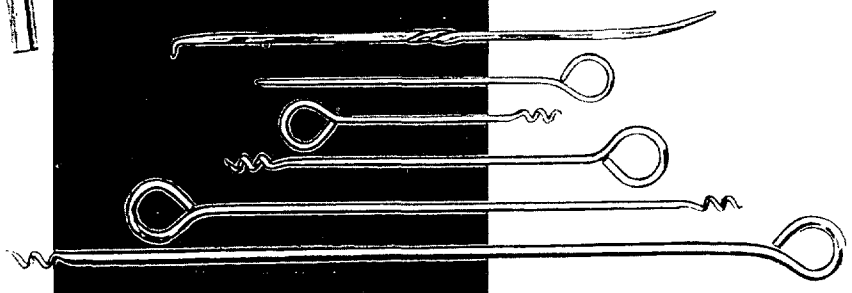


FLEXIBLE PACKING EXTRACTORS

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, easily removable. Large, smooth, easy-grip handle. Furnished in sets of 3 tools.

Reorder Product No. 2500

For charts see page 89



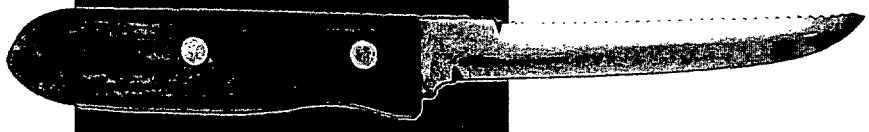
STIFF PACKING TOOLS

Made of special tool steel. Warranted not to break when removing packing from any type of stuffing box. Will withstand the roughest usage.

SOLD IN COMPLETE SETS ONLY

Reorder Product No. 2401 (4)
Reorder Product No. 2402 (6)

For charts see page 89

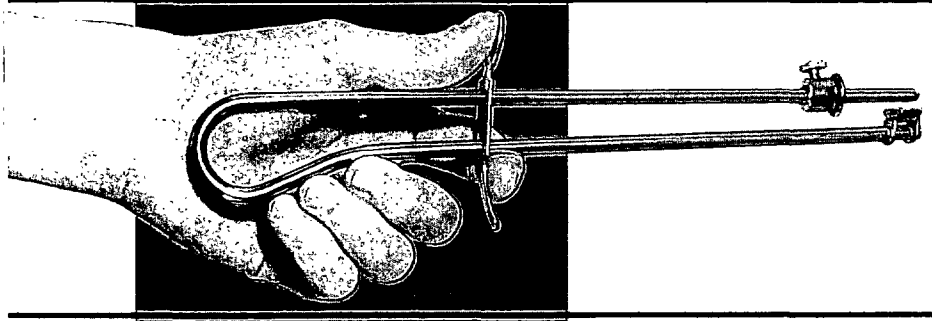


PACKING CUTTING KNIFE

Fine bevelled blade cuts braided packings
Serrated blade cuts moulded items

Blade 5″—127 mm Overall 10″—254 mm
Case included.
Fits Chesterton Ring Cutter

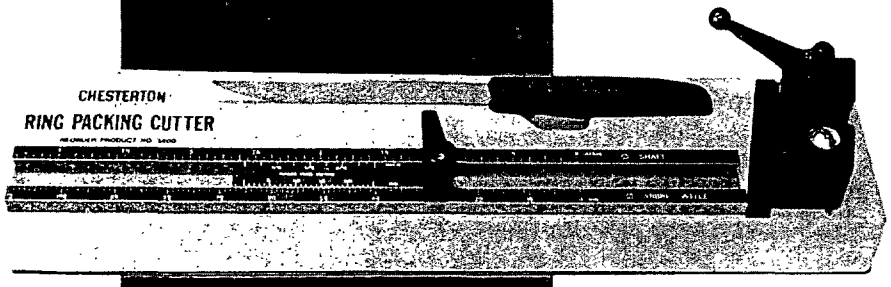
Reorder Product No. 2300



CHESTERTON GAUGE GLASS CUTTER

In this cutter, recognized by leading engineers everywhere as the outstanding gauge glass cutter, the sliding lever can be placed close to the work, and thus more power obtained than in any other cutter. The steel cutting wheel can be used much longer than in ordinary cutters. Will cut the hardest type of glasses.

Reorder Product No. 2700



CHESTERTON RING PACKING CUTTER

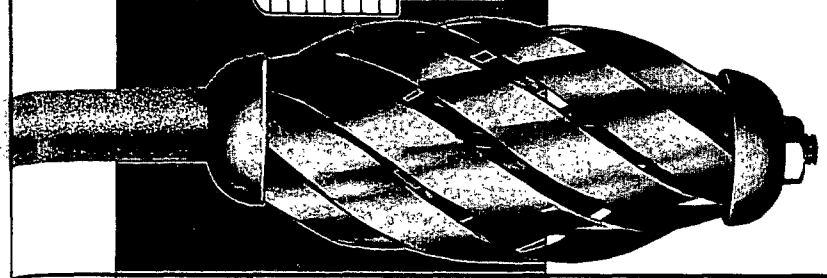
This new device permits accurate cutting of rings from spiral or flat coil packings. The SCALE reads directly in terms of shaft sizes, either in inches or in millimeters. To operate, simply set one scale to correspond with cross-sectional size of packing, set other scale for shaft diameter, and cut ring. Handles packing sizes ⅛″ through 1″ and shaft sizes up to 4″. Avoid delays, cut your own rings, and save up to $10.00 per pound of packing cost. Accommodates the Chesterton Packing Cutting Knife.

