CATALOGUE OF PRODUCTS

SELECTED RANGE

Equipment Monitoring

Mechanical Seals

Packing and Gaskets

Polymer Seals

Industrial Lubricants and MRO Products

Industrial Coatings

CHESTERTON®
Global Solutions, Local Service.

PROVIDING VALUE TO INDUSTRY SINCE 1884

A.W. Chesterton Company is a leading international manufacturer and distributor of five distinct product lines. Each product line is positioned to provide value-driven solutions to meet industry needs.

Since 1884 we have worked closely with our customers to provide solutions that help them operate more reliably, efficiently, and economically.

A.W. Chesterton Company is ISO 9001:2008 and ISO 14001:2004.

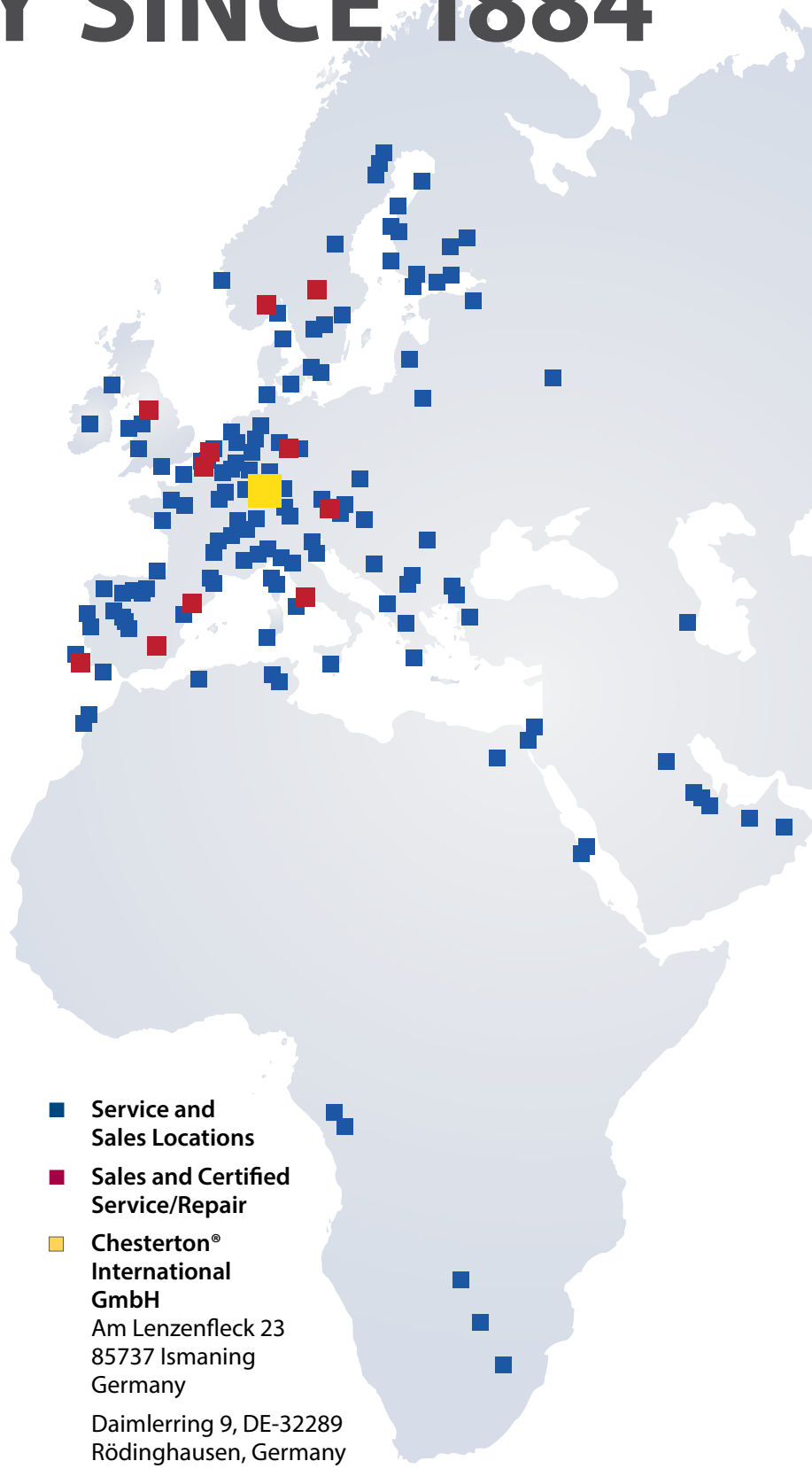
Chesterton® in Europe, the Middle East, and Africa

Chesterton has been using high performance materials, formulations, and designs to solve your toughest industrial applications. We provide value-driven solutions with documented success and recognition across Europe, the Middle East, and Africa.

Local Service

The expertise of your local Chesterton Technical Specialist combined with the support of our engineering staff will enable you to enjoy significantly reduced operating costs, increased reliability, and years of trouble-free service.

This catalogue provides you with an overview of the products and services that Chesterton offers in Europe, the Middle East, and Africa. For more information about our full range of products and services, visit our web site at ***chesterton.com.***



- **Service and Sales Locations**
- **Sales and Certified Service/Repair**
- **Chesterton® International GmbH**
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  85737 Ismaning
  Germany

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  Rödinghausen, Germany

CHESTERTON®
Global Solutions, Local Service.

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Chesterton Connect™

NEW PRODUCT

Simplified Equipment and Process Monitoring For Pumps And Sealing Systems

Chesterton Connect is a simple to use data acquisition tool that enables you to safely and conveniently monitor your process and equipment's operating conditions. Utilizing Bluetooth® technology and a robust design to withstand harsh environments, Chesterton Connect makes it easy to monitor:

- *Equipment vibration*
- *Surface temperature*
- *Process temperature*
- *Process pressure*

Sensor IS

Sensor v1.0

Chesterton Connect™

- Easy to install and configure
- Early detection of process instabilities
- Prioritize equipment maintenance
- Securely access your data
- View multiple sensors in one mobile app
- Replaceable battery

Sensor Version and Certifications

Sensor v1.0
Product ordering number: 403700

IP66, NSF61, CE, FCC, IC, RoHS, VCCI, RCM

Complies with IMDA Standards DB106440

Sensor IS (Intrinsically Safe)
Product ordering number: 403699

IP66, NSF61, CE, FCC, IC, RoHS, VCCI, RCM

Hazardous Ratings	
ATEX/IECEx	Ⓔx II 1 G Ex ia IIB T4 Ga
	Ⓔx II 1 D Ex ia IIIB T_{200} 166°C Da
Zone	Class I Zone 0 AEx ia IIB T4 Ga
	Zone 20 AEx ia IIIB T166°C Da
Division	Class I Div 1 Groups C D T4
	Class II Div 1 Groups F G T4
Rated Temp	-20°C ≤ Ta ≤ +85°C

Operating Parameters	
Pressure Sensor Limit	-1 bar g – 68 bar g (-14.7 psig –1000 psig)
Temperature Limit (body)	-20°C – 85°C (-4°F – 185°F)
Temperature limit (sensor)	-20°C – 125°C (-4°F – 257°F)
Vibration Sensor	3-axis accelerometer ±16g
Battery	3.6V lithium thionyl chloride battery (replaceable)
Fitting	1/4" NPT 17-4PH connection
Mount	Magnetic mounting base

Software Features	
Security	Encrypted setup and password protected operation
Personalization	Configurable name and usage information
Data Acquisition	Monitoring mode for extended battery life (5-minute intervals) and high accuracy mode for troubleshooting (1-minute intervals)
Data Storage	Up to 30 days of rolling history
Alerts	Configurable thresholds and alerts
Analytics	Time plotted trends and analysis
Data Export	Email export of sensor data and alarms

Chesterton Connect™ Cloud

Monitor, Analyze, and Compare Equipment Health from Wherever You Are*

The Chesterton Connect Cloud provides a powerful window into the health of all equipment monitored by Chesterton Connect devices.

From wherever you are on a 24/7 basis, view overall performance, explore variances and trends, add notes, and take action to increase uptime and productivity.

Chesterton Connect Cloud allows you to:

- *Spot trends to address potential threats to uptime*
- *Pinpoint issues causing difficult-to-uncover failures*
- *Predict potential problems to help lower maintenance costs*
- *Easily modernize plant operations*

Software Features	
Security	24/7 security, authentication, and backup of data
Personalization	Flexible management of user roles, permissions, and reports
Data Storage	Unlimited storage of Chesterton Connect measurements, alarms, and notes
Data Visualization	Simple to navigate graphs, alarms, and notes
Analytics	Time-plotted trends and events
Reports	Easily print asset reports
Access	Global access to unlimited sensors

*Internet connectivity required.

- Set alert notifications by equipment
- Correlate multiple measurements for a specific time
- Quickly overlay and compare data for multiple pieces of equipment
- Compare vibration against published standards
- Produce equipment performance reports easily

Chesterton Connect™ Gateway

Automated Data Transfer for 24/7 Remote Monitoring

Chesterton Connect Gateway enables automatic data transfer for pumps and sealing systems monitored by Chesterton Connect sensors. Utilizing the Chesterton Connect Cloud, the Gateway facilitates remote monitoring of equipment to improve operations.

FLOWCHART

- Easy to install
- Automatically connects to cellular networks
- Supports up to 50 sensors
- Plug-and-play design
- Simplifies condition monitoring scalability

Ask a Chesterton product specialist, or contact connect.support@chesterton.com for more details.

SERVICE AND PERFORMANCE

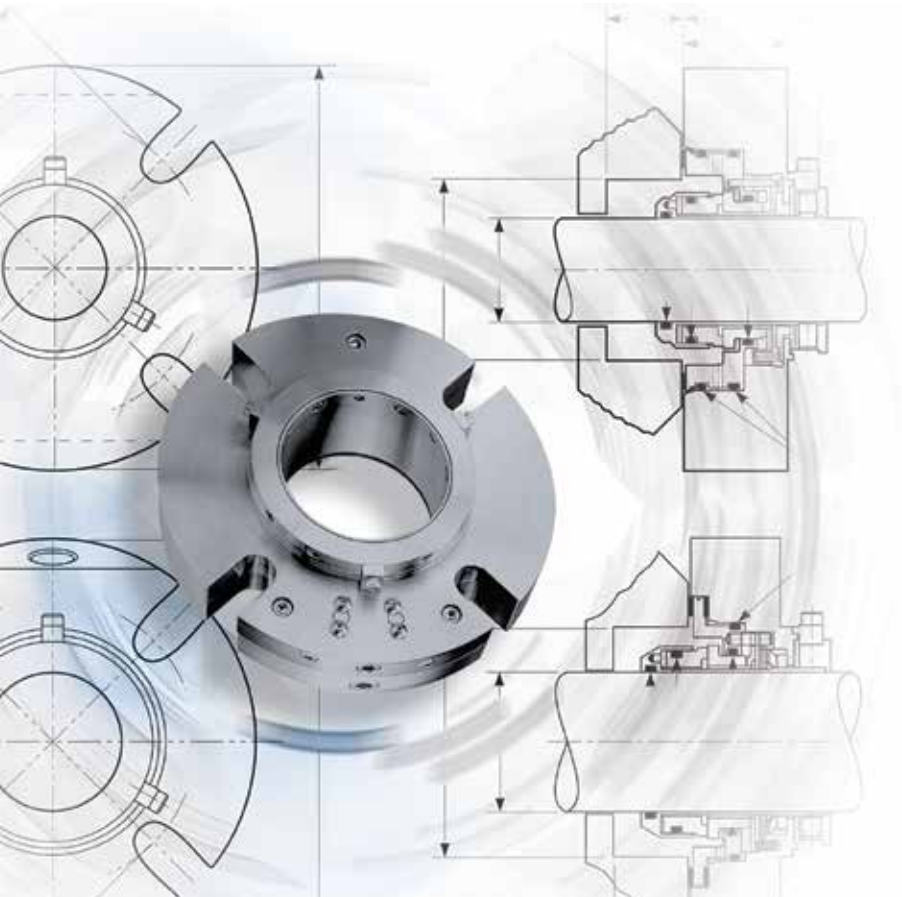
Unparalleled in Industry

At Chesterton, we emphasize working together as partners to provide knowledgable solutions. Our high service levels are delivered by combining both industry and product knowledge with experience to implement Best Available Techniques. Our wide geographical reach and local service capabilities enable us to be responsive to your needs.

Reliability Through Innovation

To be a full-service provider takes a wide array of high quality, engineered sealing products that address your needs. Innovative, high performance products are the core of Chesterton's offerings as a premier sealing solution provider. Some of our standard offerings are:

- Split Seals
- Cartridge Seals
- Gas Seals
- Component Seals
- SpiralTrac®



Improving Productivity with High-Impact Programs

In today's global economy, our clients are faced with increased profitability pressures. Chesterton can assist users in achieving their productivity goals by improving asset reliability and lowering the total cost of ownership. Our programs are easily customized for each plant to:

- Improve equipment reliability
- Increase process throughput
- Lower total cost of ownership

Delivering Results for Industry

Meeting industry needs requires a thorough knowledge and understanding of the key drivers specific to a plant. Chesterton's depth of experience allows us to deliver results such as:

- Increased equipment reliability
- Reduced water consumption
- Reduced environmental emissions
- Increased energy efficiency

Mechanical Seals Application Guide

Please contact your local Chesterton Representative to help you select the best product for your application.

Family	Model	Equipment Types	Fit			Duty						
			ISO-3069-S	ISO-3069-C	EN-12756	Light Duty	Large Equipment	Solids	Crystallising Media	Emissions Control	Corrosive Media	High-Temperature
Split Seals Why disassemble the equipment? Chesterton's split mechanical seals offer a reliable sealing solution by reducing maintenance costs for larger equipment that is difficult and time-consuming to disassemble.	442C	Pumps	✓			√+	√++	√+*	✓		✓	✓
		Agitators										
		Mixers										
	442M	Agitators Mixers					√++	√+*	✓		✓	
	442PR	Boiler Feed Pumps	✓				√++	✓			✓	√+
Cassette Seals All the wearing parts are contained in a single, replaceable cassette unit. Single and doublel cassettes share a common universal gland. Repair becomes a matter of exchanging cassettes, making it faster and easier while significantly reducing costs associated with repair.	S10	Pumps	✓	✓		√+	✓	✓	√+	√+	√++	✓
	S20	Pumps	✓	✓			✓	√+	√+	√++	√+	√++
Cartridge Seals Cartridge Seals have been designed to be rugged performers in sealing applications across industry segments. They are proven performers for plant-wide standardization by providing maximum reliability.	150	Pumps	✓	✓		√++	✓	✓	✓		✓	
	250	Pumps	✓	✓			✓	✓	√+	✓	✓	
	170	Pumps		✓			√+	√++	√+		√+	
	1810	Pumps	✓	✓		✓	√+	√+	√++	√+	√+	✓
	2810	Pumps	✓	✓			√+	√+	√++	√++	√++	
	2810M	Agitators Mixers					√++	√+*	✓		✓	√++
Gas Seals Chesterton gas seal technology overcomes performance limitations common to double liquid cartridge seals. Reach your plant reliability goals with the addition of simple gas seal technology.	4400	Pumps		✓				√+	✓	√++	√+	√++
Component Seals Fits all DIN, ISO, ANSI, and other popular pumps, no shaft sleeve wear, self-aligning, stationary compatible. All wearing parts, seal faces, O-Rings, screws, and springs are replaceable at low cost.	491DINS 491DINL	Pumps	✓		✓	√+	✓	√+	√+			
		Agitators										

**Solids handling capability enhanced by use of SpiralTrac split environmental controller*

√++ = Best Choice √+ = Better Choice ✓ = Good Choice

1810 & 2810

Heavy-Duty Modular Cartridge Seals

Built on Chesterton's AXIUS™ modular platform customizable to meet plant-wide applications

AXIUS™
Chesterton® Modular Platform

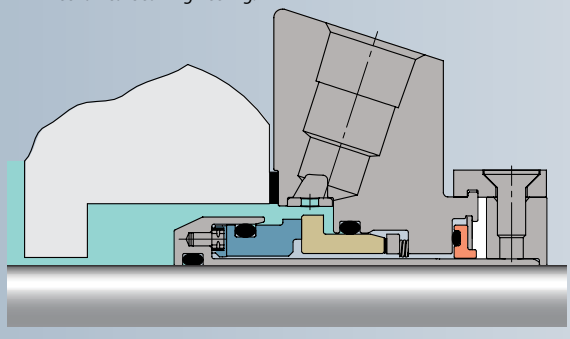
- Simplifies configuration and maximizes seal performance
- Upgradable with Chesterton Connect, for monitoring seal's operating conditions such as pressure, temperature, and vibrations
- Increases face life and reduces contact stress with cushioned drive pins
- Allows for easy, positive seal identification with ViewIn™ RFID

AXIUS CHESTERTON — GET IT ON Google play — Download on the App Store

The 1810 and 2810 seals offer many user-scalable features, including different faces profiles and a range of auxiliary components, which allows performance to be tailored to the plant-wide range of process conditions.

Operating Conditions		Materials	
Sizes	25 mm – 200 mm (1" – 8.00")	**Faces**	Rotary: CB, SSC, TC Stationary: SSC, TC
Pressure	711 mm (28") Hg Vacuum 1810: 40 bar g (600 psig)* 2810: 40 bar g (600 psig)* inboard, and to 17 bar g (247 psig) outboard	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F) Temperature limits depend on actual elastomers	**Metals**	316 Stainless Steel (EN 1.4401) 2205 – Duplex (EN 1.4462) 2507 – Super-Duplex (EN 1.4410) Alloy C-276 (EN 2.4819)
Speed	25 m/s (5000 fpm)	**Springs**	Alloy C-276 (EN 2.4819)

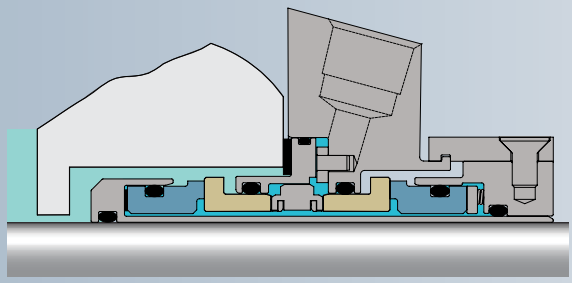
* Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations. *For operation outside the limits and additional materials consult Chesterton Mechanical Seal Engineering.*



ViewIn™ Chesterton® Technology

RFID

1810 Single



RFID

2810 Double

Characteristics of Good Mechanical Seal Design — 5 — FIVE STAR

5 Key Seal Design Features

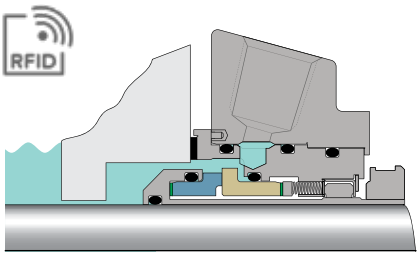
- ✔ *Balanced Design*
- ✔ *Non-Fretting*
- ✔ *Monolithic Seal Faces*
- ✔ *Protected Springs*
- ✔ *Stationary Design (1810)/ Unified Seal Alignment (2810)*

CASSETTE SEALS

S10

High Performance Single Cassette Seal

A unique, modular cassette that combines advanced seal technology with flexibility in maintenance and repair.



Operating Conditions		Materials	
Sizes	25 mm – 120 mm (1" – 4.75")	**Faces**	CB, SSC, TC
Pressure	711 mm (28") Hg Vacuum – 31 bar g (450 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	25 m/s (5 000 fpm)	**Springs**	2.4819 (Alloy C-276)

Fits ISO-3069, ASME B73.1, B73.2

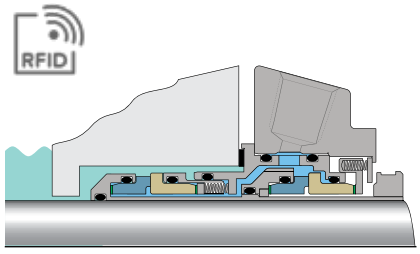
- High performance sealing
- One optimized sealing concept for plant-wide standardization
- Easy to maintain
- Allows for easy, positive seal identification with ViewIn™ RFID

ViewIn™ Chesterton® Technology

S20

High Performance Double Cassette Seal

A unique, modular cassette that combines advanced seal technology with flexibility in maintenance and repair.



Operating Conditions		Materials	
Sizes	25 mm – 120 mm (1" to 4.75")	**Faces**	CB, SSC, TC
Pressure	711 mm (28") Hg Vacuum – 31 bar g (450 psig) 17 bar g (250 psig) inboard differential	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	25 m/s (5 000 fpm)	**Springs**	2.4819 (Alloy C-276)

Fits ISO-3069, ASME B73.1, B73.2

- Advanced sealing performance
- One optimized sealing concept for plant-wide standardization
- Easy to maintain
- Allows for easy, positive seal identification with ViewIn™ RFID

ViewIn™ Chesterton® Technology

RFID Technology: More details in our ViewIn video: chesterton.com

Standards and approvals available on page 91.

442C™

Cartridge Split Mechanical Seal

Innovation on the inside!

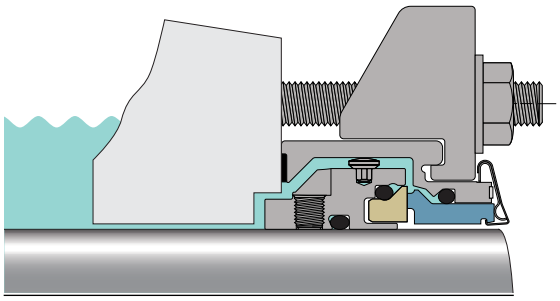
The 442C™ Cartridge Split Mechanical Seal is the latest innovation in split seal technology combining superior performance with the ease of installation of a cartridge split seal.

Operating Conditions		Materials	
Sizes	25 mm – 195 mm (1.000" – 7.750")	**Faces**	CB, CR, RSC
Pressure	711 mm (28") Hg Vacuum – 30 bar g (450 psi) from 125 mm (4.875") 14 bar g (200 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature Limit	120°C (250°F)	**Metals**	1.4401 (316SS)
Speed	up to 20 m/s (4 000 fpm)	**Springs**	Elgiloy®

Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations.

442 versions are available for large diameters up to 600 mm.

- Simplified split seal installation—without equipment disassembly
- Innovative design with superior performance
- Fits majority of rotating equipment
- Easy field repair



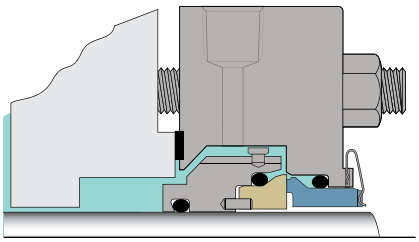
More details in our 442C™ video: chesterton.com

Standards and approvals available on page 91.

442PR

Split Pumping Ring Seal

The high-capacity pumping ring provides for maximum heat removal and reliability in hot water services such as heater drain.



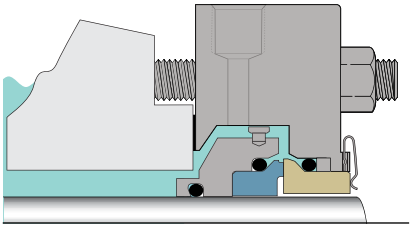
Operating Conditions		Materials	
Sizes	32 mm – 195 mm (1.25" – 7.75")	**Faces**	CB, RSC
Pressure	711 mm (28") Hg Vacuum – 30 bar g (450 psi)	**Elastomers**	FKM, EPDM, FEPM
Temperature Limit	120°C (250°F)	**Metals**	1.4401 (316SS)
Speed	20 m/s (4 000 fpm)	**Springs**	Elgiloy®

- Advanced technology that is easy to install and to operate
- High-flow pumping device designed for API Plan 23
- Compact design for greater equipment fit

442M

Split Mixer Seal

The mixer version of the 442 split seal accommodates large radial shaft motion associated with mixers, agitators, reactors, and blenders.



Operating Conditions		Materials	
Sizes	38 mm – 190 mm (1.5" – 7.5")	**Faces**	CB, RSC
Pressure*	711 mm (28") Hg Vacuum – 15 bar g (225 psi)	**Elastomers**	FKM, EPDM, FEPM
Temperature	120°C (250°F)	**Metals**	1.4401 (316SS)
Speed	20 m/s (4 000 fpm)	**Springs**	Elgiloy®

Runout Motion Capabilities		
442M Size Range	Total Indicated Runout	Axial Movement
<60 mm (2.500")	2,3 mm (0.090")**	+/- 0,76 mm (0.030")
<190 mm (7.500")	3,8 mm (0.150")	+/- 1,52 mm (0.060")

ATEX Category I, group 2 approved

* Seal pressure capabilities are dependent on the fluid sealed, temperature, speed, and seal face combinations.

** See Radial Motion vs Pressure Capability curves in 442M Installation Instructions.

- Advanced technology that is easy to install and operate
- Innovative design with superior performance
- Uses many patented features allowing for easy and cost-effective field repair

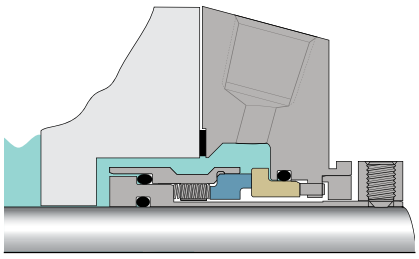
Standards and approvals available on page 91.

CARTRIDGE SEALS

150

General Purpose Cartridge Single Seal

Designed for baseline applications and for upgrading packed or component-sealed equipment—this seal is a value leader in its class.



Operating Conditions		Materials	
Sizes	25 mm – 120 mm (1" – 4.75")	**Faces**	CB, SSC,
Pressure	711 mm (28") Hg Vacuum – 20 bar g (300 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	20 m/s (4 000 fpm)	**Springs**	2.4819 (Alloy C-276)

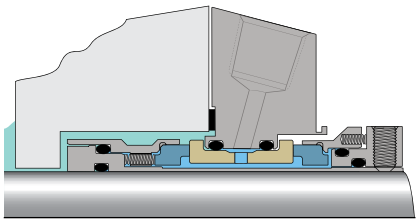
Fits ISO-3069, ASME B73.1, B73.2

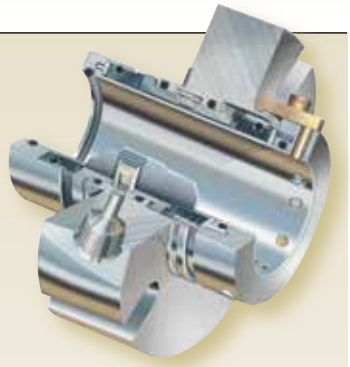
- Simple upgrade to reduce plant maintenance costs
- Reliable cartridge design that increases seal life

250

General Purpose Cartridge Double Seal

Designed for cost-effective upgrading from packing and underperforming single seals—this seal is a value leader in its class, further increasing plant reliability.





Operating Conditions		Materials	
Sizes	25 mm – 120 mm (1" – 4.75")	**Faces**	CB, SSC,
Pressure	711 mm (28") Hg Vacuum – 20 bar g (300 psig) 10 bar g (150 psig) inboard differential	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	20 m/s (4 000 fpm)	**Springs**	2.4819 (Alloy C-276)

Fits ISO-3069, ASME B73.1, B73.2

- Provides sealing security that conventional single seals cannot match
- Reliable cartridge design that increases seal life

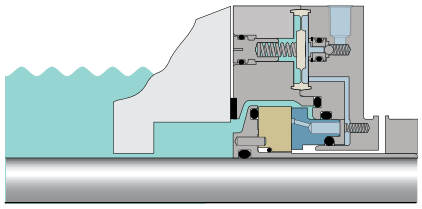
Standards and approvals available on page 91.

GAS SEALS

4400

Double Concentric Gas Seal

Advanced technology made simple in a gas seal design. The 4400 is a seal for all purposes and provides for an easy gas seal upgrade option. It is an ideal choice for upgrading underperforming, liquid lubricated seals to high performance, noncontacting operation.



Operating Conditions		Materials	
Sizes	25 mm – 90 mm (1.00" – 3.625")	**Faces**	CB, SSC
Pressure	711 mm (28") Hg Vacuum – 20 bar g (300 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	25 m/s (5 000 fpm)	**Springs**	2.4819 (Alloy C-276)

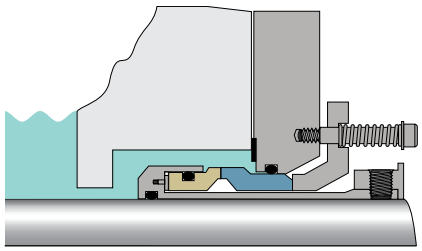
- Delivers low cost-of-ownership for a broad range of applications
- Advanced technology that is easy to install and operate
- Exclusive In-Gland Control System eliminates the need and expense of an external gas panel
- Eliminates atmospheric emissions

SLURRY SEALS

170 / 170 ISO / 170L

Slurry Cartridge Single Seal

Engineered to operate in harsh, heavy consistency slurry environments and to eliminate costly external seal flushes in the majority of applications. 170L version is designed to fit Warman® AH slurry pumps.



Operating Conditions		Materials	
Sizes	25 mm – 228 mm (1.00" – 9.00") 170 Version 40 mm – 110 mm (1.57" – 4.33") 170 ISO Version 50 mm – 220 mm (1.96" – 8.66") 170L Version	**Faces**	SSC, TC
Pressure	711 mm (28") Hg Vacuum – 17 bar g (246 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)*
Speed	11 m/s (2 200 fpm)	**Springs**	2.4819 (Alloy C-276)

*Duplex and Super Duplex stainless steel available as an option

- Runs longer in heavy, abrasive slurries without the need for flush or quench water
- Reliable design that deals with real-life slurry pumping conditions
- Easy to maintain

Standards and approvals available on page 91.

COMPONENT SEALS

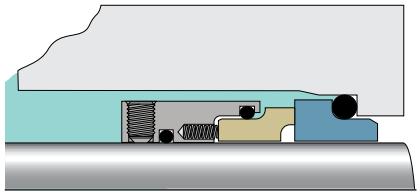
491 DINS / 491 DINL

DIN Component Seal

Designed for the replacement of low- technology component seals, resulting in increased overall reliability increase and maintenance efficiency.

491DINS: Non-slotted stationary face

491 DINL: Slotted stationary face



Operating Conditions		Materials	
Sizes	16 mm – 110 mm (0.625" – 4.375")	**Faces**	CB, SSC,
Pressure	711 mm (28") Hg Vacuum – 10 bar g (150 psig)	**Elastomers**	FKM, EPDM, FEPM, FFKM
Temperature	-55°C – 300°C (-67°F – 570°F)	**Metals**	1.4401 (316SS)
Speed	20 m/s (4 000 fpm)	**Springs**	2.4819 (Alloy C-276)

Fits EN12756, ISO-3069-S

- Reliable upgrade from original equipment seals
- Designed not to fret shaft or sleeves
- Fits EN12756 L1K with standard supplied DIN stationary

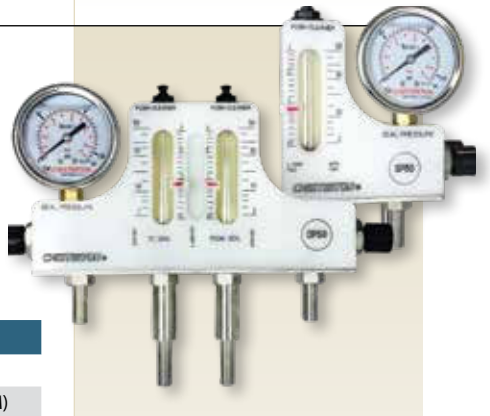
SEAL SUPPORT SYSTEMS

Flow Guardian™

Pressure and Flow Regulator

Specifically designed to supply uninterrupted, regulated seal flush water and deliver operational efficiency to the pump population.

Managing flow rates while regulating important pressure differentials is possible. Costly seal failures are reduced while assisting in-plant water conservation initiatives.



Operating Parameters		Materials of Construction	
Flow Rate	0,1 – 3 l/min/2 -50 US gph	**Flowmeter tube**	Polysulfone (PSU)
Pressure Limit	711 mm (28") Hg Vacuum – 10 bar g (145 psig)	**Body of unit**	Polyoxymethylene (POM)
Temperature Limit	100°C (212°F)	**O-Ring**	Fluorocarbon (FKM)
		Pressure gage	Oil-filled with 316SS Stainless Case and Wetted
		Pressure and flow rate regulating valve	316 Stainless Steel/EN 1.4401
		Clean out plugs	320 – 3/8" Tube Fittings (for Compression Connections) 316 Optional Barb Fittings
		Mounting bracket	316 Stainless Steel/EN 1.4401

- Provide regulated seal flush water
- Maintenance-free—automatic level and pressure management
- Plan 54DM (DP50)
- Plan 32 and 33S (SP50)

Standards and approvals available on page 91.

Intelli-Flow™ HT

Water Saver

Features a thermally activated valve that automatically drains hot barrier fluid (only when necessary) to keep dual seals running cool and reliably. Valve opening temperature preset to work with S20 Seals.

Operating Conditions	
Pressure	20 bar g (300 psig)
Temperature Limit	125°C (257°F)
Temperature set point	80°C (176°F) for HT version, 60°C (140°F) for T-30 version
Connections	1/4 NPT
Materials	1.4401 (316SS)

- Clean in place
- Maintenance-free
- Easy to install
- 95% water savings compared to open barrier fluid supply (API Plan 54)

WSS

Water Saving System for Double Seals

Easy to install, complete solution with minimal water consumption for reliable operation of double mechanical seals.

Designed to maintain water barrier pressure and levels without maintenance. Containing all the equipment required, the WSS is easy to install.

Technical Data		Components	
Tank Capacities	28 l – 25 l operating 12 l – 9 l operating	**Water line connection**	Rp 1/2" female
Operating Pressure	16 bar g (232 psig)	**Pressure gauge**	0 – 10 bar Brass (0 – 145 psig)
Tank Material	316 Ti/1.4571	**Pressure regulator**	0 – 10 bar Brass (0 – 145 psig)
Cooling Capacity	400W with 12 l tank / 1 kW with 28 l tank	**Flow indicator**	Stainless Steel
Auxiliary Connection	1 x R 1" and 1 x R 1/2"	**Drain valve**	R 1/2" - NiCr Plated Brass
		Hoses	Kit: 1 m and 1.5 m (39" and 59") Polyamide 12 mm (0.47") OD
		Seal Connections	Kit: 2 x NPT 1/2"S Straight Push-in – Connectors NiCr Plated Brass

PED (97/23/EC) - TÜV

- Preconfigured system and options
- Maintenance-free—automatic level and pressure management
- Minimize seal support water usage
- Plan 53P automated water support tank

Standards and approvals available on page 91.

BSS

Buffer Support System for Double Seals

Easy to install, complete, non-pressurized solution for reliable operation of double mechanical seals.

Complete solution for the environmental support of double mechanical seals where product contamination from support fluid cannot be tolerated.

Technical Data		Components	
Tank Capacities	28 l – 25 l operating 12 l – 9 l operating	**Fluid line connection**	Rp 1/2" female
Operating Pressure	16 bar g (232 psig)	**Pressure gauge**	0 – 10 bar Brass (0 – 145 psig)
Tank Material	316 Ti/1.4571	**Level Gauge**	Reflex Sight Glass
Cooling Capacity	400W with 12 l tank / 1kW with 28 l Tank	**Fill valve**	R 1/2" - NiCr Plated Brass
Auxiliary Connection	1 x R 2" and 1 x R 1/2"	**Drain valve**	R 1/2" - NiCr Plated Brass
		Hoses	Kit: 1 m and 1.5 m (39" and 59") Polyamide 12 mm (0.47") OD
		Seal Connections	Kit: 2 x NPT 1/2"S Straight Push-in – Connectors NiCr Plated Brass

PED (97/23/EC) - TÜV

- Runs longer in heavy abrasive slurries without the need for flush or quench water
- Reliable design that deals with real life slurry pumping conditions
- Easy to maintain

PSS

Pressurized Support System for Double Seals

Easy to install, complete, pressurized solution, for reliable operation of dual mechanical seals.

Complete solution for the support of double mechanical seals where product leakage cannot be tolerated.

Technical Data		Components	
Tank Capacities	28 l – 25 l operating 12 l - 9 l operating	**Fluid line connection**	Rp 1/2" female
Operating Pressure	16 bar g (232 psig)	**Pressure gauge**	0 – 10 bar Brass (0 – 145 psig)
Tank Material	316 Ti/1.4571	**Pressure regulator**	0 – 10 bar Brass (0 – 145 psig)
Cooling Capacity	400W with 12 l tank / 1kW with 28 l Tank	**Fill valve**	R 1/2" - NiCr Plated Brass
Auxiliary Connection	1 x R 2" and 1 x R 1/2"	**Drain valve**	R 1/2" - NiCr Plated Brass
		Hoses	Kit: 1 m and 1.5 m (39" and 59") Polyamide 12 mm (0.47") OD
		Seal Connections	Kit: 2 x NPT 1/2"S Straight Push-in – Connectors NiCr Plated Brass
		Level Gauge	Reflex Sight Glass

PED (97/23/EC) - TÜV

- Preconfigured system and options
- Maintenance-free—automatic level and pressure management
- Minimize seal support water usage
- Plan 53P automated water support tank

Standards and approvals available on page 91.

SpiralTrac®

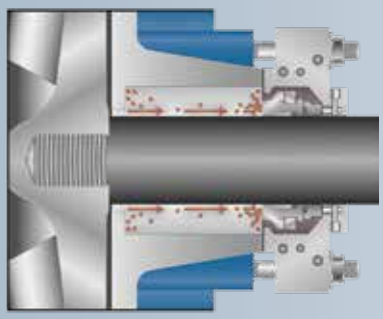
Environmental Controllers

When used with Chesterton mechanical seals, SpiralTrac Environmental Controllers greatly enhance seal reliability by effective removal of solids and improved cooling of the stuffing box.

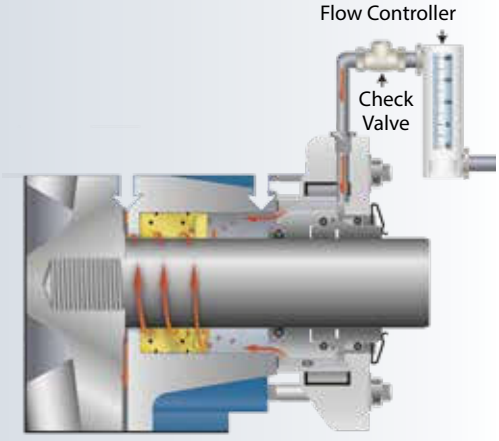
Versions	
F (Split)	Greatly reduced flush
N	Reduced/No flush in non fibrous fluids
D	Reduced/No flush in fibrous fluids
P (Split)	Packing version
C	With drain for crystallising media

Available Materials
1.4401 (316SS)
416 SS
PTFE – Glass-Filled
PTFE – Carbon Graphite-Filled
Bronze
Ti/EN 3.7035
AWC800 – Red Polymer
Monel® K400 / EN 2.4360

- Extends seal reliability in most rotating equipment applications
- Reduces cost of flushing in abrasive applications
- Fits all rotating equipment

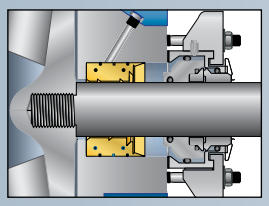


1. **Air**
   Vented from cavity when pump is stationary (eliminates crystallisation, coking, and overheating due to air)
2. **Circulation**
   Driven around seal (excellent face cooling)
3. **Exchange**
   In and out of cavity (heat removed from cavity)
4. **Particulate**
   Immediately removed from cavity through the exit groove, flush or no flush

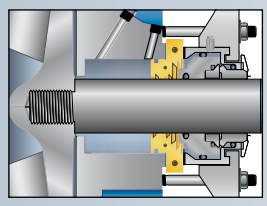


Configurations Available

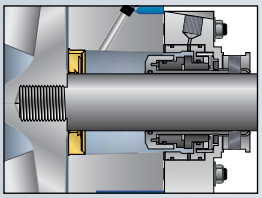
Split



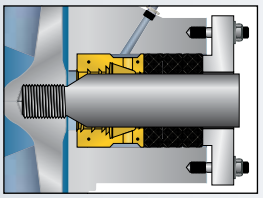
Adapter



Standard



Packing



MEET ENVIRONMENTAL AND BUSINESS GOALS

Chesterton mechanical packing and gaskets enable our customers to meet their goals by offering the right product fit for every application on static equipment.