Reorder Product No. 3400

6 SPECIALIZED PRODUCTS

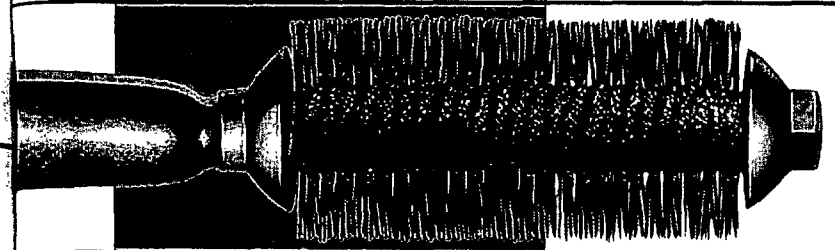
CHESTERTON®

CHESTERTON BOILER TUBE CLEANERS



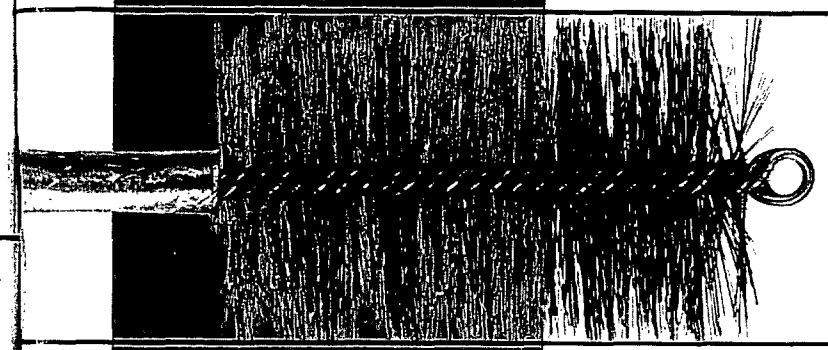
TUBE SCRAPER

Effectively removes hard deposits because of its flexibility and bias-cutting operation. During normal operation the cutting steels are practically self-sharpening. Sizes 1¼, 1½, 1¾, 2, 2½, 3, 3½, and 4 inches, boiler tube sizes (O.D. of tubes). Threads: — 1¼"–⅛" male; 1½" thru 1¾"–¼" male; 2" thru 3½"–⅜" female; 4"–½" female.



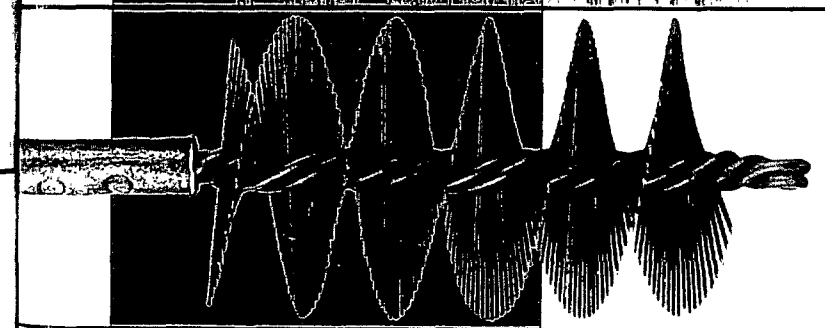
TUBE BRUSH

Stiff flat wires will not pull out or lay back, are dense to remove accumulated matter, but spaced to permit scale to drop, facilitating freedom of movement and easy removal. Sizes 2, 2½, 3, 3½, 4 inches, boiler tube sizes (O.D. of tube). All threads are ⅜" female, pipe.



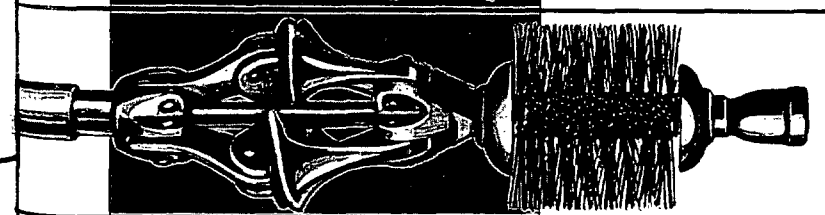
FINE WIRE BRUSH

Made of fine, round, tempered steel wire. A good brush to be used in connection with a scraper, or in low pressure boilers. Sizes 1 to 4 inches. Thread, all sizes, ¼" male.



SPIRAL TUBE BRUSH

A durable, stiff, flat wire brush for cleaning tubes of either marine or stationary boilers. Sizes 1 to 4 inches. Thread, all sizes, ¼" male.



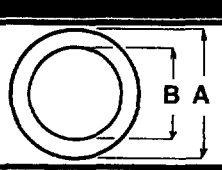
COMBINATION SCRAPER

The self-adjusting combination scraper has specially hardened scraping arms. Spring expands arms to required diameter. With rugged, flatwire brush attached, the COMBINATION SCRAPER is "Two Tools in One." Sizes 2, 2½, 3, 3½, 4 inches, boiler tube sizes (O.D. of tubes). All threads are ⅜" female, pipe.



CONDENSER TUBE BRUSH

Made of fine round steel wire with ⅛" nipple in sizes ½, ⅝, ¾, ⅞, and 1", *actual diameter* of brushes. Condenser tubes are measured I.D. instead of O.D. Thread, all sizes, ⅛" male.

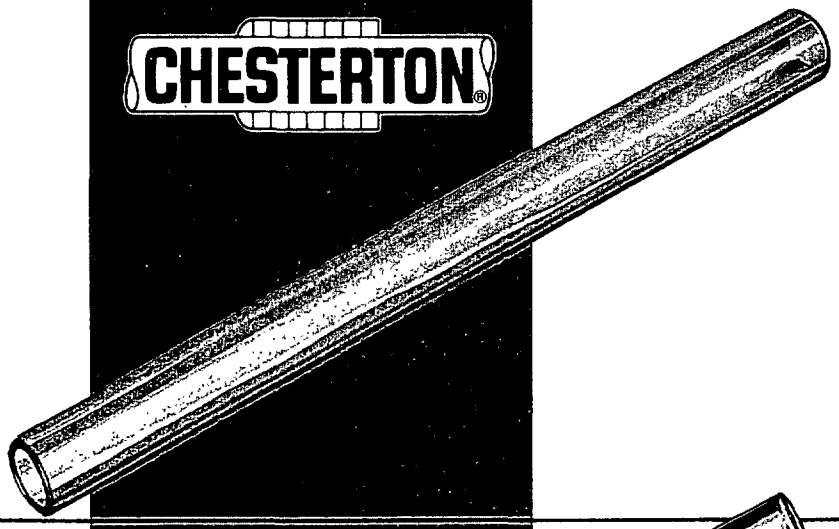


HOW TO ORDER

"A" is the O.D. of boiler tube. This is the size to order for all cleaners except the Condenser Tube Brush which is ordered by I.D. dimension "B".