Value and Performance Programs

There are many different applications in a process plant and across industries. Critical applications need a top-quality performance packing, while a standard packing might be fully adequate for less demanding applications.

- High quality performance packing
- Standard packing range
- Solutions for every plant and industry
- Total cost focus

Reliability and Environmental Protection

Live loading for flanges and valves increases reliability and performance while reducing emissions and leakage by adjusting for system issues that affect packing performance.

Application-Specific Solutions

For some applications a plant-wide packing just won't do and some applications have requirements that need a unique solution. Chesterton has developed distinct products that allow the best performance for specific pieces of equipment and particular service conditions in a variety of industries. Examples are:

- Sootblower solutions for the power industries
- Solutions for solvent dewaxing units in the oil refining industry

Pump and Valve Packing and Gaskets Application Guide

Please contact your local Chesterton representative to help you select the best product for your application.

		Media				Duty			Key Benefit			Equipment						
Family	Product	Water	Steam	Chemicals	Food and Beverage	High-Temperatures	High-Pressures	High-Speeds	Reliability	Economy Solution	Emissions	Control Valves	Block Valves	Motor Operated Valves	Pipe Flanges	Heat Exchangers	Housings	Rotating Equipment
Flange Sealing	455EU	√++	√	√+		√+	√+		√+	√++	√+				√++		√++	
	553	√++	√+	√+		√+	√+		√++	√+	√++				√++		√++	
	Duragraf F	√++	√++	√++		√++	√+		√+	√++	√+				√++		√++	
	Duragraf T	√++	√++	√++		√++	√+		√+	√++	√+				√++	√+	√++	
	459	√++	√++	√++		√++	√++		√+	√+	√+				√+	√+	√++	
	ECS-T	√++	√+	√++		√+	√+		√++		√++				√++		√++	
	Camprofile Gasket KG1/KR	√++	√++	√++		√++	√++		√++		√++				√++	√++	√++	
	Flange Live Loading		√++	√++		√++	√++		√++		√++				√++	√++	√++	
Pump Packing	1730	√++		√+		√+	√++	√	√++	√+								√++
	1760	√++		√++		√+	√++	√++	√++	√+								√++
	1765	√++		√++		√+	√+	√+	√++	√+								√++
	1830	√++		√++		√+	√+	√++	√+	√++								√++
	1830-SSP	√++		√++		√+	√+	√++	√+	√+								√++
	1935	√++		√+	√++	√			√+	√+								√++
	1400R	√++	√+	√++		√++	√+	√++	√++	√+	√+							√++
	DualPac 2211	√++		√		√+	√+	√+	√+	√++								√++
	DualPac 2212	√++		√	√++		√+	√++	√+	√++								√++
	CMS 2000 White	√++		√+						√++								√++
	CMS 2000 Food Grade	√++		√++	√++					√++								√++
Valve Packing	1600	√++	√++	√++		√++	√++		√++		√+		√++					
	1622		√+	√++		√++	√++		√++		√++		√++					
	1724	√++		√++			√+		√++		√++	√++	√++	√+				
	1724 low E			√++		√+	√+		√++		√++	√++						
	5800	√++	√++	√++		√++	√+		√++			√++						
	5800E	√++	√+	√++		√++	√+		√++		√+	√++						
	5800T	√++	√+	√++		√+	✓		√++		√+	√++						
	5300 Valve Live Loading	√++	√++	√++		√++	√++		√++		√+	√+	√++	√++				

√++ = Best Choice √+ = Better Choice ✓ = Good Choice

DUALPAC® PACKING

Longer Packing Life, Reduced Maintenance

DualPac® 2211 Packing

Severe Slurry Packing

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

Operating Conditions		Materials
Sizes	6,4 mm – 25 mm (1/4" – 1")	Graphited ePTFE
Pressure Limit	20 bar g (300 psig)	
Temperature Limit	Max 260°C (500°F)	
pH	3 – 11	
Speed	10 m/s (2 000 fpm)	
Applications	For use in ore slurries, mineral handling, dewatering tailing pumps, and other slurry processing applications	

- Achieves significantly longer packing life using patented DualPac packing technology
- Multiple configurations to eliminate the need for end rings
- Exclusive design using DualPac packing technology

DualPac® 2212 Packing

High-Performance, Non-Staining, Multi-Purpose Packing

Chesterton DualPac 2212 packing is created using our patented DualPac technology which combines a burn-resistant material on the packing's shaft side with a highly resilient outer fibre.

Operating Conditions		Materials
Sizes	6.4 mm – 25 mm (1/4" – 1")	Meta and para-aramid fibres
Pressure Limit	35 bar g (500 psig)	
Temperature Limit	Max 260°C (500°F)	
pH	3 – 11	
Speed	10 m/s (2 000 fpm)	
Applications	Water pumps, paper stock pumps, slurries, agitators, mixers	

- Glaze-resistant packing fibres
- High-pressure capability
- Exclusive design using non-staining DualPac packing technology

Standards and approvals available on page 91.

DUALPAC® TECHNOLOGY

DualPac® Technology

A New Level of Packing Reliability

Chesterton's new DualPac technology combines the best qualities and benefits of two different fibres to create an entirely new level of packing reliability. Individually these fibres have unique properties, but together they offer advanced levels of performance.

- Multiple configurations to eliminate the need for end rings
- Exclusive design using the patented DualPac technology
- Innovative braided packing: try it and adopt it!

Reduced Leakage

Fewer Adjustments

Less Power

PUMP PACKING

1935

Food-Grade Compression Packing

Durable performance packing that is easy to install and will not score shafts.

Technical Data			
Materials	Virgin PTFE yarn, with lubricant that is food-compliant		
Applications	Pumps, valves, cookers, blenders, agitators, mixers		
Available Sizes	4,7 mm – 22,2 mm (3/16" – 7/8")		
Pressure Limit	14 bar g (200 psig) in rotating equipment 55 bar g (800 psig) in valves	**Temperature Limit**	230°C (450°F)
pH	0 – 14		

- Suitable for use in virtually all food media below 230°C
- Made with a virgin PTFE and white oil lubricant
- Independently certified EC 1935 compliant

1730

General Service Packing

Durable performance packing that is easy to install and will not score shafts.

Technical Data			
Materials	Thermoset fibres with lubricants and blocking agents		
Applications	Water pumps, paper stock pumps, slurries, agitators, mixers		
Available Sizes	6 mm – 25,4 mm (1/4" – 1")		
Pressure Limit	28 bar g (400 psig)	**Temperature Limit**	290°C (550°F)
Speed	10 m/s (2 000 fpm)	**pH**	1 – 13

See page 81 for available sizes.

- Easy and fast break-in
- Abrasion-resistant, while non-scoring
- Good chemical resistance
- Good temperature resistance

1760

Chemical Packing

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

Technical Data			
Materials	Graphite coated PTFE yarn with break-in lubricants		
Applications	Black liquor pumps, chemical pumps, agitators		
Available Sizes	3,2 mm – 25,4 mm (1/8" – 1")		
Pressure Limit	17 bar g (250 psig)	**Temperature Limit**	260°C (500°F)
Speed	18 m/s (3 600 fpm)	**pH**	0 – 14

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

Standards and approvals available on page 91.

1765

White Chemical Packing

Non-staining chemical packing, ideally suited for bleach pumps and other rotary applications.

Technical Data			
Materials	White expanded PTFE yarn with a special filler		
Applications	Bleach pumps, chemical pumps, agitators		
Available Sizes	6,4 mm – 25,4 mm (1/4" – 1")		
Pressure Limit	20 bar g (300 psig)	**Temperature Limit**	Min -40°C – 260°C (-40°F – 500°F)
Speed	10 m/s (2 000 fpm)	**pH**	0 – 14 except for Fluorine (F_2), ClF_3 and related compounds, and molten alkali metals

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

1830

Advanced Expanded Graphite PTFE Packing

Economical packing developed to meet strict specifications in pumps, agitators, mixers, and other rotating equipment.

Technical Data			
Materials	Expanded graphite PTFE filaments		
Applications	Wide range of applications	**Pressure Limit**	22 bar g (320 psig)
Available Sizes	4,8 mm – 25,4 mm (3/16" – 1")	**Temperature Limit**	260°C (500°F)
Speed	18 m/s (3 600 fpm)	**pH**	0 – 14 except for strong oxidizers in the 0 – 2 pH range

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

1400R

Carbon-Reinforced Graphite Packing

Combines the unique sealing properties of flexible graphite with the high strength of carbon fibre.

Technical Data			
Materials	Carbon fibre-reinforced flexible graphite packing		
Applications	Process pumps, boiler feed pumps, block valves, refiners, agitators, mixers		
Available Sizes	3,2 mm – 25,4 mm (1/8" – 1")		
Pressure Limit	14 bar g (200 psig) rotating applications 275 bar g (4 000 psig) valves	**Temperature Limit**	Min -40°C – 260°C (-40°F – 500°F) Max 650°C (1 200°F) steam Max 455°C (850°F) oxidizing atmosphere
Speed	20 m/s (4 000 fpm)	**pH**	0 – 14 except oleum, fuming nitric acid, and aqua regia

- Flushless packing
- High shaft speed capability
- Passive molybdate corrosion inhibitor
- For use in valves and pumps

Standards and approvals available on page 91.

1830-SSP

Slurry Packing

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

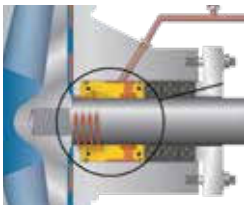
Technical Data			
Materials	Carbon-reinforced, expanded graphite PTFE		
Applications	Slurry pumps, mineral handling slurries, tailing pumps		
Available Sizes	9,5 mm – 25,4 mm (3/8" – 1")		
Pressure Limit	28 bar g (400 psig)	**Temperature Limit**	260°C (500°F)
Speed	18 m/s (3 600 fpm)	**pH**	0 – 14 except for strong oxidizers in the 0 – 2 pH range

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

SuperSet™

Enhanced Packing Sets

Chesterton performance packing sets, in combination with the patented SpiralTrac® Environmental Controller, reduce flush water consumption and increase equipment service life.



Versions	Applications
1730 SuperSet	General service in slurries and clean fluids
1400R SuperSet	Worn equipment, high-speed and high-temperature applications
1760 SuperSet	Highly aggressive chemical environments oxidizers in the 0–2 pH range

- Reduces flush water consumption
- Increases equipment MTBR
- Reduces shaft sleeve wear

PUMP, MIXER, AND AGITATOR PACKING

CMS 2000

Injectable Packing System

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

Technical Data	
Applications	Stock pumps, white water pumps, river water pumps, condensate pumps, water treatment pumps, and also rotating equipment applications in the food processing and handling industry
Pressure Limit	14 bar g (200 psig)
Temperature Limit	205°C (400°F)
pH	1 – 13 White not recommended for oxidizers, fluorine, chlorine trifluoride and related compounds, and molten alkali metals 0 – 14 FP

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

Standards and approvals available on page 91.

EMISSIONS CONTROL

1622™ Low E Valve Packing

Emission Control Packing for Block Valves

Chesterton 1622 Emissions Packing is designed to minimize valve emissions and exceeds current emissions requirements for the refinery, petrochemical, and chemical industries.

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

Technical Data		
Materials	Nickel alloy wire-reinforced flexible graphite packing with special blocking agents	
Available Sizes	3,2 mm – 17,5 mm (1/8" – 1")	
Pressure Limit	355 bar g (5 000 psig)	
Temperature Limit	Max 650°C (1 200°F) steam	Max 455°C (850°F) oxidizing atmosphere
pH	0 – 14 except in strong oxidizers	
Applications	Block valves with emission requirements in the refining, petrochemical, and chemical industries	

- Extremely low emissions
- Fire safe
- Single spool packing
- High-pressure capability

1724 Low E Control Valve System

Emission Control Sealing System for Control Valves

Chesterton 1724 Low E is specially designed for control valves that require a minimal level of fugitive emissions. Kits can be designed to upgrade existing control valves to Low E performance. Special pre-engineering kits are designed to fit Fisher®, Valtek®, and Masoneilan® Valves.

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

Technical Data	
Materials	Die-formed braided PTFE packing, split carbon spacer, cartridge live loading assemblies, new gland studs and nuts *(for special pre-engineering kits for Fisher®, Valtek,® and Masoneilan® valves only)*
Temperature Limit	205°C (400°F)
pH	0 – 14 except for molten alkali metals, elemental fluorine, and strong oxidizers
Applications	Control valves with emissions requirements in the refining, petrochemical, and chemical industry

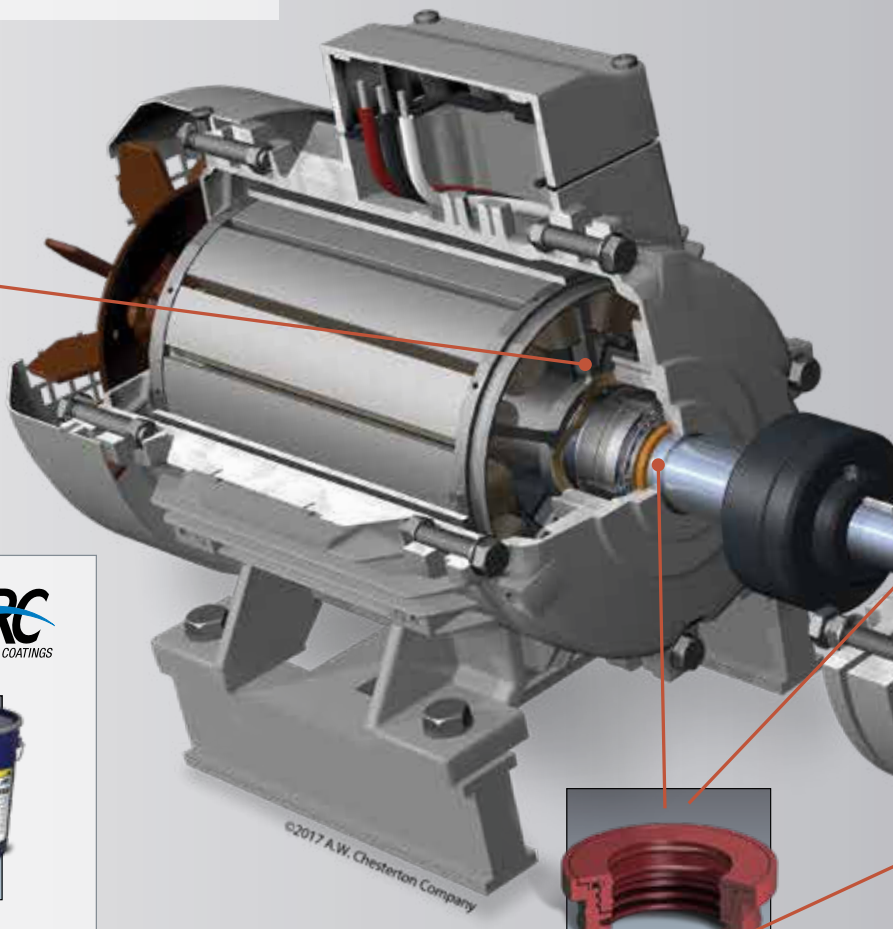
- Reduce emissions without valve replacement
- Visual torque inspection minimizes "hot" retorques, reducing safety risks
- Easy to install

Standards and approvals available on page 91.

Sealing Solutions for Rotating

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

Advanced Lubrication Technology
Chesterton's QBT™ technology: extends bearing life; resists wear, load, and corrosion.



Polymer Labyrinth Seal
Labyrinth seal for pumps, motors, and gearboxes

Other ARC Industrial Coatings Products

Machinable Composite
Rebuild and protect worn shafts

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

Other Maintenance and Repair Products

Cold Galvanizing Compound
Micronized particles of pure zinc protect against galvanic corrosion. Use on bolting, weld seams, and supports.

Anti-seize
Prevent rust and seizure bolts and prevent fretting and corrosion while securing bearings.

Thread Sealing
High performance PTFE tapes and paste.

Gasketing
Make any size gasket with Moldable Polymer Gasketing.

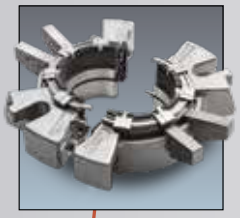
CHESTERTON
Global Solutions, Local Service.

Equipment

Bearing Protection
Protect the bearing housing with a high-performance bearing seal

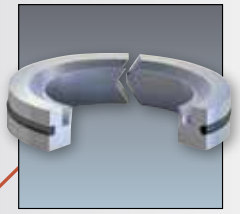
Equipment Monitoring
Track performance trends and get remote alerts

Split Seals
Superior performance with easy installation



Cartridge Seals
Upgrade seal performance with single or double cartridge seals

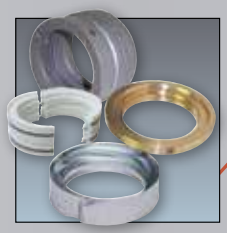
Pump Packing
Reduce maintenance costs and sleeve wear



Restriction Bushings
Protect the stuffing box and reduce the flush rate

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

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



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

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

LIVE LOADING

Flanges and Heat Exchangers

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

Technical Data	5500	5505L	5505H
Materials	Specialised stainless steel alloy	High-strength, high-temperature-resistant and corrosion-resistant stainless steel alloy	Chromium steel with oxide coating
Temperature	-200°C – 300°C (-328°F – 575°F)	-100°C – 350°C (-148°F – 662°F)	0°C – 600°C (32°F – 1100°F)
Corrosion Resistance	good	good	average
Applications	Use in combination with Chesterton Camprofile or Steel Trap™ gaskets on process flanges, heat exchangers, vessels, reactors, valve bonnets, housings, sight glasses		
Warranty	3-year warranty (see flange live loading warranty for conditions)		

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

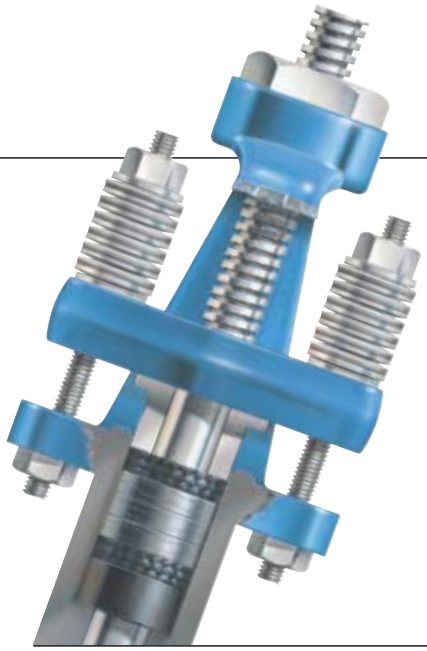
Chesterton Live Loading System

Chesterton Flange Live Loading increases flange reliability by increasing the elastic energy in the flange assembly. This ensures that a pre-calculated gasket stress is maintained at all times, regardless of pressure fluctuations, gasket thickness loss, or thermal cycles. Chesterton Flange Discs are specially designed for flange applications and maintain their flexibility under extreme mechanical and thermal conditions.