For charts see page 89

CHESTERTON®



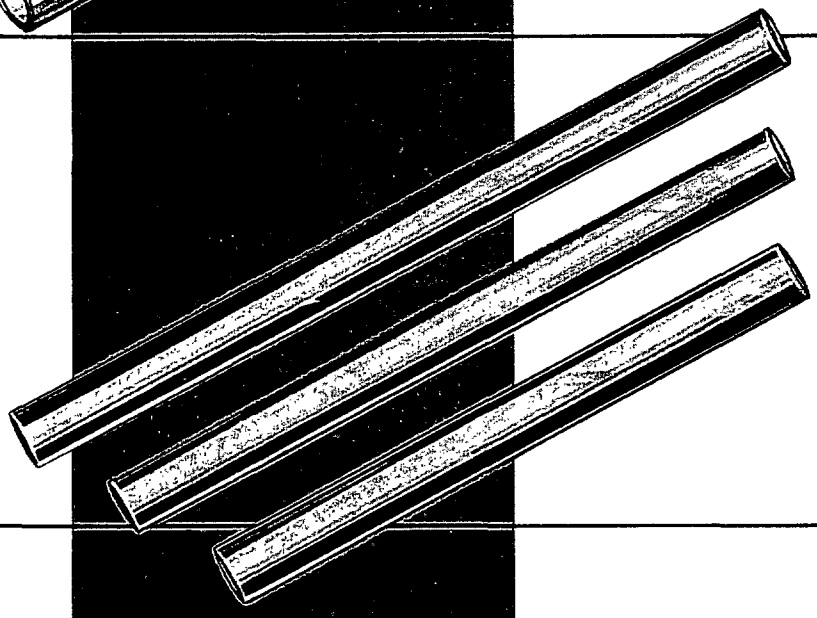
HIGH PRESSURE GAUGE GLASS

Since this first borosilicate-type glass was introduced many years ago, thus pioneering the high pressure gauge glass industry, it has steadily maintained its recognition as the standard of comparison for all gauge glasses.

CHESTERTON HIGH PRESSURE GLASS is hard, clear, and resistant to acid corrosion and thermal shock. Its low coefficient of expansion helps to maintain pressure and temperature stresses within reasonable but undefined limits.

SIZES: O.D. ½", ⅝", ¾", ⅞", 1". Standard packages of half dozen glasses in standard lengths: 8", 10", 12", 14", 15", 16", 18", 20", 22", 24", 30", 36", 48", 60", 72". Over 72" to order. Can be supplied to any length. ½" O.D. supplied in standard package of one dozen.

WASHERS AVAILABLE



LOW PRESSURE GAUGE GLASSES

Chesterton low pressure Gauge Glasses are designed to fit all applications where low pressures are involved. Chesterton low pressure Gauge Glass is clear, non-colored, and it is easy to read the liquid level.

SIZES: O.D. ½", ⅝", ¾". Standard packages of half dozen glasses in standard lengths: 8", 10", 11", 12", 13", 14", 15", 16", 17", 18", 19", 20", 22", 24", 30", 36", 48", 60", 72". ½" O.D. supplied in standard packages of one dozen.



CHESTERTON FLAT GAUGE GLASSES

CHESTERTON FLAT GLASSES are in two types. The Plain, or Type A, are transparent and are generally used in pairs with the liquid column enclosed between the glasses. The liquid level is observed by looking through the two glasses which must be illuminated from the rear. Usual practice against steam is to use a mica shield on the pressure side in addition to the regular gaskets.

The Reflex, or Fluted Type B, is used singly. Vertical prisms show the water level and the appearance is black below the level, bright silver above. Two gaskets are used with each glass.

SIZE	LENGTH	
	inches	mm
9	13⅜	340
8	12⅝	320
7	11	280
6	9⅞	250
5	8⅝	220
4	7½	190
3	6½	165
2	5½	140

Width: $1^5/_{16}$"; Thickness: $^{11}/_{16}$"; Type B Reflex has 5 flutes.

CHESTERTON®

BOILER TUBE CLEANERS

APPROXIMATE DATA			
Type	Sizes Inch	Sizes mm	Reorder Product No.
TUBE SCRAPERS	1¼	31.7	1720
	1½	38.1	1724
	1¾	44.4	1728
	2	50.8	1732
	2½	63.5	1740
	3	76.2	1748
	3½	88.9	1756
	4	101.6	1764
TUBE BRUSHES	2	50.8	1632
	2½	63.5	1640
	3	76.2	1648
	3½	88.9	1656
	4	101.6	1664
COMBINATION SCRAPERS	2	50.8	1832
	2½	63.5	1840
	3	76.2	1848
	3½	88.9	1856
	4	101.6	1864
FINE WIRE BRUSHES	1	25.4	1216
	1¼	31.7	1220
	1½	38.1	1224
	1¾	44.4	1228
	2	50.8	1232
	2¼	57.1	1236
	2½	63.5	1240
	2¾	69.8	1244
	3	76.2	1248
	3¼	82.5	1252
	3½	88.9	1256
	3¾	95.2	1260
	4	101.6	1264
SPIRAL TUBE BRUSHES	1	25.4	1316
	1¼	31.7	1320
	1½	38.1	1324
	1¾	44.4	1328
	2	50.8	1332
	2¼	57.1	1336
	2½	63.5	1340
	2¾	69.8	1344
	3	76.2	1348
	3¼	82.5	1352
	3½	88.9	1356
	3¾	95.2	1360
	4	101.6	1364
CONDENSER TUBE BRUSHES	½	12.7	1408
	⅝	15.9	1410
	¾	19.1	1412
	⅞	22.2	1414
	1	25.4	1416
COMBINATION SCRAPERS BRUSHES	2	50.8	1932
	2½	57.1	1940
	3	76.2	1948
	3½	88.9	1956
	4	101.6	1964