Standards and approvals available on page 91.

Valves

An engineered sealing system that maintains operability and improves reliability—from shutdown to shutdown—in compliance with environmental regulations.



Technical Data	
Materials	5300 die-formed graphite packing with style 1600 nickel alloy-reinforced braided graphite packing, carbon bushing, live loading spring sets.
Pressure Limit	317 bar g (4 600 psig)
Temperature Limit Maximum	2 760°C (5 000°F) in a non-oxidizing atmosphere
	430°C (800°F) in an oxidizing atmosphere
Minimum	-240°C (-400°F)
pH	0 – 14 with the exception of oleum, fuming nitric acid, aqua regia, fluorine, hydrochloric acid, and hydrofluoric acid
Applications	Block valves and air/motor-operated valves in the Power, Petrochemical, Oil Refining, Chemical, and other industries
Warranty	5-year warranty (see valve emissions warranty for conditions)

Chesterton 5300 and 1600 sealing solutions pass API 589 Fire Test

- Improves reliability in critical valves
- Compensates for system pressure upsets, vibrations, and thermal cycling
- Prevents leakage by gland force retention
- Extends MTBR
- Reduces maintenance costs
- Reduced stem friction ensures operability

Components

Other Versions

Chesterton 5800 Control Valve Live Loading Kits

5800 Graphite Wedge Packing reduces valve stem friction by 30% compared to square cross section, die-formed graphite.

Standards and approvals available on page 91.

VALVE PACKING

1600

Advanced Valve Stem Packing

Off-the-spool performance with emission guarantee.

Technical Data			
Materials	Nickel alloy wire-reinforced flexible graphite packing		
Applications	Block valves, as an end ring on control valves, motor-operated valves and sootblowers		
Available Sizes	3,2 mm – 25,4 mm (1/8" – 1")		
Pressure Limit	580 bar g (8 400 psig)	**Temperature Limit**	Max 650°C (1200°F) steam Max 455°C (850°F) oxidizing atmosphere
pH	0 – 14 except strong oxidizers		

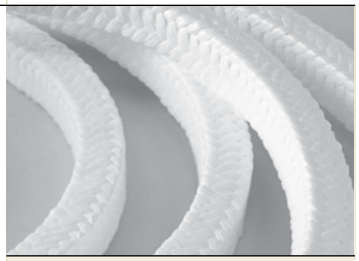
- Fire safe
- Excellent emission control
- High-pressure capability
- Guaranteed performance
- Easily cut to size on site

1724

PTFE Valve Packing

Excellent emission control and chemical resistance.

Technical Data			
Materials	PTFE yarn with protective lubricants		
Applications	Block valves, motor-operated valves, control valves		
Available Sizes	3,2 mm – 25,4 mm (1/8" – 1")		
Pressure Limit	210 bar g (3 000 psig)	**Temperature Limit**	260°C (500°F)
pH	0 – 14		



- Excellent chemical resistance
- Excellent emission control
- Remains flexible

5800/5800E/5800T

Graphite Wedge Packing

Patented control valve sealing solution designed to lower valve stem friction and improve sealability.

Technical Data			
Materials	Die-formed high-purity graphite		
Applications	Control valves		
Pressure Limit	210 bar g (3 000 psig) no end rings 310 bar g (4 500 psig) 1600 end ring	**Temperature Limit**	2 760°C (5000°F) non-oxidizing atmosphere 430°C (800°F) oxidizing atmosphere
pH	0 – 14		

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

Standards and approvals available on page 91.

SEMI METAL GASKETS

Camprofile

High Performance, Semimetallic Gasketing

Highly reliable flange gasket with excellent emission control.

Technical Data			
Materials	Stainless steel carrier with a graphite or PTFE sealing element (more materials available)		
Applications	Pipe flanges, heat exchangers, vessels, reactors, valve bonnets, housings		
Pressure Limit	400 bar g (5 800 psig)	**Temperature Limit**	graphite sealing layer 550°C (1 020°F) inert media -200°C – 900°C Max (-328°F – 1 650°F) PTFE sealing layer 300°C (572°F)
pH	0 – 14		

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

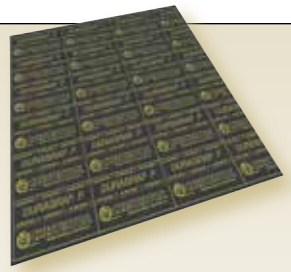
SHEET GASKETS

Duragraf F

Expanded Graphite Sheet

An easy-to-use, economical, general service graphite sheet with a flat, stainless steel insert.

Technical Data			
Materials	Flexible graphite with a 50 µm 316SS stainless steel flat insert		
Applications	Pipe flanges, vessels, reactors, valve bonnets, housings		
Available Thicknesses	1 mm, 1,5 mm, 2 mm, 3 mm		
Sheet Size	1 000 mm x 1 000 mm (39" x 39")		
Pressure Limit	100 bar g (1 450 psig)	**Temperature Limit**	500°C (932°F)



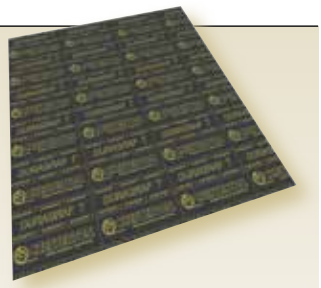
- Easy to cut by hand
- Excellent performance in steam and aggressive media
- Available as a pre-cut gasket in standard and custom sizes

Duragraf T

Expanded Graphite Sheet

Flexible graphite sheet with a100 µm 316SS stainless steel insert.

Technical Data			
Materials	Flexible graphite with a 50 µm 316SS stainless steel flat insert		
Applications	Pipe flanges, vessels, reactors, valve bonnets, housings		
Available Thicknesses	1 mm, 1,5 mm, 2 mm, 3 mm		
Sheet Size	1 500 mm x 1 500 mm (59" x 59")		
Pressure Limit	120 bar g (1 740 psig)	**Temperature Limit**	500°C (932°F)



- Available in nuclear grade
- Mechanically bonding assures purity
- Available as a pre-cut gasket in standard and custom sizes

Standards and approvals available on page 91.

459

Graphite Sheet with Nickel Reinforcement

Technical Data	
Materials	Flexible graphite with a 0,026 mm nickel flat insert
Applications	Pipe flanges, vessels, reactors, valve bonnets, housings
Available Thicknesses	1 mm, 1,6 mm (1/16"), 2 mm, 3,2 mm (1/8")
Sheet Size	1 000 x 1 000 mm (39" x 39")
Pressure Limit	140 bar (2 000 psi)
Temperature Limit	870°C (1 600°F) non-oxidizing, 454°C (850°F) oxidizing, minimal -200°C

- Easy to cut manually
- Excellent pressure capability
- High-temperature capability
- High chemical resistance

455EU

General Service Gasket Sheet

Multi-purpose gasket with excellent performance in low pressure steam and light chemicals.

Technical Data			
Materials	Aramid fibres, special fillers, and an NBR binder		
Applications	Liquids and gaseous media, drinking water applications, general applications in industry		
Available Thicknesses	0,5 mm, 1 mm, 1,5 mm, 2 mm, 3 mm		
Sheet Size	1 500 mm x 1 500 mm (59" x 59")		
Pressure Limit	85 bar g (1 230 psig)	**Temperature Limit**	250°C (482°F)

- Economical gasket for general process applications
- Works in steam and light chemical applications
- Available as a pre-cut gasket in standard and custom sizes

553

Environmental Gasket

Specifically designed to keep the environment free from hazardous substances by combining an ecological composition with excellent sealing properties.

Technical Data			
Materials	Aramid fibres, special fillers, and an NBR binder		
Applications	Oils, gases, chemicals, refrigerants, steam, water in all industries		
Available Thicknesses	0,5 mm, 1 mm, 1,5 mm, 2 mm, 3 mm		
Sheet Size	1 500 mm x 1 500 mm (59" x 59")		
Pressure Limit	120 bar g (1 740 psig))	**Temperature Limit**	450°C (842°F)

BS 7531 Grade X

- Works in steam, chemicals, and a variety of hydrocarbons
- Excellent general service refinery gasket
- High-temperature and high-pressure capability

Standards and approvals available on page 91.

ECS-T

PTFE Sheet Gasket

Filled PTFE sheet with excellent mechanical properties and outstanding chemical resistance.

Technical Data			
Materials	PTFE with fillers		
Applications	High-pressure and temperature services, especially in chemical and hydrocarbon plants in strong acids		
Available Thicknesses	1 mm, 1,5 mm, 2 mm, 3 mm		
Sheet Size	1 500 mm x 1 500 mm (59" x 59") except 1 mm thickness 1 200 mm x 1 200 mm (47" x 47")		
Pressure Limit	83 bar g (1 200 psig)	**Temperature Limit**	260°C (500°F)

Standards and approvals available on page 91.

- High chemical resistance
- Excellent in strong acids
- Available as a pre-cut gasket in standard and custom sizes

Ancillary Products

Bolted flange connections rely on accurate tensioning to assure leak tightness. Accurate tensioning is impossible on unlubricated bolts. Chesterton anti-seize products provide a consistent coefficient of friction between the bolt and nut threads therefore assuring no leakage and low fugitive emissions.

785(E) and 785 FG

High-performance, extreme-pressure, anti-seize compound.
Go to page 64.

783(E) ACR

Anti-seize with excellent corrosion protection for nuts and bolts and mechanical assemblies.
Go to page 64.

615 HTG

High performance grease for severe operating conditions.
Go to page 62.

185

Form-in-place spooled joint sealant.
100% virgin PTFE.
Go to chesterton.com

800 GoldEnd® Tape

Heavy-duty, high-density PTFE sealing tape.
Go to page 67.

860 MPG

Two-part, extrudable gasketing material allows for the creation of ultrathin gaskets.
Go to page 67.

DEDICATED TO INNOVATION AND RELIABILITY

Engineered Polymer Solutions

Chesterton's Polymer Seals group is a worldwide manufacturer and distributor of the highest performing polymer seals. We combine our technical expertise with state-of-the-art material technologies to provide industry-leading solutions.

- *Hydraulic and pneumatic seals*
- *Spring-energized seals*
- *Custom seals*
- *Service programs*
- *Rotary seals*

Materials and Innovation

We utilize the full range of state-of-the-art polymer technologies to support a wide range of industrial applications.

Designs and Expertise

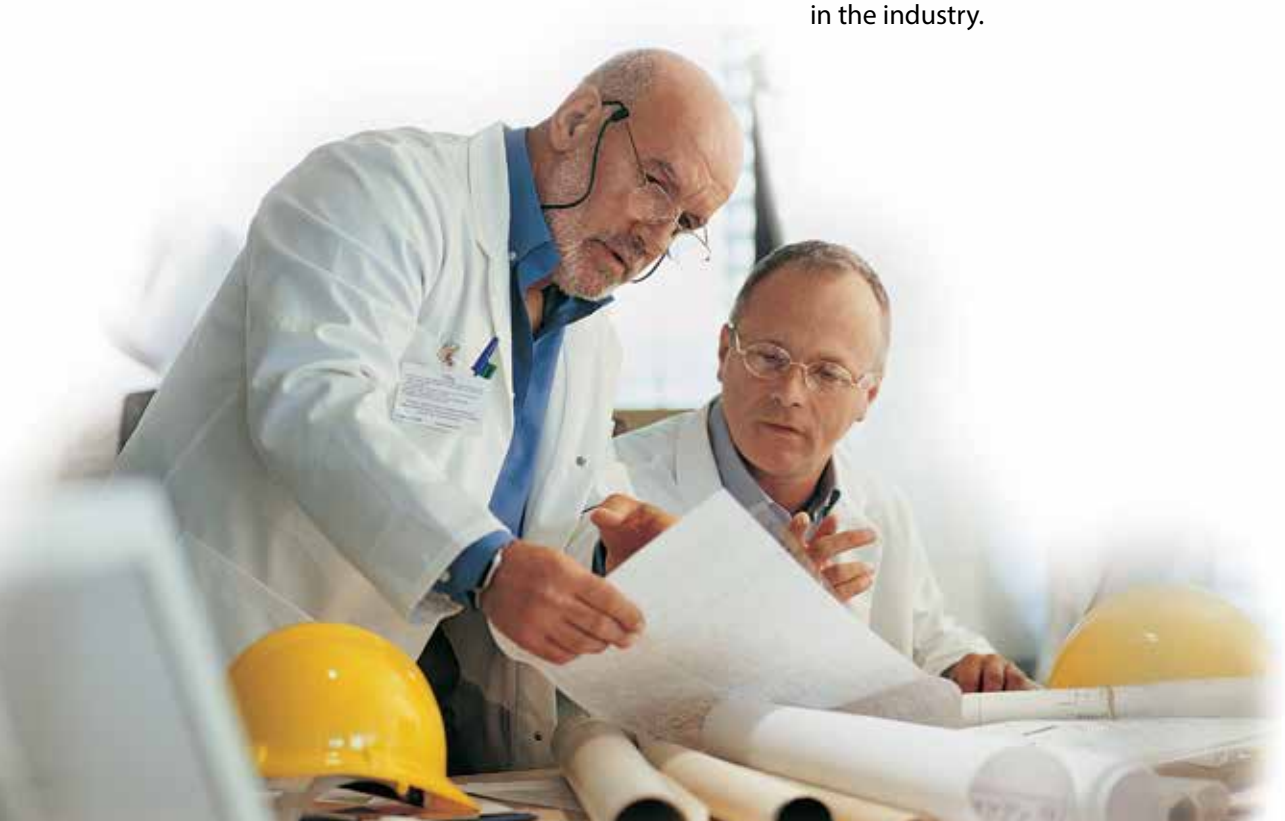
Our engineers draw on years of experience to design value-added products with a focus on continuously improving equipment performance.

SpeedSeal®

Chesterton offers regional service with fully integrated facilities that rely on advanced equipment, flexible tooling, and semi-finished materials. This allows us to provide you with a broad selection of product offerings—*with same-day delivery.*

Solutions and Service

Our distributors and specialists work closely with customers to provide the best service in the industry.



SpeedSeal® Service Centres

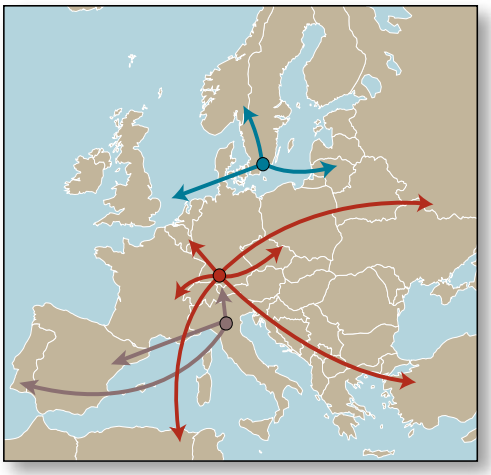
Fast and Flexible

Chesterton SpeedSeal offers same-day delivery from its Service Centre network for Europe and the Middle East.

Our fully-integrated facility utilises advanced equipment and a wide range of materials and designs to provide you with a broad selection of product offerings.

- Same-day delivery*
- Sizes available up to 1400 mm*
- Engineered solutions
- CAD hydraulic engineering
- Prototypes available
- Cylinder and equipment upgrade and repair

SpeedSeal Service Centres



- SpeedSeal Germany – Ismaning
- SpeedSeal Sweden – Karlshamn
- SpeedSeal Italy – Gallarate

**Conditions apply. Contact SpeedSeal for available service options.*

	Types	Speed	Product	Profile Series	Description	Attributes					Friction			Wear Resistance		
						Mould	*Mach.	Hyd.	Pne.	Split	Low	Mid	High	Low	Mid	High
Reciprocating Motion	Cap Seals (Rod and Piston)	to 15 m/s (3000 ft/min)	RCCS		Double acting, dual component seal		●	●	●		●				●	
			PCCS		Double acting, dual component seal		●	●	●		●				●	
	Wipers	to 1 m/s (200 ft/min)	WCCS		Cap seal wiper profile		●	●	●		●				●	
			W21K		Positive angled profile with flange		●	●	●	●	●					●
	Rod Seals, U-Cups		R22KN		Single acting, positive angled profile		●	●	●	●	●					●
			R22K		Single acting, radiused sealing surface for hydraulic applications		●	●				●			●	
			R23K		Single acting, radiused sealing surface for pneumatic applications		●		●		●				●	
	Rod Seals, Stacked Sets		R8K		Single acting, positive angled profile, multiple stacked set	●		●		●		●			●	
			R27K		Single acting, positive angled profile, multiple stacked set		●	●		●		●			●	
			R11K		Single acting, negative angled profile, dual stacked set	●	●	●		●		●			●	
			R28K		Single acting, positive angled profile, multiple stacked set		●	●		●		●			●	
			R28K1		Single acting, positive angled profile, multiple stacked set		●	●				●			●	
	Piston Seals, U-Cups		P22KN		Single acting, positive angled profile		●	●	●		●					●
			P22K		Single acting, radiused sealing surface for hydraulic applications		●	●				●				●
			P23K		Single acting, radiused sealing surface for pnuematic applications		●		●		●					●
	Piston Seals, Stacked Sets		P8K		Single acting, positive angled profile, multiple stacked set	●		●		●		●			●	
			P27K		Single acting, positive angled profile, multiple stacked set		●	●		●		●			●	
			P28K		Single acting, positive angled profile, multiple stacked set		●	●		●		●			●	
			P28K1		Single acting, positive angled profile, multiple stacked set		●	●				●			●	
	Replaceable Bearings		16K, 17K, 18K, 19K		Metric and imperial English size bearing band and strips	●		●	●	●	●					●
			WR		Machined to size bearing bands		●	●	●	●	●				●	
	Anti-Extrusion Rings		9K		Backup rings or anti-extrusion rings		●	●	●	●	●				●	
	Compression Seals (Rod and Piston)	to 0.75 m/s (150 ft/min)	R20K		Double acting, negative angled profile, low speed hydraulic applications		●	●					●			●
			P20K		Double acting, negative angled profile, low speed hydraulic applications		●	●					●			●
Static	Valve Seals		M20K-OR		Static seal for O-Ring upgrades in hydraulic valves		●	●			●			●		

Ratings on this chart are for reference only. Values may be higher or lower depending upon the application details such as surface finish, hardness, lubrication, and concentricity. Jacket/Spring combinations will also affect these values.
*Machined product does not require tooling.

** Please contact your Chesterton representative for larger sizes*

	Types	Speed	Product	Profile Series	Description	Attributes					Friction			Wear Resistance		
						Mould	*Mach.	Bearing Protect.	Stuffing Box	Split	Low	Mid	High	Low	Mid	High
Rotary Motion	Continuous Rotary Lip Seals	to 20 m/s (4000 ft/min)	30K		Single acting, low pressure seal for bearing & gearbox protection		●	●	●		●					●
	Split Rotary Lip Seals	to 12.5 m/s (2500 ft/min)	33K		Single acting, non-pressure split seal for bearing & gearbox protection		●	●		●	●					●
	Wipers	to 0.5 m/s (100 ft/min)	W21K		Positive angled profile with flange, slow rotary		●	●	●	●		●			●	
	Rod & Piston Seals		R22KN, P22KN		Single acting, positive angled profile, slow rotary		●	●	●	●		●			●	
	Rotary Face Seal	20 m/s (3937 ft/min)	50K		Face seal for dynamic rotary applications	●		●			●				●	
	Rotary Lip Seals	25 m/s (4921 ft/min)	51K		Single acting with helical garter spring, fabric reinforced back	●		●		●		●			●	
	Rotary Lip Seals		52K		Single acting with helical garter spring, metallic stiffener ring	●		●				●			●	
	Rotary Lip Seals	35 m/s (6889 ft/min)	53K		Single acting with garter/finger spring, metallic outer case	●		●			●				●	
	Cartridge Seals	5 m/s (984 ft/min)	30KC		Polymer cartridge with inboard, outboard sealing elements and built-in flushing port		●		●		●					●
	Restriction Bushings	–	14K		Split, single acting with tapered lip		●		●	●	●					●
	Rotary Shaft Seal	15 m/s 3000 ft/min	Matrix Seal		Non-pressure split seal for bearing and gearbox protection, for worn shafts and runout conditions		●	●		●	●				●	

Ratings on this chart are for reference only. Values may be higher or lower depending upon the application details such as surface finish, hardness, lubrication, and concentricity. Jacket/Spring combinations will also affect these values.
*Machined product does not require tooling.