STYLE 364-T

APPROXIMATE DATA						
Size Inches	Size mm	Packaged ± 10% lbs.	Packaged ± 10% kg.	Reorder Product No.	Lengths per Weight Ft./lb.	Lengths per Weight M/kg.
¼	6.4	2.00	0.91	36404	20.00	13.45
5/16	8.0	2.50	1.13	36405	13.60	9.13
⅜	9.5	2.75	1.25	36406	11.00	7.40
7/16	11.1	3.25	1.48	36407	8.60	5.76
½	12.7	3.75	1.70	36408	6.00	4.03
9/16	14.3	5.50	2.50	36409	4.90	3.30
⅝	15.9	5.75	2.61	36410	4.40	2.94
11/16	17.5	6.90	3.13	36411	3.60	2.42
¾	19.1	6.90	3.13	36412	2.90	1.94
13/16	20.6	6.90	3.13	36413	2.47	1.66
⅞	22.2	8.50	3.85	36414	2.00	1.34
15/16	23.8	8.50	3.85	36415	1.88	1.26
1	25.4	9.12	4.14	36416	1.75	1.18
1 1/16	27.0	To order		36417	1.33	0.89
1⅛	28.6	To order		36418	1.23	0.83
1 3/16	30.2	To order		36419	1.15	0.77
1¼	31.7	To order		36420	1.10	0.74
1 5/16	33.3	To order		36421	1.00	0.67
1⅜	34.9	To order		36422	0.90	0.61
1½	38.1	To order		36424	0.73	0.49

STYLE 322 TWIST

APPROXIMATE DATA						
Size Inches	Size mm	Packaged ± 10% lbs.	Packaged ± 10% kg.	Reorder Product No.	Lengths/Weight Ft./lb.	Lengths/Weight M/kg.
⅛	3.2	2	0.908	32360	80.00	53.75
¼	6.4	2	0.908	32364	33.68	22.63
⅜	9.5	2	0.908	32366	13.30	8.94
Half Kit		1 Spool Each		32302		
Full Kit		2 Spools Each		32301		

FLEXIBLE PACKING TOOLS

Type	Length in.	Length mm	Stock in.	Stock mm	Worm in.	Worm mm
Double End	12	305.0	¼	6.4	—	—
Hook	8	203.2	3/16	4.8	—	—
Worm	6	152.4	3/16	4.8	5/16	7.9
Worm	10	254.0	¼	6.4	7/16	11.1
Worm	14	356.0	¼	6.4	½	12.7
Worm	18	457.0	5/16	7.9	½	12.7

Set of four eliminates second and last items.

STIFF PACKING TOOLS

One Set	Length Inches	Length mm	For Min. Packing Size Inch	For Min. Packing Size mm	Reorder Product No.
Small	7	178	5/16	7.9	2501
Medium	11	279	⅜	9.5	2502
Large	14	356	½	12.7	2503

CHESTERTON

STYLES 80, 81, 82, 84, 85 and 87

APPROXIMATE DATA

Sizes		Packaging		Reorder Product No.						Length per Weight	
Inches	mm	Lbs.	Kg.	Style 80	Style 81	Style 82	Style 84	Style 85	Style 87	Ft./lb.	M/kg.
1/8	3,2	2	0,908	8060	NA	8260	NA	NA	8760	145,00	97,30
		5	2,270	8002	NA	NA	NA	NA	NA	145,00	97,30
3/16	4,8	2	0,908	8062	NA	8262	NA	NA	8762	64,00	42,90
		5	2,270	8003	NA	NA	NA	NA	NA	64,00	42,90
1/4	6,4	2	0,908	8064	NA	8264	NA	NA	NA	36,00	24,20
		5	2,270	8073	8173	8273	8473	NA	8773	36,00	24,20
5/16	8,0	2	0,908	8065	NA	8265	NA	NA	NA	21,50	14,40
		5	2,270	8074	8174	8274	8474	NA	8774	21,50	14,40
3/8	9,5	2	0,908	8066	NA	8266	NA	NA	NA	16,00	10,70
		5	2,270	8075	8175	8275	8475	8575	8775	16,00	10,70
		10	4,540	8081	8181	8281	8481	8581	8781	16,00	10,70
7/16	11,1	2	0,908	8068	NA	8268	NA	NA	NA	10,70	7,20
		5	2,270	8077	8177	8277	8477	8577	8777	10,70	7,20
1/2	12,7	2	0,908	8070	NA	8270	NA	NA	NA	9,00	6,00
		5	2,270	8079	8179	8279	8479	8579	8779	9,00	6,00
		10	4,540	8083	8183	8283	8483	8583	8783	9,00	6,00
9/16	14,3	5	2,270	8080	8180	8280	8480	8580	8780	7,00	4,70
		10	4,540	8084	8184	8284	8484	8584	8784	7,00	4,70
5/8	15,9	10	4,540	8085	8185	8285	8485	8585	8785	5,70	3,80
11/16	17,5	10	4,540	8086	8186	8286	8486	8586	8786	4,80	3,23
3/4	19,1	10	4,540	8087	8187	8287	8487	8587	8787	4,00	2,70
13/16	20,6	10	4,540	8088	8188	8288	8488	8588	8788	3,40	2,29
7/8	22,2	10	4,540	8089	8189	8289	8489	8589	8789	2,70	1,80
15/16	23,8	10	4,540	8093	8193	8293	8493	8593	8793	2,50	1,68
1	25,4	10	4,540	8094	8194	8294	8494	8594	8794	2,30	1,50
1 1/16	27,0	To order		8017	8117	8217	8417	8517	8717	1,90	1,28
1 1/8	28,6	To order		8018	8118	8218	8418	8518	8718	1,75	1,18
1 3/16	30,2	To order		8019	8119	8219	8419	8519	8719	1,43	0,96
1 1/4	31,7	To order		8020	8120	8220	8420	8520	8720	1,40	0,94
1 5/16	33,3	To order		8021	8121	8221	8421	8521	8721	1,30	0,87
1 3/8	34,9	To order		8022	8122	8222	8422	8522	8722	1,20	0,81
1 1/2	38,1	To order		8024	8124	8224	8424	8524	8724	1,00	0,67
1 5/8	41,2	To order		8026	8126	8226	8426	8526	8726	0,85	0,57
1 3/4	44,4	To order		8028	8128	8228	8428	8528	8728	0,68	0,45
1 7/8	47,6	To order		8030	8130	8230	8430	8530	8730	0,63	0,42
2	50,8	To order		8032	8132	8232	8432	8532	8732	0,56	0,38

NA = Not Available

CHESTERTON STYLE 240

STYLE 240 is manufactured into a hard-woven asbestos cloth incorporating an insertion of fine brass wire twisted into each strand for reinforcement. This sheet is treated with a special white heat-resistant compound which has adhesive qualities.

APPROXIMATE DATA

Thickness		Reorder	Length per Roll		Weights (± 10%)		Approx. Weight per Roll	
inches	mm	Product No.	yds.	M.	lbs. per yd.	kg./m²	lbs.	kg.
1/16	1,6	24001	50	45,7	5	2,77	250	113,4
1/8	3,2	24002	25	22,8	10	5,55	250	113,4

STYLE 90

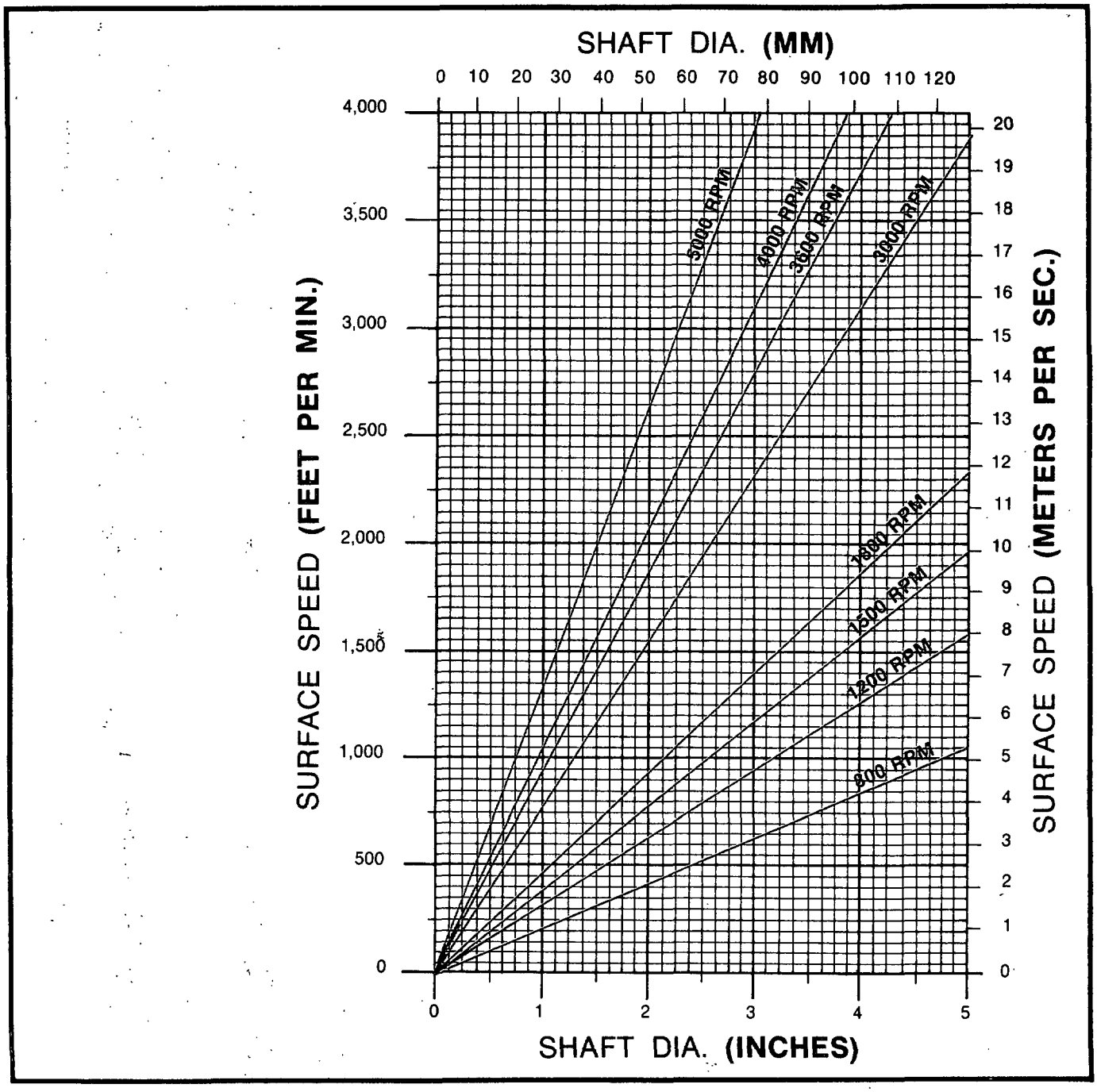
APPROXIMATE DATA

Size		Packaged ± 10%		Reorder Product No.	Lengths per Weight		Coils per Box
Inches	mm	lbs.	kg.		Ft/lb.	m/kg.	
3/16	4,8	2,43	1,100	9003	37,00	24,81	6
1/4	6,4	3,96	1,800	9004	22,70	15,22	6
5/16	8,0	5,32	2,420	9005	14,10	9,45	5
3/8	9,5	6,06	2,750	9006	9,90	6,64	4
7/16	11,16	7,06	3,210	9007	6,40	4,29	3
1/2	12,7	7,92	3,600	9008	5,70	3,82	3
9/16	14,3	7,20	3,270	9009	4,20	2,82	2
5/8	15,9	8,16	3,710	9010	3,70	2,48	2
11/16	17,5	9,87	4,490	9011	3,04	2,04	2
3/4	19,1	11,67	5,300	9012	2,60	1,74	2
13/16	20,6	14,88	6,760	9013	2,02	1,35	2
7/8	22,2	15,96	7,250	9014	1,90	1,27	2
15/16	23,8	19,80	9,000	9015	1,52	1,02	2
1	25,4	20,25	9,200	9016	1,50	1,00	2