** Please contact your Chesterton representative for larger sizes*

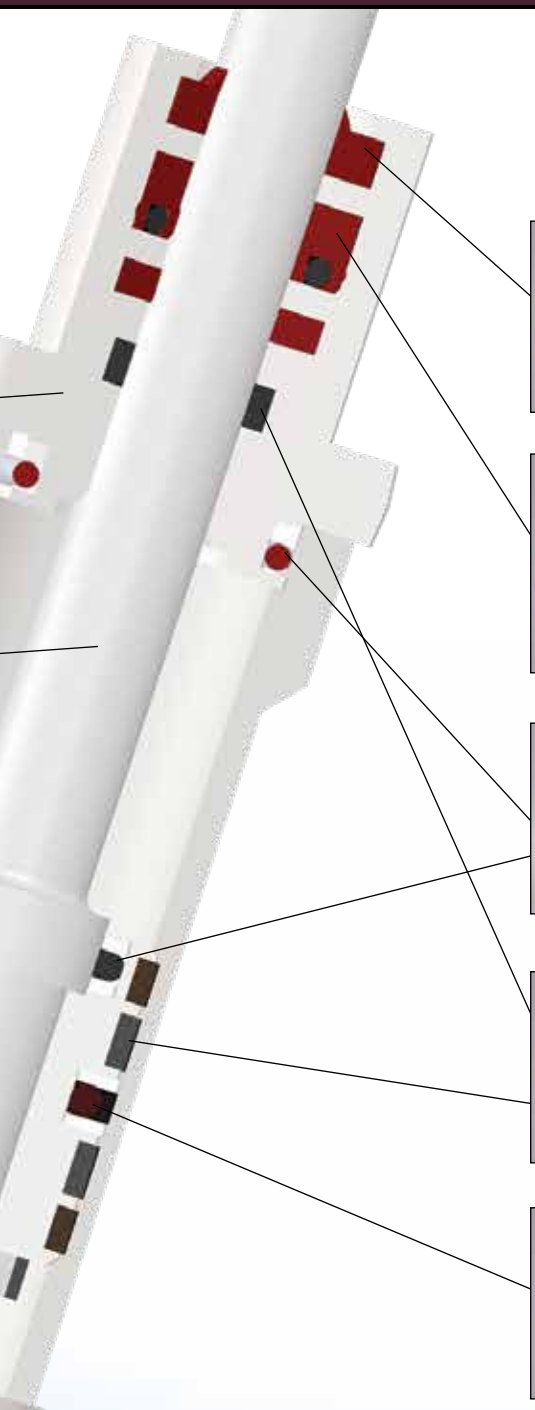
Sealing Technology

Fluid Power Sealing Technology

Cylinder Upgrade—Solutions Approach

The Chesterton cylinder upgrade program applies a systematic solutions approach for improving seal performance during the repair and overhaul of equipment. Working in partnership with you, we offer a unique approach to total cylinder refitting that saves money and delivers a better, more reliable cylinder back to your plant.

- Minimize downtime and maintenance costs
- Improve equipment reliability
- Extend leak-free service life
- Reduce hydraulic fluid consumption and support fluid management efforts



Wiper

The function of a wiper is to effectively clean and to dislodge foreign matter from a reciprocating rod/ram to prevent contaminants from entering the system.

Rod Seal

The function of a rod seal is to act as a pressure barrier and prevent fluid bypass along the dynamic (rod/ram) surface and the static (stuffing box bore) surface under various operating conditions. It regulates the fluid film during extension of the cylinder rod.

Static Seal

These seals are continuous compression seals designed for use in static applications and are often applied as an upgrade from conventional face seals or O-Ring designs.

Bearing Band

These split, replaceable bearings prevent metal-to-metal contact of moving parts and help prolong equipment and seal life. These bearings reduce radial movement, therefore extending seal life and reducing the risk of reoccurring damage.

Piston Seal

The function of a piston seal is to prevent fluid bypass between the piston head and the cylinder bore under various operating conditions and to act as a pressure barrier. It helps to maintain system efficiency and plays an important role in controlling the cylinder motion and maintaining position.

POLYMER MATERIALS

Chesterton's exclusive thermoset polyurethanes (EU) are the most advanced seal materials that provide superior performance in hydraulic, pneumatic, and rotary equipment. This state-of-the-art polymer technology has been field-tested and proven in the most demanding applications around the world.

AWC800

Red Polymer

AWC800, the base of Chesterton's polymer seal program, is available in the majority of profiles.

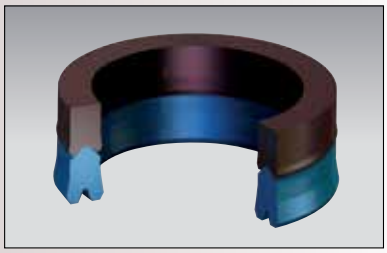
Operating Conditions	
Temperature	50°C – 85°C (-60°F – 185°F)
Pressure	Maximum 103,5 MPa (15 000 psig)
Fluid Compatibility	Mineral oil-based fluids, HFA-E, HFB (ISO 6743-4)
Surface Speed (continuous)	Reciprocating 1,0 m/s (200 ft/min), rotating 0,5 m/s (100 ft/min)
Coefficient of Friction	Dry running 0,18 – 0,22
Shelf Life	>25 years

AWC800 is an EU polyether PU class material

- High sealing performance and leak-free operation
- Excellent wear- and abrasion-resistance for hostile environments
- Long elastic memory enables a longer service life
- Plant-wide usage

AWC800 is available for moulded seals

AWC800 semi-finished tubes are in stock at all Chesterton SpeedSeal centres for rapid delivery of machined seals.



AWC800 and AWC805 Fusion Program for flexible and fast delivery of extra large sized seals.

Standards and approvals available on page 92.

AWC808

Standard Polymer Material

Chesterton's AWC808 is a thermoplastic polyester polyurethane (AU) material designed to provide optimum sealing durability for light- and medium-duty fluid power equipment and industry-standard hydraulic pneumatic cylinders.

AWC825

Low Durometer Machinable Seal Material

AWC825 is a differentiated, machinable thermoset material specifically designed to improve seal performance associated with worn, scored, aged, or pitted heavy-duty industrial cylinders and presses.

AWC860

Cherry Polymer

Thanks to its mechanical properties, the AWC860 is best suited for highly demanding, heavy-duty applications where it helps extend equipment's mean time between repairs (MTBR).

Operating Conditions

	AWC808 Standard Polymer Material	AWC825 Dark Blue Polymer	AWC860 Cherry Polymer
Description and benefits	• Excellent chemical compatibility • Hydrolysis resistance • Cost-effective solution for light- and medium-duty applications	• Highly elastic • Extends efficient operation in slightly worn equipment • Superior wear, tear, and abrasion resistance • Long-term elastic memory	• Suitable for higher temperatures • Robust polymer structure • Longer service life due to excellent abrasion resistance • Very low friction
Typical use	• Industry standard fluid power equipment • Light and medium-duty hydraulic and pneumatic cylinders • Hydraulic and mechanical presses	• Mining equipment • Dusty environments • Steel Industry • Hydraulic and mechanical presses	• Mining equipment • Forging machines • Steel industry • Heavy-duty applications
Temperature	-20°C – 85°C (-4 °F – 185°F)	-40°C – 85°C (-40°F – 185°F)	-50°C – 120°C (-60°F – 250°F)
Pressure	Max 40 MPa (5 800 psi)	Max 52 MPa (7 200 psi)	Max 103,5 MPa (15 000 psi)
Fluid compatibility	Mineral oil-based fluids, HF, HFL, HFA, HFB, HFD-U, HTEG, HEES, hydraulic fluids (ISO 6743-4)	HF, HFL, HFA, HFB	Mineral oil-based fluids, HF, HFL, HFA, HFB (ISO 6743-4)
Coefficient of friction	Not available	Not available	0,18 – 0,22 dry running
Elongation at break	350%	230%	540%

For additional information about product compatibility please visit ***chestertonfluidpower.com.***

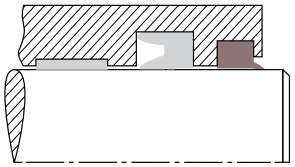
Standards and approvals available on page 92.

WIPER SEALS

W21K / CW21K

Wipers for Hydraulic and Pneumatic Applications

High performance protection of hydraulic and pneumatic actuators/systems.



- Positive rake lip design effectively wipes contaminants away from surface
- Prevents scoring and system contamination
- Abrasion-resistant design withstands demanding environments
- Prolongs lifetime of equipment and components

SPECIFICATIONS

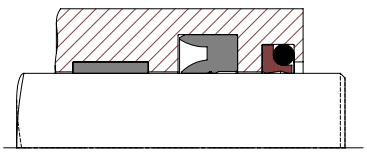
Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	1,25 (250)

PRODUCT PROFILES:

WCCS

Double Acting Wiper Seals

High performance, dual component system for bidirectional sealing in hydraulic and pneumatic applications.



- Second generation PTFE and high performance polymers offer improved operation
- Compression seal design increases sealing force with system pressure
- Dramatically reduces friction and eliminates "Stick-Slip" effect
- Excellent chemical- and heat-resistant characteristics

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Speed m/s (ft/min)
**AWC800 (EU)	6 – 1320 (1/4 – 52)	-50 – 85 (-60 – 185)	1 (200)
**AWC808 (AU)	6 – 400 (1/4 – 15.75)	-20 – 85 (-4 – 185)	0.5 (100)
**AWC860 (EU)	6 – 508.0 (1/4 – 20)	-50 – 120 (-60 – 250)	1.25 (250)
***AWC300 (Glass-Filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	15 (3000)
***AWC400 (Carbon-Filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	15 (3000)
***AWC500 (Bronze-Filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	15 (3000)

PRODUCT PROFILES:

WCCS

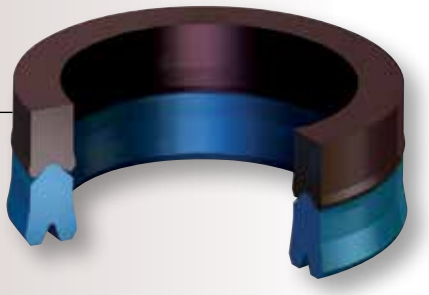
** Please contact your Chesterton representative for larger sizes.*
***Buna energizer*
****FKM energizer*

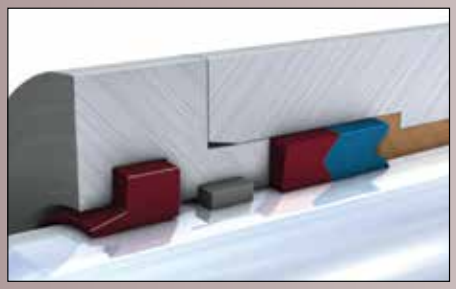
Standards and approvals available on page 92.

R11K

Split, Dual Component Hydraulic Rod Seal

Adaptive solution for heavy-duty hydraulic cylinders. Eliminates the equipment disassembly during seal installation, wand provides sealing on worn, scored surfaces.





- Replaces the stacked set assembly
- Split design eliminates the need to disassemble equipment
- One optimized seal concept for different press applications
- Dual material combination works in both new and worn equipment
- Design eliminates shimming and future adjustments
- Fusion Program

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 152 (1/4 – 12)	-30 – 200 (-20 – 400)	34,5 (5 000)	1,5 (300)
AWC800 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC805 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	0,5 (100)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-40 – 85 (-40 – 185)	51,7 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	52,0 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

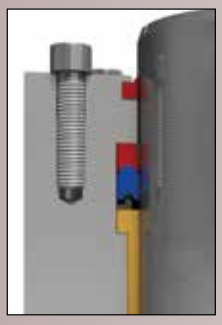
PRODUCT PROFILES:

R11K R11KSPCR R11KWSOR

APPLICATIONS

Tailored seal systems can be built on the base of the 11K in combination with Chesterton 9K anti-extrusion rings and spacers/stand-off rings up. This module system allows for creating the most suitable seal kit for all kinds of heavy-duty and demanding hydraulic cylinder applications and operating conditions. Flexible, modular and custom tailored, seal systems give an optimum solution for replacement of conventional stacked sets.

Large stuffing box depth. Backup ring (9K) protects seal (11K) against extrusion while spacer fills up the axial space in front of the seal set.



Multi-component system design for short stuffing boxes where integrated backup ring is against extrusion. Stand-off ring supports the seal and keeps it in position (in case of floating bushing, or in vacuum).

Large stuffing box depth. Customized Self-aligning gland ring provides superior resistance against extrusion in case of large extrusion gap (worn bushings, worn rams).

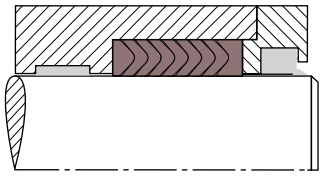
Multi-component system for replacement of traditional packing set with extra large stuffing box depth. Spacer is in combination with stand-off ring, keeping the seal in position, while self-aligning gland ring protects seal against extrusion in case of large extrusion gap. (Typical applications are worn horizontal press cylinders).

Standards and approvals available on page 92.

R8K™ / R27K / R28K

Split, Stacked Set for Hydraulic Rod Applications

Advanced stacked set technology for high-speed hydraulic applications and for scored, mechanically damaged rod and ram surfaces.



- Split components for ease of installation
- Light gland offers greater speed capability than conventional sets
- Pressure-sensitive lip design minimizes friction and extends service life
- Material combinations designed for use in both new and worn equipment

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

R8K molded not available in AWC808 and AWC825 materials.u

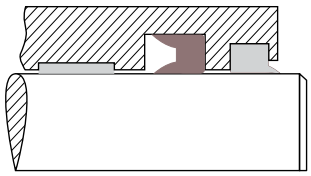
PRODUCT PROFILES:

R8K R27K R27K1 RP28K R28K1 RP28K2

R22KN

Single Acting U-Cup Design for Rod and Piston Applications

High performance U-Cup design for hydraulic and pneumatic applications. The 22KN design is manufactured using a machining process which allows for the flexibility to create any size based on equipment dimensions.

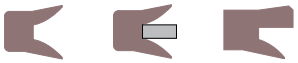


- Automatic sealing for optimal sealing force with minimal frictional resistance
- Flexible lip design compensates for excessive radial space in worn equipment
- Advanced material technology withstands scored, damaged surfaces
- Positive rake lip profile wipes away contamination from mating surfaces
- Fusion Program

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:



R22KN R22KN1 R22KN5

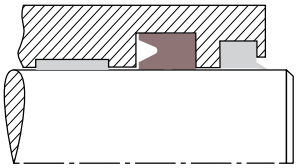
**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

R22K

Single Acting U-Cup for Rod Applications in Hydraulics

Flexible family of high performance hydraulic seals for standard and high-pressure applications.



SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 to 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-40 – 85 (-40 – 185)	51,7 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	52,0 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

Applicable standards: DIN/ISO 5597, DIN/ISO 5597-1, DIN/ISO 7425-2

PRODUCT PROFILES:

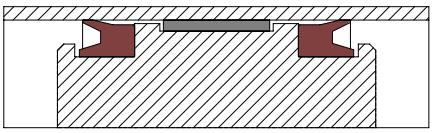
22K 22KAER 22KAER1 22KE 22KEAER 22KEAER1 22KN5

- Single acting, U-Cup design, zero leakage throughout the entire operating range
- Abrasion-resistant design, excellent performance in hydraulic applications
- Lip geometry stabilizes seal to prevent twisting and to ease installation
- Application-specific solutions, including anti-extrusion ring, energizer, and dynamic/static lip designs

R23K / P23K

Pneumatic Seals for Rod and Piston Applications

Unique seal design incorporated with high performance polymer technology for low friction sealing in pneumatic applications.



SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-40 – 85 (-40 – 185)	51,7 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	52,0 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:

R23K P23K

- Unique lip geometry provides optimal sealing force for pneumatic applications
- Radiused lip design ensures a continuous lubricating film, minimizing wear
- Unique design minimizes frictional heat and energy consumption
- Eliminates "Stick-Slip" effect

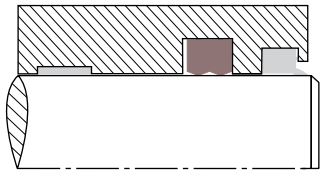
**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

R20K™

Heavy-Duty, Bidirectional Hydraulic Seal

Robust seal design combined with high performance polymer technology for most demanding heavy-duty, high-pressure applications.



- Ideal replacement for 2-, 3-, or 4-piece cap seal assemblies
- Excellent extrusion resistance
- Abrasion-resistant design withstands demanding environments
- Outstanding resistance to shock loading and pressure spikes

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

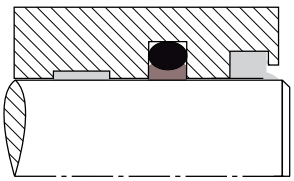
PRODUCT PROFILES:

R20K1 M0K2 R20K3 R20KDAER

RCCS

Cap Seals

High performance, dual component system for bidirectional sealing in hydraulic and pneumatic applications.



- Second-generation PTFE and high performance polymers offer improved operation
- Compression seal design increases sealing force with system pressure
- Dramatically reduces friction and eliminates "Stick-Slip" effect
- Excellent chemical- and heat-resistant characteristics

SPECIFICATIONS

Cap Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min) Reciprocating/*Rotary*
**AWC800 (EU)	up to 1 400 (55)	-35 – 85 (-30 – 185)	34,5 (5 000)	0,85 (185)/*0,5 (100)*
**AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)/*0,25 (50)*
**AWC860 (EU)	up to 508 (20)	-35 – 120 (-30 – 250)	34,5 (5 000)	1,25 (250)/*0,75 (150)*
***AWC300 (glass filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*
***AWC400 (carbon filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*
**AWC500 (bronze filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*

**NBR energizer
***FKM energizer

PRODUCT PROFILES:

RCCS RCCS1 RCCS2 RCCS3 RCCS4

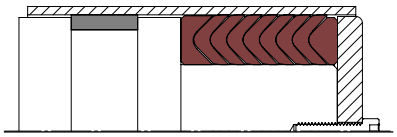
**Please contact your Chesterton representative for larger sizes.*

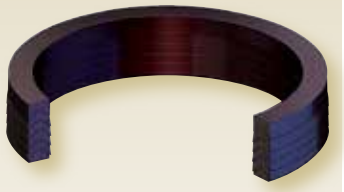
Standards and approvals available on page 92.

P8K™ / P27K / P28K

Split, Stacked Set for Hydraulic Piston Applications

Advanced stacked set technology for high-speed hydraulic applications and for scored, mechanically damaged rod and ram surfaces.





- Split components for ease of installation
- Light gland offers greater speed capability than conventional sets
- Pressure-sensitive lip design minimizes friction and extends service life
- Material combinations designed for use in both new and worn equipment

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

P8K moulded not available in AWC808 and AWC825 materials.

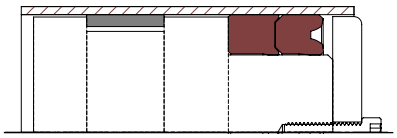
PRODUCT PROFILES:

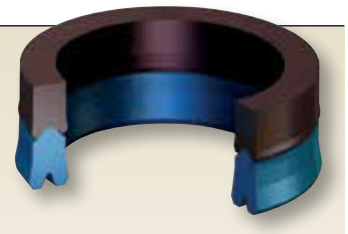
P8K P27K P27K1 P28K P28K1 P28K2

P11K

Split, Dual Component Hydraulic Piston Seal

Adaptive solution for heavy-duty hydraulic cylinders. Eliminates the equipment disassembly during seal installation, wand provides sealing on worn, scored surfaces.





- Replaces the stacked set assembly
- Split design eliminates the need to disassemble equipment
- One optimized seal concept for different press applications
- Dual material combination works in both new and worn equipment
- Design eliminates shimming and future adjustments
- Fusion Program

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC805 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	0,5 (100)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-40 – 85 (-40 – 185)	51,7 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	52,0 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:

P11K P11KSPCR P11KWSOR

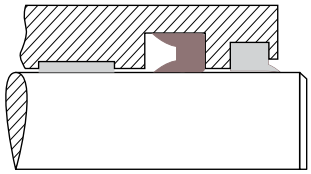
**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

P22KN

Single Acting U-Cup Design for Piston Applications

High performance U-cup design for hydraulic and pneumatic applications. The 22KN design is manufactured using a machining process which allows for the flexibility to create any size based on equipment dimensions.

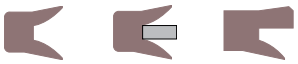


- Automatic sealing for optimal sealing force with minimal frictional resistance
- Flexible lip design compensates for excessive radial space in worn equipment
- Advanced material technology withstands scored, damaged surfaces
- Positive rake lip profile wipes away contamination from mating surfaces
- Fusion Program

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPA (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:

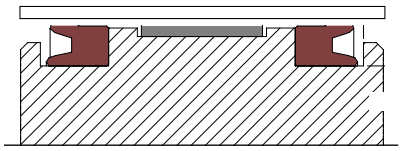


P22KN P22KN1 P22KN5

P22K

Single Acting U-Cup for Piston Applications in Hydraulics

Flexible family of high performance hydraulic seals for standard and high-pressure applications.



- Single acting, U-Cup design, zero leakage throughout the entire operating range
- Abrasion-resistant design, excellent performance in hydraulic applications
- Lip geometry stabilizes seal to prevent twisting and to ease installation
- Application-specific solutions, including anti-extrusion ring, energizer, and dynamic/static lip designs

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC700 (FKM)	6 – 152 (1/4 – 6)	-30 – 200 (-20 – 400)	34,5 (5 000)	1,5 (300)
AWC800 (EU)	6 – 1 320 (1/4 – 52)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-40 – 85 (-40 – 185)	51,7 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	52,0 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:

P22KE P22KEAER P22KEAER1

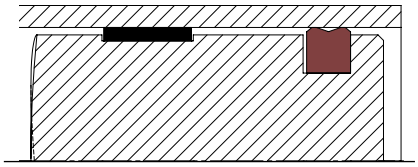
**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

P20K™

Heavy-Duty Bidirectional Hydraulic Seal

Robust seal design combined with high performance polymer technology for most demanding heavy-duty, high-pressure applications.



- Ideal replacement for 2-, 3-, or 4-piece cap seal assemblies
- Excellent extrusion resistance
- Abrasion-resistant design withstands demanding environments
- Outstanding resistance to shock loading and pressure spikes

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

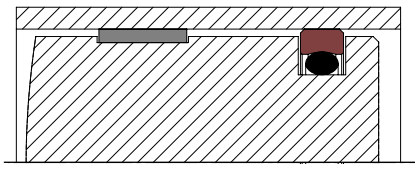
PRODUCT PROFILES:

P20K1 P20K2 P20K3 P20K4 P20K5 P20K6 P20KDAER P20K2P4

PCCS

Cap Seals

High performance, dual component system for bidirectional sealing in hydraulic and pneumatic applications.



- Second-generation PTFE and high performance polymers offer improved operation
- Compression seal design increases sealing force with system pressure
- Dramatically reduces friction and eliminates "Stick-Slip" effect
- Excellent chemical- and heat-resistant characteristics

SPECIFICATIONS

Cap Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min) Reciprocating/*Rotary*
**AWC800 (EU)	up to 1 400 (55)	-35 – 85 (-30 – 185)	34,5 (5 000)	0,85 (185)/*0,5 (100)*
**AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)/*0,25 (50)*
**AWC860 (EU)	up to 508 (20)	-35 – 120 (-30 – 250)	34,5 (5 000)	1,25 (250)/*0,75 (150)*
***AWC300 (glass filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*
***AWC400 (carbon filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*
**AWC500 (bronze filled PTFE)	up to 600 (24)	-35 – 120 (-30 – 250)	34,5 (5 000)	15 (3 000)/*5,0 (960)*

**NBR energizer
***FKM energizer

PRODUCT PROFILES:

PCCS PCCS1 PCCS2 PCCS3 PCCS4

**Please contact your Chesterton representative for larger sizes.*

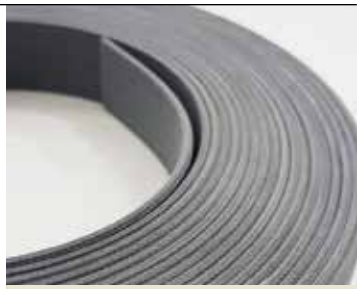
Standards and approvals available on page 92.

ANCILLARY DEVICES

16K / 17K

Bearing Bands Strips for Hydraulic and Pneumatic Applications

High performance, replaceable bearing strips for heavy-duty hydraulic cylinders and forming machines. The exceptional physical properties and built-in lubricants make them suitable for use on rams or pistons in most of reciprocating applications.



- Prevents metal-to-metal scoring, helps prolong equipment life
- Reduces radial movement, extends seal life
- Built-in lubricant for lower coefficient of friction between mating surfaces
- Split continuous coil accommodates large diameter equipment

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Compression Strength MPa (psi) ASTM D695	Speed m/s (ft/min)
AWC640 and 640S** thermoset polyester resin	20 – 1575 (0.8 – 62)	-30 – 120 (-22 – 248)	345 (50.000)	1,0 (200)

16K Metric Designs		
Cross section (S), mm	Height (H_1), mm	Diameter range (OD), mm
2,5 4,0	15	300 – 1575
	20	300 – 1575
	25	300 – 1575
	30	300 – 1575

17K Inch Designs		
Cross section (S), inch	Groove width (L), inch	Diameter range (d/D), inch
0.125	1	12 – 62
	1.5	12 – 62
	2	12 – 62

METRIC DESIGNS AWC 640

Coils in Meter Length	Groove Height mm	Cross Section mm	Diameter Range (OD), mm
	5,60	2,50	300 – 1575
	9,7		
	15,00		
	25,00		
	30,00		
	40,00		
	15,00	3,00	
	25,00		
	30,00		
	25,00	4,00	

METRIC DESIGNS AWC 640S (SPIRAL)

Spiral Coils Diameter (Ø Spiral) Cylinder Diameter Size	Groove Height mm	Cross Section mm
20, 40, 60, 80, 100	5,60	2,50
40, 60, 80, 100, 140	9,70	2,50
60, 80, 100, 120, 140	15,00	2,50
100, 120, 160, 200	20,00	2,50
80, 100, 120, 160, 200	25,00	2,50

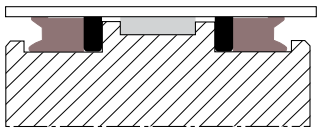
**Please contact your Chesterton representative for larger sizes. Nonstandard sizes on request.*
*** AWC640S – Spiral Coils tailored to cylinders diameter sizes.*

Standards and approvals available on page 92.

9K

Anti-Extrusion Rings for Hydraulic Applications

Designed to prevent seals from extruding into equipment clearances for heavy-duty, high-pressure applications.



- Prevents extrusion of sealing element into equipment clearances: improves MTBR
- Machining process allows the flexibility to create any size
- Available in various profiles and materials
- Split design for ease of installation

SPECIFICATIONS

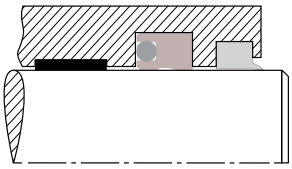
Material (designation)	Size Range* mm (inch)	Temperature °C (°F)
AWC520 (Virgin PTFE)	6 – 600 (1/4 – 24)	Cryogenic – 230 (Cryogenic – 450)
AWC650 (Acetal)	6 – 381 (1/4 – 15)	-30 – 90 (-20 – 200)
AWC665 (Nylon with MoS_2)	>381 – 1 450 (>15 – 57)	-40 – 105 (-40 – 212)
AWC663 (PA-6)	6 – 600 (1/4 – 24)	-40 – 105 (-40 – 212)

PRODUCT PROFILES:

18K / 19K

Bearing Bands for Hydraulic and Pneumatic Applications

High performance replaceable bearing bands for cylinders.



- Heat-stabilized nylon—the same carrying load as bronze
- Replaceable bearings prevent metal-to-metal contact and prolong equipment life
- Reduces radial movement, therefore extending seal life
- Split design minimizes downtime

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Compressive Strength MPa (psi) ASTM D695	Speed m/s (ft/min)
AWC660 40% glass-filled nylon	to 508 (to 20)	-40 – 121 (-40 – 250)	158,8 (23 000)	1,25 (250)

19K Metric Designs		
Cross section (S), mm	Height (H_1), mm	Outer Diameter range (OD), mm
2,5	5	20 – 140
	9	55 – 220
	14	70 – 400
	24	315 – 400

18K Inch Designs		
Cross section (S), inch	Height (H_1), inch	Outer Diameter range (OD), inches
0.125	0,375	1 – 4
	0,500	1,5 – 6
	0,750	3,5 – 8
	1,000	4 – 20

PRODUCT PROFILES:

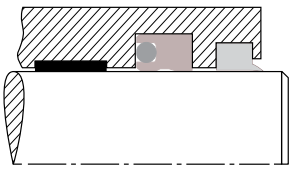
**Please contact your Chesterton representative for larger sizes.*
***Other materials are available upon request.*

Standards and approvals available on page 92.

WR

Bearing Bands for Hydraulic and Pneumatic Applications

Custom bearing bands for hydraulic and pneumatic applications.



- Replaceable bearings: a cost-effective method for improving equipment performance
- Reduces radial movement, prevents metal-to-metal contact, ande extends seal life
- Custom wear rings eliminate unnecessary modifications
- Machining process allows the flexibility to create any size

SPECIFICATIONS

Material** (designation)	Size Range* mm (inch)	Temperature °C (°F)	Compression Strength MPa (psi) ASTM/ISO Testing	Speed m/s (ft/min)
AWC630 Unfilled PEEK	25 – 152 (1 – 6)	-45 – 175 (-50 – 350)	138,1 (20 000) ASTM D695	1 (200)
AWC635 Glass-filled PEEK	25 – 152 (1 – 6)	-45 – 175 (-50 – 350)	179,5 (26 000) ASTM D695	1 (200)
AWC650 Acetal (POM)	25 – 381 (1 – 15)	-31 – 73 (-25 – 165)	55,2 (8 000) ASTM D695	1 (200)
AWC665 Nylon with MoS_2	381 – 1 450 (15 – 57)	-40 – 105 (-40 – 212)	96,7 (14 000) ISO 604	1 (200)

Applicable standards: IDIN/ISO 10776

PRODUCT PROFILES:

WR R9KL WRTR WRUR P9KL WRTP WRUP

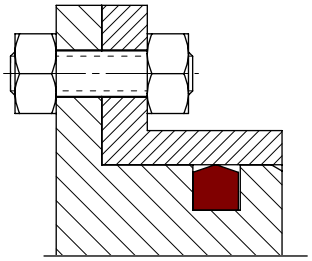
**Please contact your Chesterton representative for larger sizes.*
***Other materials are available upon request*

STATIC SEALS

20KD

High Performance O-Ring, Quad-Ring, and D-ring Replacements

Chesterton 20K D-Ring is a continuous compression seal designed for use in static applications and is often applied as an upgrade from conventional face seals or O-Ring designs.



- Upgrade performance of conventional face seal and O-Ring designs
- Superior wear extrusion and resistance versus conventional methods
- Machining process allows the flexibility to create any size

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Pressure MPa (psi)	Speed m/s (ft/min)
AWC704 (FKM)	6 – 305 (1/4 – 12)	-30 – 200 (-20 – 400)	16 (2 320)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	103,5 (15 000)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	40 (5 800)	0,5 (100)
AWC825 (EU)	6 – 1 400 (1/4 – 55)	-35 – 75 (-30 – 165)	52 (7 500)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-50 – 120 (-60 – 250)	52 (7 500)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	103,5 (15 000)	1,25 (250)

PRODUCT PROFILES:

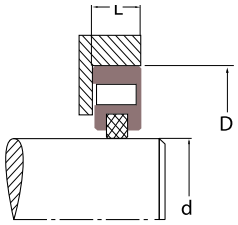
20KDRFS 20KOR RS15-E FOR P20KD OR OR1 POR R20KD ROR RS16-E

**Please contact your Chesterton representative for larger sizes.*
Standards and approvals available on page 92.

Matrix Rotary Seal

Split Bearing and Gearbox Protection

Easy-to-Install, Patented Split Rotary Seal for Worn Shaft Applications.



SPECIFICATIONS

Seal Housing	Sealing Element	Shaft Size Range mm (inch)	Temp-erature °C (°F)	Speed m/s (ft/min)	Pressure bar (psi)	Eccentricity mm (inch)	Chemical Resistance
AWC800	1727NP	50 – 762 (2 – 30)	85 (185)	15 (3000)	0.3 (5)	up to 1,5 (0.060)	Compatible with all commonly used bearing and gearbox oils and greases
AWC860	1727NP	50 – 762 (2 – 30)	120 (250)	15 (3000)	0.3 (5)	up to 1,5 (0.060)	

PRODUCT PROFILE:

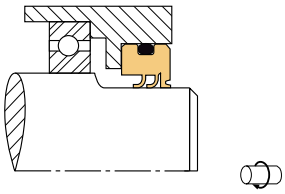
MATRIX

- Engineered for large runout and worn equipment
- Eliminates cumbersome equipment teardown and minimizes downtime
- Excludes external contamination, preserves internal lubrication
- Flexible design provides ease of installation
- Manufactured to custom equipment dimensions and requirements
- Covers all industries including steel, mining, paper, and agricultural

30K

Bearing and Gearbox Protection

Advanced sealing protection technology keeps the lubricant in and the dirt out for long-term sealing.



SPECIFICATIONS

Material (combination) (adapters/sealer rings)	Size Range* mm (inch)	Temperature °C (°F)	Speed m/s (ft/min)	Pressure MPa (psi)	Recommended Use	Mating surface (Rockwell C)
AWC100 (PTFE) Polyimide	20 – 600 (0,787 – 24)	-20 – 149 (-30 – 300)	Up to 20 (4 000)	0,07 (10)	Excellent dry Excellent low viscosity No water and steam	≥45
AWC300 (PTFE) Molybdenum & glass					Excellent high viscosity Good dry and good in water	≥55
AWC400 (PTFE) Carbon & graphite					Excellent in water Good dry and low viscosity	≥55
AWC510 (PTFE) Mineral (FDA listed)					Excellent dry Good in water and steam No petroleum liquids	≥45

Performance depends on concurrent conditions including shaft hardness, shaft surface roughness, material, lubrication, temperature, and pressure.

PRODUCT PROFILES:

30K 30KW 30KSW 30KB 30KBW 30KP

- New designs and materials to outperform conventional lip seals
- High performance PTFE compounds offer advanced wear and abrasion resistance
- Unique design provides lower friction and decreased shaft wear
- High performance lip seals prevent contaminants from entering housing

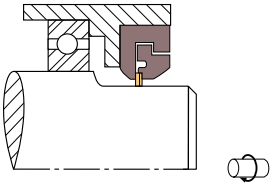
**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

33K

Split Bearing and Gearbox Protection

Unitized split seal for bearing and gearbox protection.



- Split design eliminates the need for equipment disassembly
- New design and materials proven to outperform conventional lip seals
- Patented design combines high performance PTFE and polymer materials
- Filled PTFE materials provide high wear and abrasion resistance

SPECIFICATIONS

Material (combination) (adapters/sealer rings)	Size Range* mm (inch)	Temperature ˚C (˚F)	Speed m/s (ft/min)	Pressure MPa (psi)	Recommended Use	Mating Surface (Rockwell C)
AWC800 Adapters (EU)						
AWC100 (PTFE) Polyimide	25 – 610 (1 – 24)	85 (185)	12,7 (2 500)	0,07 (10)	Excellent dry Excellent low viscosity	≥45
AWC300 (PTFE) Molybdenum & glass	25 – 610 (1 – 24)	85 (185)	12,7 (2 500)	0,07 (10)	Excellent high viscosity Good dry and good in water	≥55
AWC400 (PTFE) Carbon & graphite	25 – 610 (1 – 24)	85 (185)	12,7 (2 500)	0,07 (10)	Excellent in water Good dry and low viscosity	≥55
AWC860 Adapters (EU)						
AWC100 (PTFE) Polyimide	25 – 457 (1 – 18)	121 (250)	12,7 (2 500)	0,07 (10)	Excellent dry Excellent low viscosity	≥45
AWC300 (PTFE) Molybdenum & glass	25 – 457 (1 – 18)	121 (250)	12,7 (2 500)	0,07 (10)	Excellent high viscosity Good dry and good in water	≥55
AWC400 (PTFE) Carbon & graphite	25 – 457 (1 – 18)	121 (250)	12,7 (2 500)	0,07 (10)	Excellent in water Good dry and low viscosity	≥55

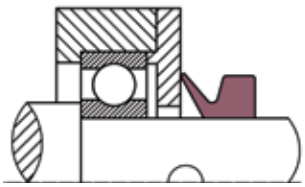
Performance depends on concurrent conditions including shaft hardness, shaft surface roughness, material, lubrication, temperature, and pressure.

ROTARY SEALS

50K

Mill Rotary Face Seal

Designed to protect against ingress of solid particles, dust, and fluids while sealing lubricants in rotary applications.



- High performance elastomer materials
- Long elastic memory and good resistance to aging
- Optimized lip interference with low friction
- Direct retrofit, no equipment modifications required

OPERATIONAL CONDITIONS

Elastomers	NBR70	FKM 70
Lubricating greases	-20°C – 100°C (-4°F – 212°F)	-20°C – 150°C (-4°F – 302°F)
Water	5°C – 100°C (41°F – 21°F)	5°C – 80°C (41°F – 176°F)
Surface speed m/s (ft/min)	12 m/sec (2 362 ft/min)*	20 m/sec* (3 937 ft/min)
Technical pressure MPa (psi)	0,03 (4,35)	0,03 (4,35)
Size range mm (inch)** shaft dia	200 – 1 650 (8 – 65)	200 – 1 650 (8 – 65)

* At over 8 m/s (1574 ft/min) the seal has to be supported in axial direction while over 12 m/s radial (2362 ft/min) retention is needed.

PRODUCT PROFILES:

50KA 50KAX 50KL 50KE 50KRME

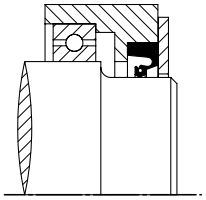
***Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

51K

Mill Rotary Seal

Designed to provide long-lasting sealing and superior protection for rotary applications, bearing houses, and gearboxes across the heavy industries.