No. 93 is cut rings of No. 90

CHESTERTON®

CHESTERTON SHAFT SPEED CONVERSION CHART



DECIMAL EQUIVALENTS

1/64" 0.0156"	9/64" 0.1406"	17/64" 0.2656"	25/64" 0.3906"	33/64" 0.5156"	41/64" 0.6406"	49/64" 0.7656"	57/64" 0.8906"
1/32" 0.03125"	5/32" 0.15625"	9/32" 0.28125"	13/32" 0.40625"	17/32" 0.53125"	21/32" 0.65625"	25/32" 0.78125"	29/32" 0.90625"
3/64" 0.0469"	11/64" 0.1719"	19/64" 0.2969"	27/64" 0.4219"	35/64" 0.5469"	43/64" 0.6719"	51/64" 0.7969"	59/64" 0.9219"
1/16" 0.0625"	3/16" 0.1875"	5/16" 0.3125"	7/16" 0.4375"	9/16" 0.5625"	11/16" 0.6875"	13/16" 0.8125"	15/16" 0.9375"
5/64" 0.0781"	13/64" 0.2031"	21/64" 0.3281"	29/64" 0.4531"	37/64" 0.5781"	45/64" 0.7031"	53/64" 0.8281"	61/64" 0.953"
3/32" 0.09375"	7/32" 0.21875"	11/32" 0.34375"	15/32" 0.46875"	19/32" 0.59375"	23/32" 0.71875"	27/32" 0.84375"	31/32" 0.96875"
7/64" 0.1094"	15/64" 0.2344"	23/64" 0.3594"	31/64" 0.4844"	39/64" 0.6094"	47/64" 0.7344"	55/64" 0.8594"	63/64" 0.9844"
1/8" 0.1250"	1/4" 0.2500"	3/8" 0.3750"	1/2" 0.5000"	5/8" 0.6250"	3/4" 0.7500"	7/8" 0.8750"	1" 1.0000"

CHESTERTON®

CONVERSION TABLES — FEET AND INCHES TO MILLIMETERS

	0″	1″	2″	3″	4″	5″	6″	7″	8″	9″	10″	11″
1′	305	330	356	381	406	432	457	483	508	533	559	584
2′	610	635	660	686	711	737	762	787	813	838	864	889
3′	914	940	965	991	1016	1041	1067	1092	1118	1143	1168	1194
4′	1219	1245	1270	1295	1321	1346	1372	1397	1422	1448	1473	1499
5′	1524	1549	1575	1600	1626	1651	1676	1702	1727	1753	1778	1803
6′	1829	1854	1880	1905	1930	1956	1981	2007	2032	2057	2083	2108

CONVERSION TABLES — INCHES TO MILLIMETERS

	0″	1/16″	1/8″	3/16″	1/4″	5/16″	3/8″	7/16″	1/2″	9/16″	5/8″	11/16″	3/4″	13/16″	7/8″	15/16″
0″	—	1,6	3,2	4,8	6,4	7,9	9,5	11,1	12,7	14,3	15,9	17,5	19,1	20,6	22,2	23,8
1″	25,4	27,0	28,6	30,2	31,75	33,3	34,9	36,5	38,1	39,7	41,27	42,9	44,45	46,0	47,6	49,2
2″	50,8	52,4	54,0	55,6	57,15	58,7	60,3	61,9	63,5	65,1	66,7	68,3	69,85	71,4	73,0	74,6
3″	76,2	77,8	79,4	81,0	82,55	84,1	85,7	87,3	88,9	90,5	92,1	93,66	95,25	96,8	98,4	100,0
4″	101,6	103,2	104,8	106,4	108,0	109,5	111,1	112,7	114,3	115,9	117,5	119,1	120,7	122,2	123,8	125,4
5″	127,0	128,6	130,2	131,8	133,4	134,9	136,5	138,1	139,7	141,3	142,9	144,5	146,1	147,6	149,2	150,8
6″	152,4	154,0	155,6	157,2	158,8	160,3	161,9	163,5	165,1	166,7	168,3	169,9	171,5	173,0	174,6	176,2
7″	177,8	179,4	181,0	182,6	184,2	185,7	187,3	188,9	190,5	192,1	193,7	195,3	196,9	198,4	200,0	201,6
8″	203,2	204,8	206,4	208,0	209,6	211,1	212,7	214,3	215,9	217,5	219,1	220,7	222,3	223,8	225,4	227,0
9″	228,6	230,2	231,8	233,4	235,0	236,5	238,1	239,7	241,3	242,9	244,5	246,1	247,7	249,2	250,8	252,4
10″	254,0	255,6	257,2	258,8	260,4	261,9	263,5	265,1	266,7	268,3	269,9	271,5	273,1	274,6	276,2	277,8
11″	279,4	281,0	282,6	284,2	285,75	287,3	288,9	290,5	292,1	293,7	295,3	296,9	298,45	300,0	301,6	303,2
12″	304,8															