- High resistance to wear
- Specially designed seal lips combined with autolubricated elastomer to reduce friction
- Solid and split versions are available
- Direct retrofit, no equipment modifications required

OPERATIONAL CONDITIONS

Elastomers	NBR80+PTFE	HNBR 70	FKM70+PTFE
OD fabric	Textile +NBR	Textile + HNBR	Textile + FKM
Materials of garter spring	AISI 302-316	AISI 302-316	AISI 302-316
Lubricating greases	-20°C – 100°C (-4°F – 212°F)	-30°C – 150°C (-22°F – 302°F)	-20°C – 200°C (-4°F – 392°F)
Mineral oils	-20°C – 100°C (-4°F – 212°F)	-30°C – 150°C (-22°F – 302°F)	-20°C – 200°C (-4°F – 392°F)
Water	5°C – 100°C (41°F – 212°F)	5°C – 150°C (41°F – 302°F)	5°C – 100°C (41°F – 212°F)
Surface speed m/s (ft/min)	15 (2 952 ft/min)	20 (3 937 ft/min)	25 (4 921 ft/min)
Technical pressure MPa (psi) 51K, 51KW, 51KL Solid	0,05 (7,25)	0,05 (7,25)	0,05 (7,25)
Technical pressure MPa (psi) 51K, 51KW, 51KL Split	No pressure can be applied	No pressure can be applied	No pressure can be applied
Technical pressure MPa (psi) 51HP Solid	0,4 (58)	0,4 (58)	0,4 (58)
Size range mm (inch)* Seal OD	300 – 1 200 (12 – 47)	300 – 1 200 (12 – 47)	300 – 1 200 (12 – 47)

* Please contact your Chesterton representative for other sizes.

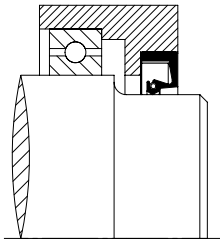
PRODUCT PROFILES:

51K 51KW 51KHP 51KL

52K

Mill Rotary Seal

Designed to provide long-lasting sealing and superior protection for rotary applications, bearing houses, and gearboxes across the heavy industries. The unique design with flexible stiffener ring ensures improved fitting in the seal cavity and allows installation in stuffing boxes without end covers.



- Unique lip design
- Specially designed seal lips combined with autolubricated compound to reduce friction
- Metallic flexible stiffening ring is used to allow mounting without end cover
- Direct retrofit, no equipment modifications required

OPERATIONAL CONDITIONS

Elastomers	NBR80+PTFE	FKM70+PTFE
Material of metal case	C72 tempered	C72 tempered
Materials of garter spring*	AISI 302-316	AISI 302-316
Lubricating greases	-30°C – 100°C (-22°F – 212°F)	-20°C – 200°C (-4°F – 392°F)
Mineral oils	-30°C – 100°C (-22°F – 212°F)	-20°C – 200°C (-4°F – 392°F)
Water	5°C – 100°C (41°F – 212°F)	5°C – 100°C (41°F – 212°F)
Surface speed m/s (ft/min)	15 (2 952)	25 (2 952)
Technical pressure MPa (psi)	0,05 (7,25)	0,05 (7,25)
Size range mm (inch)** Seal OD	300 – 1 200 (12 – 47)	300 – 1 200 (12 – 47)

PRODUCT PROFILES:

52K 52KW 52KHP

* On request, PVC cover to avoid dust entering garter spring

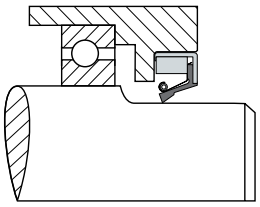
** Please contact your Chesterton representative for other sizes.

Standards and approvals available on page 92.

53K

Mill Rotary Seal

Designed to provide long-lasting sealing and protective solutions that withstand high speeds and misalignment of large rolls in heavy industries.



- Unique lip preloaded system with highly elastic garter-finger spring
- Specially designed seal lips combined with autolubricated compound to reduce friction
- Large shaft runout compensation capability
- Maintains lube oil film underneath the lip for longer seal life

OPERATIONAL CONDITIONS

Elastomers	NBR70+PTFE	FKM 70+PTFE
Material of metal case	Fe-PO3	Fe-PO3
Material of steel filler ring	Fe37	Fe37
Material of spring carrier	AISI 301	AISI 301
Materials of garter spring	AISI 316	AISI 316
Lubricating greases	-20°C – 100°C (-4°F – 212°F)	-20°C – 200°C (-4°F – 392°F)
Mineral oils	-20°C – 100°C (-4°F – 212°F)	-20°C – 200°C (-4°F – 392°F)
Surface speed m/s (ft/min)	25 (4 921)	25 – 35 (4 921 – 6 889)
Technical pressure MPa (psi) 53K, 53KW, 53KL, 53KHS 53KLPT	0,05 (7,25)	0,05 (7,25)
Technical pressure MPa (psi) 53KHP	0,1 (14,5)	0,1 (14,5)
Size range mm (inch)* Seal OD	300 – 1 200 (12 – 47)	300 – 1 200 (12 – 47)

* Please contact your Chesterton representative for other sizes.

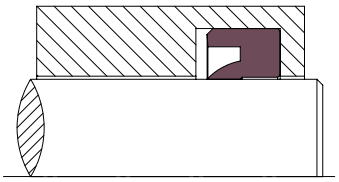
PRODUCT PROFILES:

53K 53KW 53KHP 53KL 53KLHS 53KLPT

R22KN5

Split Rotary Seal

High performance, proven design for slow rotating applications exposed to large shaft runout.



- Flexible dynamic lip design for large shaft runout compensation
- Split configuration simplifies installation
- Robust static lip design allows stacked set arrangement and provides stability
- Excellent abrasion resistance, withstands demanding environments

SPECIFICATIONS

Material (designation)	Size Range* mm (inch)	Temperature °C (°F)	Speed m/s (ft/min)
AWC700 (FKM)	6 – 152 (1/4 – 6)	-30 – 200 (-20 – 400)	1,5 (300)
AWC800 (EU)	6 – 1 400 (1/4 – 55)	-50 – 85 (-60 – 185)	1 (200)
AWC808 (AU)	6 – 400 (1/4 – 15,75)	-20 – 85 (-4 – 185)	0,5 (100)
AWC830 (EU)	6 – 254 (1/4 – 10)	-35 – 75 (-30 – 165)	0,9 (185)
AWC850 (EU)	6 – 254 (1/4 – 10)	-50 – 104 (-60 – 220)	0,9 (185)
AWC860 (EU)	6 – 508 (1/4 – 20)	-50 – 120 (-60 – 250)	1,25 (250)

PRODUCT PROFILE:

R22KN5

Depending on the seal height and cross section, the split joint can be interlock arrow cut or butt cut.

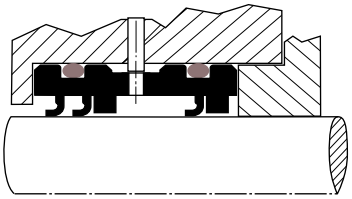
*Please contact your Chesterton representative for larger sizes.

Standards and approvals available on page 92.

30KC

Seal for Viscous Fluids and Powders

High performance, proven cartridge design for sealing powders and viscous fluids.



- Outperforms conventional packing, sealing viscosity fluids, and dry powders
- Decreases downtime, easy to install, versatile cartridge design
- Improves performance of compression packing, distinct PTFE materials
- Custom-designed cartridges made to equipment dimensions

SPECIFICATIONS

Material** (combination) (adapters/sealer rings)	Shaft Size* mm (inch)	Tempera-ture °C (°F)	Speed m/s (ft/min)	Pressure MPa (psi)	Mating Surface (Rock-well C)	Surface Finish µm Ra (µ inch)	Recommended Use***
AWC100 (PTFE) Polyimide	25 – 200 (1 – 8)	-20 – 150 (-30 – 300)	Up to 5 (984)	to 1 (150)	45	Dynamic 0,2 – 0,4 (8 – 16) Static 0 ,4 – 0,8 (16 – 32)	Excellent dry Excellent low viscosity (<2 000 cp) Powders, oil, resins, glues, paints No water or steam
AWC300 (PTFE) Molybdenum & glass					55		Excellent high viscosity (>2 000 cp) Good in dry, water, or steam
AWC400 (PTFE) Carbon & graphite					55		Excellent in water or steam Good dry and low viscosity powders, asphalt, clay, slurries
AWC510 Mineral (FDA listed)					45		Excellent dry Good in water or steam chocolate and syrups No petroleum liquids

* Please contact your Chesterton representative for larger sizes

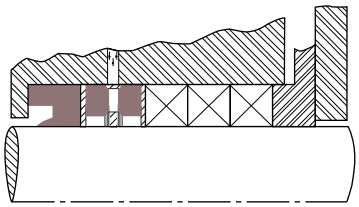
** Fluoroelastomer O-Rings provided (FDA listed with AWC510)

*** Runout to 0,15 mm (0,05")

14K and 14KL

Restriction Bushing

A robust restriction bushing for rotating equipment. Tremendously extend the life of mechanical packing and mechanical seals in cases of solid particles entering fluid.



- Split design simplifies installation
- Prevents particles from entering the stuffing box, extending packing and seal life
- Tapered lip design controls fluid bypass
- Designed for pumps and other rotating equipment such as agitators, mixers, and refiners

SPECIFICATIONS

Material (designation)	Outer Diameter Size Range* mm (inch)	Temperature °C (°F)	pH Range
AWC800 (EU)	38,1 – 660.4 (1,5 – 26)	Up to 85 (185)	4 – 10
AWC808 (AU)	38,1 – 400 (1,5 – 15,75)	Up to 85 (185)	4 – 10
AWC860 (EU)	38,1 – 660,4 (1,5 – 26)	Up to 120 (250)	4 – 10
AWC300 PTFE (glass-filled)	38,1 – 381 (1,5 – 15)	Up to 200 (400)	0 – 14
AWC510 PTFE (polymide-filled)	38,1 – 381 (1,5 – 15)	Up to 200 (400)	0 – 14
AWC520 PTFE (virgin)	38,1 – 381 (1,5 – 15)	Up to 200 (400)	0 – 14

PRODUCT PROFILES:

R14K R14KRB2P R14KRBS R14KPF R14L R14KL

**Please contact your Chesterton representative for larger sizes.*

Standards and approvals available on page 92.

EFFICIENCY, PERFORMANCE, AND PRODUCTIVITY

Chesterton offers products and total system solutions for production process, facility, and maintenance needs.

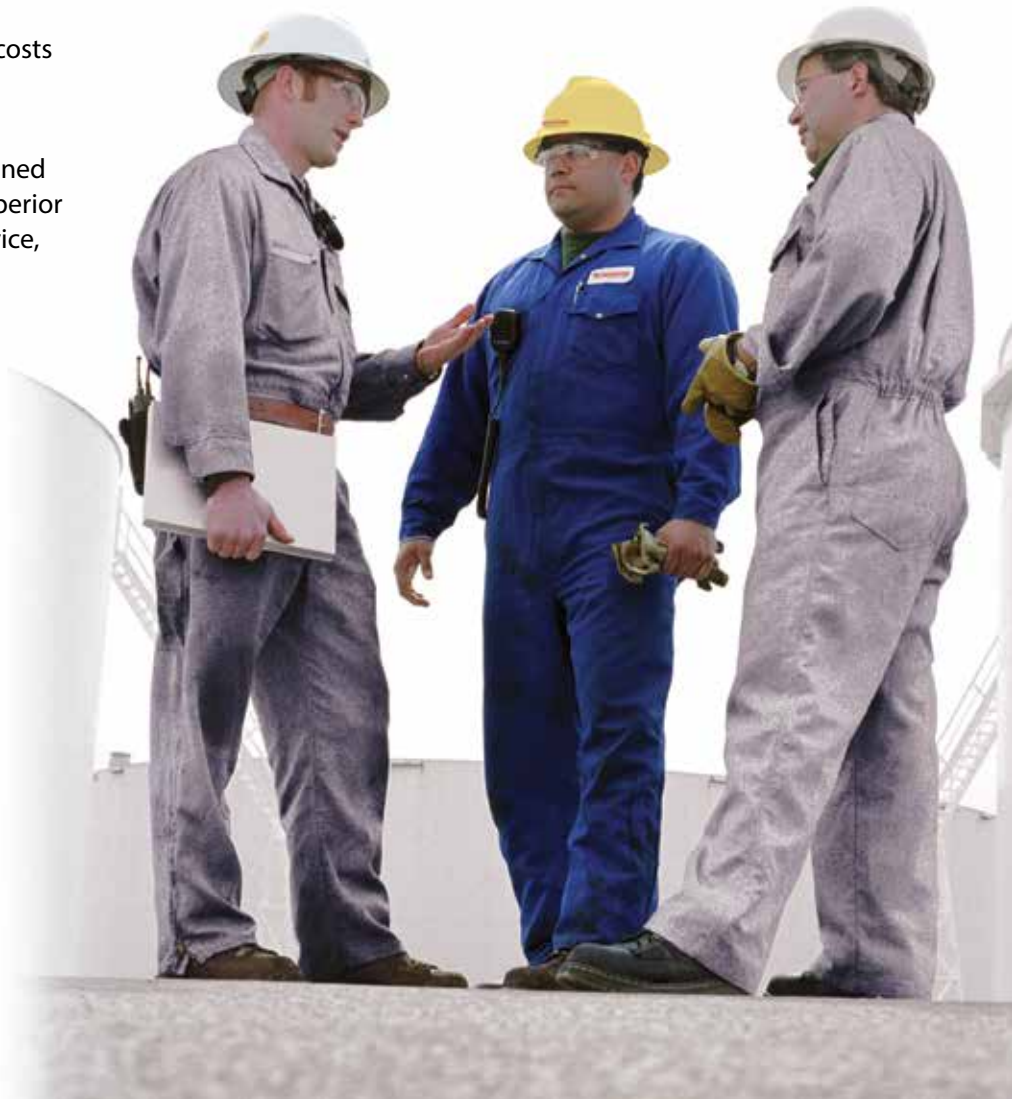
- *Lubricants and greases*
- *Maintenance specialities*
- *Cleaners and degreasers*
- *Metalworking fluids and corrosion control*

State-of-the-art technologies, environmentally acceptable alternatives, and strict quality processes contribute to fulfilling the customers' expectations:

- Increased productivity
- Lowered costs
- Reduced disposal and labour costs

In partnership with our worldwide distribution channels and factory-trained local specialists, Chesterton offers superior value and outstanding customer service, technical support, and delivery.

In these pages, you will find an overview of our products. For in-depth, individual product information, ask your local Chesterton Specialist for further information.



Industrial Lubricants and MRO Products Application Guide

Please contact your local Chesterton Representative to help you select the best product for your application.

Lubricants

LIQUID LUBRICANTS	Applications: Chains	Bearings	Open Gears	Pneumatics	Wire Rope and Cable	Control Valves	Relative Performance: High Temp.	Low Temp.	Load Carrying Ability	Water Resistance	Food Acceptance NSF, Halal, Kosher
601(E)	√++			√+	√++		√+	√+	√++		H2
610 Plus, 610 MTPlus, 610HT(E)	√++	✓			√+		√++	√+	√+		H2
607(E)	√++	✓			√+		√++	√+	√+		
650	√++			√++	√++		√+	√+	√++		H1
690 FG(E)	√++			✓				✓	√+	✓	H1, Halal, Kosher
715/715G(E)	√+		√++		√++					√++	H2
652(E)	√+			√++	√+	✓	√+	√+	√++		H2
GREASES											
615	✓	√+	✓		✓	√+	✓	√+	√+	√++	H2
635		√++				√++	√+	√+	√++	√++	H2
625(E)		√+				√+	✓	✓	√+	√++	H1, Halal, Kosher
630	√+	√++	✓			√++	√+	√+	√+	√++	H1

Cleaners and Degreasers

			Water-Based Alkali: Cleans Petroleum Oil, Greases, Natural Oils, Dirt and Dust, Biodegradable					Water-Based Acid: Cleans Rust, Hard Water Scale, Biodegradable		Solvent-Based	
			360(E) Phosphate-Free Cleaner	235(E) SSC	803(E) IMS II	KPC 820(E)	218 HDP(E) Pressure Wash	338(E) Super Rust Remover	346(E) Descaler and Chemical Cleaner	274(E) Industrial Degreaser	276(E) Electronic Component Cleaner
Soil/Deposit		Heavy Oil, Adhesives, Glues		✓			✓			✓	
		Grease, Petroleum Oil, Dirt	✓	√+	√++	√++	√+			√+	√+
		Natural Oils—Animal Fat, Vegetable Oil	✓	✓	√+	✓	✓				√+
		Scale, Hard Water Deposits						✓	√++		
		Rust and Oxidation						√++	✓		
Application	Parts Degreasing Shop	Manual Brush or Wipe	√+	√+	√++	√++	✓			√+	
		Parts Degreasing Station	✓		√+	√+				√++	
		Dip Tank	✓	✓	√++	√+				√++	
		Steam Cleaning		√++	√+	✓	√+				
		Pre-Cleaning Parts/Machinery	√+	√+	√++	√+	√+				
	Parts Degreasing Production	Agitation Tank				✓	√++			√+	
		Dip Tank	√+	√+	√++	√+	✓			✓	
		Pressure Washing		√+			√++				
		Ultrasonic				√++				√+	
		Spray Booth/Spray Tunnel					√++				
	Machinery/Plant Cleaning	Closed Circulation, Pipeline	✓	✓	√+	√+	√+				
		Tanks and Vessels	√+		√++	√+	✓				
		Food Processing Equipment	√++	✓	√+	√+	✓			✓	
		Building Structures, Floors, and Walls	√+	√++	√++	√++	✓				
		Floor Scrubbers	✓	✓	✓	√++	√++				
		Coolers, Condensers, Heat Exchangers						√++	√++		
		Electrical Motors—Non-energized		√++	√++	√+	✓				√+

√++ = Best Choice √+ = Better Choice ✓ = Good Choice

Lubricants and Greases

Chesterton's lubrication program provides you with expertise and support for your entire production process and maintenance operations.

Chesterton lubrication programs will:

- Extend equipment life
- Reduce costs
- Increase profitability
- Improve reliability
- Increase productivity

Key applications include:

- Chains
- Bearings
- Wire rope and cable
- Pneumatics
- Open gears
- Thread lubrication/ anti-seize
- Valves
- Extreme pressure applications

LIQUID LUBRICANTS

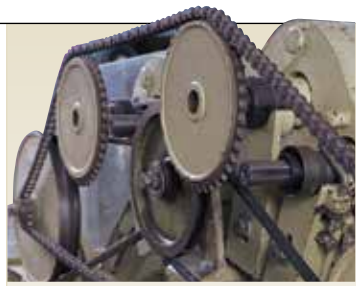
601(E)

Chain Drive Pin and Bushing Lubricant—General Service

Premium-quality, light oil that penetrates between the close clearance of chain drive bushings and pins to provide critical lubrication.

Product Characteristics	Applications
Rapid penetration	Chain-driven machinery
E.P. additives increase load carrying ability	Conveyors
No dirt and dust buildup	Packaging equipment
No sticky lubricant residues	Hoist chains
Long-lasting, non-drying film	Forklift trucks
-23˚C – 150˚C (-10˚F – 300˚F)	Chain saws

Available Container Sizes: Aerosol, 5 l, 20 l, 208 l
Product Availability: 5 l Europe warehouse only (3,8 l is the equivalent size from USA)



- Increases chain life
- Reduces lubricant consumption
- Reduces energy consumption

607(E) HTS

Lubricating Fluid—High Temperature Synthetic

High quality, synthetic lubricant designed to improve performance and increase the productivity of your equipment by reducing wear, varnish, and corrosion. It operates at a temperature range where petroleum lubricants are unable to function. Temperature range -30°C – 250°C (-22°F – 482°F).

Product Characteristics	Applications
Low evaporation	Equipment operating at elevated temperatures
Low-carbonizing	Refrigerated areas
High-detergency—self-cleaning	Severe environments
E.P. additives increase load carrying ability	Oven and high-temperature chains
Available Container Sizes: 20 l, 208 l	Bearings
Available in two ISO VG Grades: 68 & 220	Gearboxes
Product Availability: Europe, Middle East, and Africa ONLY	

Standards and approvals available on pages 87 – 90.

- Reduces lubricant consumption
- Reduced equipment cleaning and downtime
- Reduces energy consumption
- Increases equipment life

610 Plus/610MT Plus/610HT(E)

Synthetic Lubricating Fluid—High-Temperature Service

Premium-quality, 100% synthetic fluid that cleans as it lubricates over a wide temperature range of -25°C – 270°C (-13°F – 518°F).