CONVERSION TABLE MILLIMETERS TO INCHES

mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches	mm.	Inches
02 =	00078	62 =	0244	12 =	4724	42 =	1.6535	72 =	2.8346
04 =	00157	64 =	0252	13 =	51.18	43 =	1.6929	73 =	2.8740
06 =	00236	66 =	02598	14 =	55.118	44 =	1.73228	74 =	2.91338
08 =	0031	68 =	02677	15 =	59055	45 =	1.77165	75 =	2.95265
10 =	0039	70 =	02755	16 =	6299	46 =	1.8110	76 =	2.9921
12 =	0047	72 =	0283	17 =	66929	47 =	1.85039	77 =	3.03549
14 =	0055	74 =	0291	18 =	70866	48 =	1.88976	78 =	3.07086
16 =	0063	76 =	0299	19 =	7480	49 =	1.9295	79 =	3.1102
18 =	00708	78 =	0307	20 =	7874	50 =	1.9685	80 =	3.1496
20 =	0078	80 =	0315	21 =	82677	51 =	2.00787	81 =	3.18897
22 =	00866	82 =	03228	22 =	8661	52 =	2.0472	82 =	3.2283
24 =	0094	84 =	0330	23 =	9055	53 =	2.0866	83 =	3.2677
26 =	0102	86 =	03385	24 =	94488	54 =	2.12598	84 =	3.30708
28 =	0110	88 =	0346	25 =	98425	55 =	2.16535	85 =	3.34645
30 =	0118	90 =	0354	26 =	1.0236	56 =	2.2047	86 =	3.3858
32 =	0126	92 =	0362	27 =	1.06299	57 =	2.24409	87 =	3.42519
34 =	01338	94 =	0370	28 =	1.10236	58 =	2.28346	88 =	3.46456
36 =	01419	96 =	0378	29 =	1.1417	59 =	2.3228	89 =	3.5039
38 =	0149	98 =	03858	30 =	1.1811	60 =	2.3622	90 =	3.5433
40 =	0157	100 =	03937	31 =	1.22047	61 =	2.40157	91 =	3.58267
42 =	0165	12 =	0787	32 =	1.2598	62 =	2.4409	92 =	3.6220
44 =	0173	3 =	1181	33 =	1.2992	63 =	2.4803	93 =	3.6614
46 =	0181	4 =	15748	34 =	1.33858	64 =	2.51968	94 =	3.70078
48 =	0189	5 =	19685	35 =	1.37795	65 =	2.55905	95 =	3.74015
50 =	01968	6 =	2362	36 =	1.4173	66 =	2.5984	96 =	3.7795
52 =	02047	7 =	27559	37 =	1.45669	67 =	2.63779	97 =	3.81889
54 =	02125	8 =	31496	38 =	1.49606	68 =	2.67716	98 =	3.85826
56 =	0220	9 =	3543	39 =	1.5354	69 =	2.7165	99 =	3.8976
58 =	0228	10 =	3937	40 =	1.5748	70 =	2.7559	100 =	3.9370
60 =	0236	11 =	43307	41 =	1.61417	71 =	2.79527	200 =	7.874
								300 =	11.811
								400 =	15.748
								500 =	19.685
								1000 =	39.370

PRESSURE AND TEMPERATURE OF SATURATED STEAM

Gage Pressure	Absolute Pressure psi	Saturated Temp. Deg. F	Saturated Temp. Deg. C
13.7	1	101.76	38.72
12.7	2	126.10	52.23
11.7	3	141.40	60.72
10.7	4	152.99	67.15
9.7	5	162.25	72.29
8.7	6	170.07	76.63
7.7	7	176.85	80.39
6.7	8	182.87	83.73
5.7	9	188.28	86.74
4.7	10	193.21	89.47
0.3	15	213.03	100.47
5.3	20	227.96	108.76
15.3	30	250.34	121.18
25.3	40	267.24	130.56
35.3	50	281.01	138.20
45.3	60	292.71	144.69
55.3	70	302.92	150.36
65.3	80	312.03	155.42
75.3	90	320.27	160.15
85.3	100	327.83	164.19
105.3	120	341.25	171.63
115.3	130	347.32	175.00
125.3	140	353.02	178.17
135.3	150	358.42	181.16
185.3	200	381.79	194.13
235.3	250	400.95	204.77
285.3	300	417.33	213.86
485.3	500	467.01	241.43
585.3	600	486.21	252.09
685.3	700	503.10	261.46
885.3	900	531.98	277.49
1185.3	1200	567.22	297.05
1985.3	2000	635.82	335.12
2985.3	3000	695.36	368.16
3211.3	3226	706.10	374.12

CHESTERTON®

AREAS OF CIRCLES

Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area	Diam.	Area
1/64	.00019	5/8	.3068	2	3.142	1/2	15.90	8	50.27	13	132.7	18	254.5	23	415.5
1/32	.00077	41/64	.3223	1/16	3.341	9/16	16.35	1/8	51.85	1/8	135.3	1/8	258.0	1/8	420.0
3/64	.00173	21/32	.3382	1/8	3.547	5/8	16.80	1/4	53.46	1/4	137.9	1/4	261.6	1/4	424.6
		43/64	.3545	3/16	3.758	11/16	17.26	3/8	55.09	3/8	140.5	3/8	265.2	3/8	429.1
1/16	.00307														
5/64	.00479	11/16	.3712	1/4	3.976	3/4	17.72	1/2	56.74	1/2	143.1	1/2	268.8	1/2	433.7
3/32	.00690	45/64	.3883	5/16	4.200	13/16	18.19	5/8	58.43	5/8	145.8	5/8	272.4	5/8	438.4
7/64	.00940	23/32	.4057	3/8	4.430	7/8	18.67	3/4	60.13	3/4	148.5	3/4	276.1	3/4	443.0
		47/64	.4236	7/16	4.666	15/16	19.15	7/8	61.86	7/8	151.2	7/8	279.8	7/8	447.7
1/8	.01227														
9/64	.01553	3/4	.4418	1/2	4.909	5	19.63	9	63.62	14	153.9	19	283.5	24	452.4
5/32	.01917	49/64	.4604	9/16	5.157	1/16	20.13	1/8	65.40	1/8	156.7	1/8	287.3	1/4	461.9
11/64	.02320	25/32	.4794	5/8	5.412	1/8	20.63	1/4	67.20	1/4	159.5	1/4	291.0	1/2	471.4
		51/64	.4987	11/16	5.673	3/16	21.14	3/8	69.03	3/8	162.3	3/8	294.8	3/4	481.1
3/16	.02761														
13/64	.03241	13/16	.5185	3/4	5.940	1/4	21.65	1/2	70.88	1/2	165.1	1/2	298.6	25	490.9
7/32	.03758	53/64	.5386	13/16	6.213	5/16	22.17	5/8	72.76	5/8	168.0	5/8	302.5	1/4	500.7
15/64	.04314	27/32	.5591	7/8	6.492	3/8	22.69	3/4	74.66	3/4	170.9	3/4	306.4	1/2	510.7
		55/64	.5800	15/16	6.777	7/16	23.22	7/8	76.59	7/8	173.8	7/8	310.2	3/4	520.8
1/4	.04909														
17/64	.05542	7/8	.6013	3	7.069	1/2	23.76	10	78.54	15	176.7	20	314.2	26	530.9
9/32	.06213	57/64	.6230	1/16	7.366	9/16	24.30	1/8	80.52	1/8	179.7	1/8	318.1	1/4	541.2
19/64	.06922	29/32	.6540	1/8	7.670	5/8	24.85	1/4	82.52	1/4	182.7	1/4	322.1	1/2	551.5
		59/64	.6675	3/16	7.980	11/16	25.41	3/8	84.54	3/8	185.7	3/8	326.1	3/4	562.0
5/16	.07670														
21/64	.08456	15/16	.6903	1/4	8.296	3/4	25.97	1/2	86.59	1/2	188.7	1/2	330.1	27	572.6
11/32	.09281	61/64	.7135	5/16	8.618	13/16	26.53	5/8	88.66	5/8	191.7	5/8	334.1	1/4	583.2
23/64	.1014	31/32	.7371	3/8	8.946	7/8	27.11	3/4	90.76	3/4	194.8	3/4	338.2	1/2	594.0
		63/64	.7610	7/16	9.281	15/16	27.69	7/8	92.89	7/8	197.9	7/8	342.2	3/4	604.8
3/8	.1104														
25/64	.1198	1	.7854	1/2	9.621	6	28.27	11	95.03	16	201.1	21	346.4	28	615.8
13/32	.1296	1/16	.8866	9/16	9.968	1/8	29.46	1/8	97.21	1/8	204.2	1/8	350.5	1/4	626.8
27/64	.1398	1/8	.9940	5/8	10.32	1/4	30.68	1/4	99.40	1/4	207.4	1/4	354.7	1/2	637.9
		3/16	1.108	11/16	10.68	3/8	31.92	3/8	101.6	3/8	210.6	3/8	358.8	3/4	649.2
7/16	.1503														
29/64	.1613	1/4	1.227	3/4	11.04	1/2	33.18	1/2	103.9	1/2	213.8	1/2	363.1	29	660.5
15/32	.1726	5/16	1.353	13/16	11.42	5/8	34.47	5/8	106.1	5/8	217.1	5/8	367.3	1/4	672.0
31/64	.1843	3/8	1.485	7/8	11.79	3/4	35.78	3/4	108.4	3/4	220.4	3/4	371.5	1/2	683.5
		7/16	1.623	15/16	12.18	7/8	37.12	7/8	110.8	7/8	223.7	7/8	375.8	3/4	695.1
1/2	.1963														
33/64	.2088	1/2	1.767	4	12.57	7	38.48	12	113.1	17	227.0	22	380.1	30	706.9
17/32	.2217	9/16	1.917	1/16	12.96	1/8	39.87	1/8	115.5	1/8	230.3	1/8	384.5	1/4	718.7
35/64	.2349	5/8	2.074	1/8	13.36	1/4	41.28	1/4	117.9	1/4	233.7	1/4	388.8	1/2	730.6
		11/16	2.237	3/16	13.77	3/8	42.72	3/8	120.3	3/8	237.1	3/8	393.2	3/4	742.6
9/16	.2485														
37/64	.2625	3/4	2.405	1/4	14.19	1/2	44.18	1/2	122.7	1/2	240.5	1/2	397.6	31	754.8
19/32	.2769	13/16	2.580	5/16	14.61	5/8	45.66	5/8	125.2	5/8	244.0	5/8	402.0	1/4	767.0
39/64	.2916	7/8	2.761	3/8	15.03	3/4	47.17	3/4	127.7	3/4	247.4	3/4	406.5	1/2	779.3
		15/16	2.948	7/16	15.47	7/8	48.71	7/8	130.2	7/8	250.9	7/8	411.0	3/4	791.7

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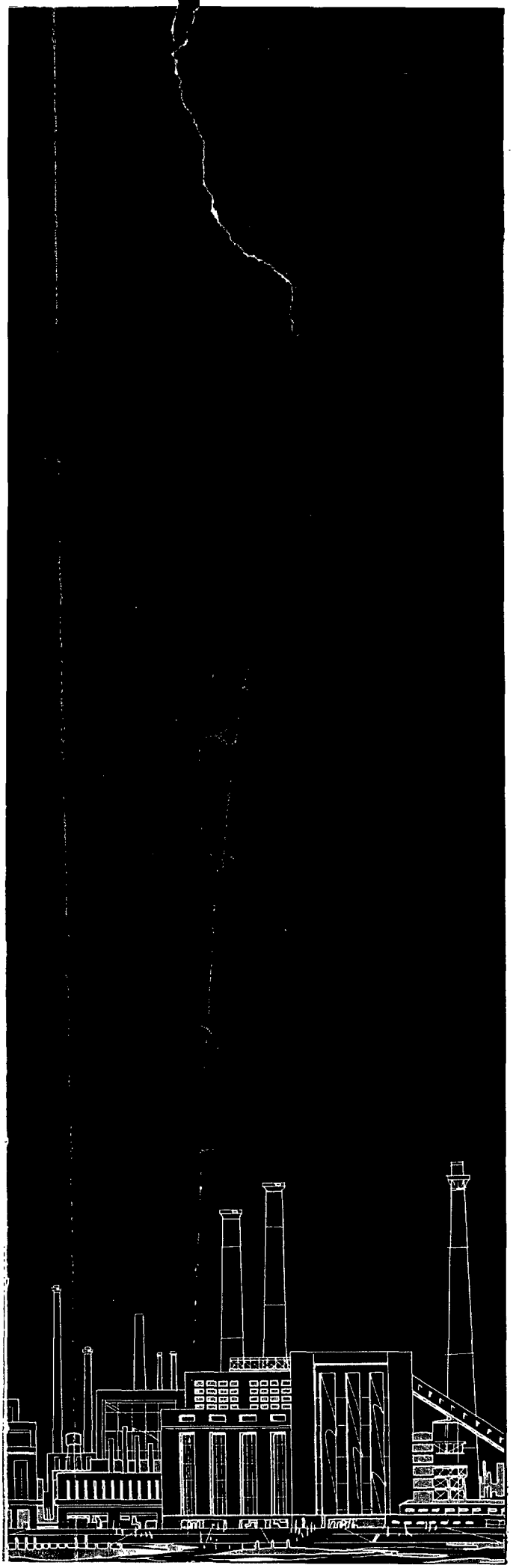

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