Product Characteristics

Low evaporation
Low-carbonizing
High-detergency—self-cleaning
E.P. additives increase load carrying ability
Available Container Sizes:
610 Plus: Aerosol, 5 l, 20 l, 208 l
610 MT Plus: 20 l, 208 l
610 HT: 5 l, 20 l, 208 l
Product Availability: 5 l Europe warehouse only
(3,8 l is the equivalent size from USA)

Applications

Equipment operating at elevated temperatures
Refrigerated areas
Severe environments
Oven and high-temperature chains
Bearings
Gearboxes

- Reduces lubricant consumption
- Reduced equipment cleaning and downtime
- Reduces energy consumption
- Increases equipment life

650 AML

Advanced Machinery Lubricant

Advanced environmentally and worker safe lubricant technology that outperforms the best petroleum-based lubricants on the market.

Product Characteristics

Synthetic-based, NSF H1 certified
Biodegradable, low environmental impact
High-detergency—self-cleaning
E.P. additives increase load carrying ability
Available Container Sizes: 475 ml, 20 L, 208 L

Applications

Air actuated valves
Pneumatic cylinders, solenoids and positioners
Conveyor chains, slideways, and wire ropes
Air mist or oil-injected lubricated bearings, and equipment
Assembly, packaging and filling machines

- Premium performance
- Reduced equipment cleaning and downtime
- Reduces energy consumption
- Increases equipment life

690 FG(E)

FG Lubricant—Food Grade

Cost-effective, high quality, multi-purpose, non-staining, penetrating lubricant; NSF authorized for incidental food contact and meets FDA standards.

Product Characteristics

Clear, colourless, odourless
Safe and easy to use in bulk or aerosol
-15˚C – 120˚C (15˚F – 250˚F)
Bulk – Halal and Kosher certified
Available Container Sizes: Aerosol, 5 l, 20 l, 208 l
690FG(E) Bulk: Halal/Kosher
Product Availability: 5 l Europe warehouse only
(3,8 l is the equivalent size from USA)

Applications

Food, beverage, and pharmaceutical processing equipment, including:
Chain drives
Pistons
Valves
Rollers
Pneumatics

- Safe to use
- Reduces energy consumption
- Increases equipment life

Standards and approvals available on pages 87 – 90.

715(E)

Spraflex®/Spraflex® Gold

A surface lubricant for chain drives, open gears, and wire rope. Provides a long-lasting, non-extruding "wear shield" to protect equipment operating under heavy loads.

Product Characteristics

No lubricant squeeze-out
Non-drip
Self-adhering, flexible lubricant
Resistant to acid fumes
Guards against rust and corrosion
Available Container Sizes: Aerosol, 20 l, 208 l

Applications

Chains
Open gears
Wire ropes and cables
Equipment in wet or underwater environment
Note: *Use Chesterton's 715(E) Spraflex Gold where a clean, non-staining film is needed*

- Reduces lubricant consumption
- Water-resistant
- Provides long-term equipment life

652(E)

Pneumatic Lubricant and Conditioner

High performance, low-viscosity formulation reduces up to 90% of pneumatic maintenance costs, decreases downtime and rejects. Cleans, protects, and prolongs the life of pneumatic equipment.

Product Characteristics

Will not cause sludge build-up
Prevents seals/O-Rings from drying out
Reduces power consumption
Cleans rust, sludge, and dirt from all air tools as it lubricates
Available Container Sizes: 475 ml, 20 l, 208 l

Applications

Air tools
Cylinders
Air line lubricators
Air impact wrenches, hammers, drills
Production air systems
CNC machines
Robotics
Assembly line tools

- Lowers friction and reduces air cost
- Cleans and lubricates
- Prevents corrosion

GREASES

615

HTG NLGI #1, HTG NLGI #2

High performance, corrosion-inhibited grease with outstanding extreme-pressure capabilities and excellent water washout resistance.
Temperature limit -40°C (-40°F) to 204°C (400°F).

Product Characteristics

Superior water resistance
Excellent corrosion protection
Compatible with most popular greases
Exceptional shear resistance
Antioxidants prevent hardening
QBT™ Quiet Bearing Technology
Available Container Sizes: 400 g, 18 kg, 55 kg, 180 kg
HTG NLGI #2 ISO 460 grade also available.

Applications

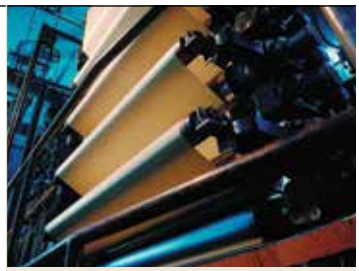
High water, temperature environment plants including:
Pulp and paper mills
Mining operations
Steel, aluminium, and metal processing
Marine
Power
Water and wastewater

- Extends bearing life
- Reduces downtimes
- Increases productivity
- Reduces grease consumption

Standards and approvals available on pages 87 – 90.

635 SXC

High performance, corrosion-inhibited grease with outstanding extreme-pressure capabilities and excellent water washout resistance. 635 is synthetic-based and offers superior high-temperature stability and resistance to steam and corrosive chemicals. Temperature limit -40°C – 240°C (-40°F – 464°F).



Product Characteristics

High load carrying capability
High-temperature stability
Superior water washout resistance
Excellent corrosion protection
Available Container Sizes: 400 g, 18 kg, 55 kg, 180 kg

Applications

High water, temperature environment plants including:
Pulp and paper mills
Mining operations
Steel, aluminium, and metal processing
Marine
Power
Water and wastewater

- Extends bearing life
- Reduces downtimes
- Increases productivity
- Reduces grease consumption

625(E) CXF, 630 SXCF

High performance, food-grade, corrosion-inhibited grease with outstanding extreme-pressure capabilities and excellent water washout resistance.

625(E) CXF—Temperature limit -20°C – 204°C (-22°F – 400°F).
630 SXCF—Temperature limit -40°C – 240°C (-40°F – 464°F).

Product Characteristics

Superior water washout resistance
Excellent corrosion protection
Compatible with most popular greases
Exceptional shear resistance
Antioxidants prevent hardening or crystallisation
Available Container Sizes: Aerosol (630 SXCF only), 400 g, 18 kg, 55 kg

Applications

Food, pharmaceutical, beverage industries
Processing and packaging machines
Bottling equipment
Fruit feeders
Paste and sauce fillers
Canning machinery
Meat packaging equipment
Carton filling equipment

- Extends bearing life
- Reduces downtimes
- Increases productivity
- Reduces grease consumption

LUBRICANT DISPENSERS

Lubri-Cup™ OL 500 Oiler

Automatic lubricator dispenses Chesterton oils to chains and other critical areas.

Product Characteristics

Microprocessor-controlled, "pulse" delivery system
Programmable—operates up to 12 months
Refillable
Lubricates up to 4 points
Sealed microprocessor

Applications

All Industries Including:
Pulp and paper mills
Saw mills
Mining operations
Steel mills
Food, pharmaceutical, beverage industries
General industry

- Environmentally friendly, refillable container
- User-friendly with a large LCD
- Cost-effective

Versions Available

Lubri-Cup™ 500cc oiler	Battery operated
Lubri-Cup™ 500cc oiler	Machine synchronized and externally powered (DC power)
Lubri-Cup™ 500cc oiler	Machine synchronized and externally powered (AC power)

Standards and approvals available on pages 87 – 90.

Lubri-Cup™ VG Mini

Automatic single-point lubricator dispenses Chesterton grease to critical areas, eliminating over- and under-greasing.

Product Characteristics

A compact, convenient, and sturdy design that is simple to install and operate
Preset dispensing rates—1, 3, 6, 9, 12 months
Remote operation—up to 0,3 m (1 ft)
Electrochemical operation (Nitrogen gas)
Sealed microprocessor
Ability to turn on and off

Applicationsi

All industries including:
Mining and ore processing
Power
Pulp and paper
Water and wastewater
Steel and metal processing

- Cost-effective
- Transparent container for lubricant inspection
- Reliable lubrication system

THREAD LUBRICANTS/ANTI-SEIZES

785(E) / 785 FG

Parting Lubricant

The "new generation" anti-seize compound contains a blend of ultrafine, inorganic solid lubricants in a non-carbonizing, ashless, synthetic carrier. Withstands severe temperature and pressure conditions.

Product Characteristics

Eases disassembly up to 1 204°C (2 200°F)
Fills in microscopic voids
No toxic heavy metals
For extreme pressures up to 4 730 kg/cm^2 (67 570 psi)
Available Container Sizes:
785(E): 200 g, 250 g, 500 g, Aerosol, 20 l
785FG: 200 g, 500 g

Applications

Bolts
Screws
Studs
Pipe threads
Press fits
Pump sleeves
Note: *FG designates a food-grade product*

- Lubricates for assembly and disassembly
- Protects against corrosion
- No need for torque tension recalculation

783(E)

ACR

783(E) combines high performance, industrial anti-seize performance with extreme corrosion protection and water washout resistance. 783(E) is ideal when the primary cause of bolt seizure is corrosion.

Product Characteristics

Eases disassembly up to 900°C (1 652°F)
Fills in microscopic voids
No toxic heavy metals
For extreme pressure up to 8 928 kg/cm^2 (127 000 psi)
Safer than traditional metallic-based anti-seizes
Available Container Sizes: 250 g, 500 g, 24 kg

Applications

Covers all industries:
Bolts
Screws
Studs
Pipe threads
Press fits
Pump sleeves

- Extreme corrosion protection and water washout resistance
- Lubricates for assembly and disassembly

Standards and approvals available on pages 87 – 90.

725(E)

Nickel Anti-Seize Compound

A high performance, nickel-based anti-seize that combines the extreme-pressure, corrosion-resistant, anti-seize abilities of colloidal nickel in an oil suspension that can withstand temperatures up to 1 425°C (2 597°F).

- Lubricates for assembly and disassembly
- Protects against corrosion
- No need for torque tension recalculation

Product Characteristics

Ultrafine particles
Guards against galling and corrosion
Protects against self-welding
Withstands extreme pressure
Up to 1 425°C (2 597°F)
Available Container Sizes: 250 g, 500 g, Aerosol, 20 l

Applications

Mechanical assembly of:
bolts, studs, flanges, press fits, valve stems, pump sleeves, screws, bushings, gaskets, bearings

Standards and approvals available on pages 87 – 90.

Maintenance Specialities

Our high performance technologies are chemical tools designed to:

- Reduce the non-value-added, repetitive maintenance functions
- Reduce the volume of chemicals used
- Reduce time for mechanical maintenance operations
- Improve the reliability of equipment
- Improve worker safety

Applications include:

- Thread sealing
- Rust penetrants
- Flange and casing sealing
- Cleaners and degreasers
- Metalworking fluids
- Corrosion control

PENETRATING OIL

706(E)

Rustsolvo®

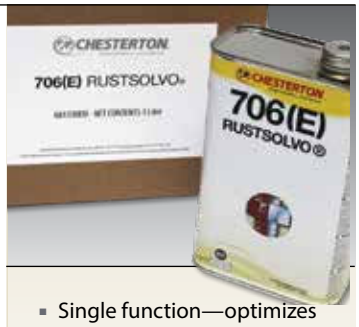
High quality, fast-acting, penetrating oil that reaches inaccessible areas and frees frozen nuts, bolts, and fittings without damaging the base metal.

Product Characteristics

Safe on plastic and painted surfaces
Contains no glycols, alcohols, DMSO (dimethyl sulfoxide), or chlorinated solvents
Pleasant odour
Creeps into microscopic spaces
Available Container Sizes: 1 l, 20 l, 208 l, 200 l Europe warehouse only

Applications

Use on all corroded or seized threaded assemblies in the harshest industrial environments



- Single function—optimizes performance
- Fast-acting
- Safe to use

723(E) / 723FG(E)

Sprasolvo®

Fast-acting, penetrating oil in a convenient, non-flammable propellant aerosol can. Excellent for hard-to-reach areas where rust, tar, grease, and dirt may prevent easy removal of nuts, bolts, and fittings.

Product Characteristics

Pinpoint spray
Safe on plastic and painted surfaces
Contains no acids or chlorinated solvents
Creeps into microscopic spaces
Available Container Sizes: Aerosol

Applications

Use on all corroded or seized threaded assemblies in the harshest industrial environments
Note: *FG designates a food-grade product*

- Single function—optimizes performance
- Fast-acting
- Safe to use

Standards and approvals available on pages 87 – 90.

THREAD SEALING

800

GoldEnd® Tape

Heavy-duty, high-density, tear-resistant, mouldable, dry PTFE sealant tape for use on metal or plastic threads, pipes, or bolts.

Product Characteristics

-240°C – 260°C (-400°F – 500°F)
Seals tightly and opens easily
Non-aging, non-hardening
Chemically resistant
Requires fewer wraps
Resists tearing and breakage
Won't clog lines

Applications

Liquids: Steam, water, salt water air, fuels, refrigerants, acids, alkalis, all solvents
Gases: Hydrogen, ammonia, oxygen, propane, butane, nitrogen
Other: Pneumatic and hydraulic fittings up to 690 bar (10 000 psi)

- Seals, in many cases, with 1½ to 2 wraps—virtually all chemicals
- Adjustable by 90°, no leakage
- No waste

FLANGE SEALING

860

Mouldable Polymer Gasketing

Two-part, extrudable gasketing material allows for the creation of ultrathin gaskets in any size, any shape. Never sticks to surfaces.

Product Characteristics

Resistance to oils, water, chemicals, and solvents
Never sticks to surfaces
Fills voids and scratches up to 6 mm (1/4 inch) deep
Remains elastic
Temperatures up to 260°C (500°F)
Steam to 6,8 kg/cm^2 (100 psi) and 170°C (338°F)

Applications

For sealing complex mechanical assemblies
Gearboxes, inspection covers, bearing housings, fittings, oil sumps and reservoirs, turbine casings, electrical boxes, vacuum systems
Conforms to FDA standard 21CFR 175.300 and 177.2600. Caution: Not for use in contact with concentrated acids or hot concentrated caustics

- Economical
- Creates gaskets any size and shape
- Ease of application—speeds up maintenance

WATER-BASED ALKALINE CLEANERS

803(E)

Industrial and Marine Solvent II

A powerful, non-solvent based degreaser. Its advanced surfactant technology offers maximum efficiency in soil removal, especially applications where solvent use is required.

Product Characteristics

Phosphate-free, no EDTA or toxic solvents
No irritating fumes
Compatible with pressure washers and steam cleaners
Available Container Sizes: 5 l, 20 l, 208 l, 1 000 l
Product Availability: 5 l Europe warehouse only (3,8 l is the equivalent size from USA)

Applications

Cleaning production equipment, facilities, floors, walls, and steel structures
Cleaning dust, dirt, carbon black, petroleum-based oils

Caution: Should not be used on aluminium or metals sensitive to high alkalinity. When using on painted surfaces, test small area for compatibility.

- Cost-effective—highly concentrated—dilute with water to use
- Strong, fast-acting
- Biodegradable

Standards and approvals available on pages 87 – 90.

360(E)

Phosphate-Free Cleaner

Especially effective on animal fats and vegetable oils for the food industry. A versatile, industrial cleaner for environmentally sensitive areas.

Product Characteristics

Highly effective on animal fat and vegetable oil
High stable foam
Solvent-free
Available Container Sizes: 20 l, 208 l, 1 000 l

Caution: Do not use on aluminium

Applications

Food, pharmaceutical, and beverage industry
Meat and poultry plants
Bottling, canning, packaging machines
Wastewater treatment
Floors, pump stations
Sludge and fungi removal
Marine
Decks, hulls, bilges
Industrial
Floors, walls, tiles, concrete
Machines

- Cost-effective—highly concentrated—dilute with water to use
- Strong, fast-acting
- Environmentally friendly—biodegradable

KPC 820(E)

KPC

Balances powerful performance with environmental compliance and worker safety—the ideal choice for process degreasing.

Product Characteristics

Effective on:
Oil deposits
Soot and exhaust residue
Lubricants and metalworking fluids
Animal and vegetable fats
Low residue
No phosphates, harsh alkalis, or EDTA
Available Container Sizes: 20 l, 208 l, 1 000 l

Applications

Ideal for manual, dip tank, and ultrasonic cleaning
Effective for dip tank cleaning when heated to 82°C (180°F)

- Cost-effective—highly concentrated—dilute with water to use
- Strong, fast-acting, yet moderate pH
- Environmentally friendly—biodegradable

218(E)

HDP

Heavy-duty, concentrated, virtually non-foaming, liquid alkaline degreaser. Designed with the environment in mind, yet it handles tough degreasing applications.

Product Characteristics

Excellent rinsability
Corrosion-inhibited
No silicones, toxic solvents, phosphates, or EDTA
Dye and fragrance-free
Available Container Sizes: 20 l, 208 l

Available from Europe warehouse only

Applications

Spray booth washers
Floor scrubbers
High-pressure washers
Steam cleaning equipment
Can be used in food plants
Note: *Chesterton's 218 HDP(E) can be used up to 82°C (180°F)*

- Cost-effective—highly concentrated—dilute with water to use
- Long lifetime in washing equipment
- Improves worker safety—no hazardous powder dust
- Environmentally friendly—biodegradable

Standards and approvals available on pages 87 – 90.

235(E)

SSC

Powerful cleaner removes oily and greasy deposits, waxes, loose paint, and heavy soils. Specially formulated for steam cleaning equipment.

Product Characteristics	Applications
Additives retard scale build up and clogging of steam cleaning equipment	Concrete
Contains strong alkalis, emulsifiers, and surfactants	Masonry
No irritating fumes	Equipment (all types)
Available Container Sizes: 20 l, 208 l	

Caution: Should not be used on aluminium or metals sensitive to high alkalinity. When using on painted surfaces, test small area for compatibility.

- Cost-effective—highly concentrated—dilute with water to use
- Strong, fast-acting
- Improves worker safety by removing slippery surfaces
- Biodegradable

WATER-BASED ACID CLEANERS

338(E)

Super Rust Remover

Removes rust from ferrous metal and corrosion from aluminium; brightens copper, brass, stainless steel, and zinc—quickly and safely.

Product Characteristics	Applications
Removes metal oxide layer	***General***
Brightens non-ferrous metals	Metal prefinishing of machined parts and metalwork
Leaves metal paint-ready	***Maintenance***
Rinses clean with water	Restores rusted inventories, nuts/bolts
Short-term corrosion protection	Threaded assemblies, internal corrosion shafts, cast housings
Available Container Sizes: 20 l, 208 l	

- Cost-effective—highly concentrated—dilute with water to use
- Inhibited to protect base metals
- Biodegradable

346(E)

Descaler and Chemical Cleaner

Strong, acid-based, multi-use liquid, formulated with metal-protecting inhibitor for a wide range of applications.

Product Characteristics	Applications
Dissolves rust and scale while protecting base surface	Steam boiler tubes
Concentrated hydrochloric base and additives	Condenser water systems
Available Container Sizes: 20 l, 208 l	Water circulating equipment
	Concrete etching
	Heat exchangers

Caution: Not effective on grease, oil, and common soil. Not for use on aluminium, painted enamel, stainless steel, or decorative metals.

- Cost-effective—highly concentrated—dilute with water to use
- Saves on labour, maintenance costs, and fuel consumption in heat transfer equipment
- Inhibited to protect base metals
- Biodegradable

Standards and approvals available on pages 87 – 90.

SOLVENT BASED CLEANERS

274(E)

Industrial Degreaser

A hard surface degreaser for industrial and marine environments.

Product Characteristics

Dissolves petroleum oil, grease, tar, and other inorganic soils
Low odour, aromatic content
Does not attack metal, most paints, and plastics
Fast, penetrating action
Available Container Sizes: Aerosol, 20 l, 208 l

Applications

Maintenance shops
Dip tanks
Hard surfaces
Machined parts
Recirculating and agitated parts washers

- Cost-effective
- Low evaporation, long lifetime, reduced consumption
- Improves worker safety
- High flash point

CONTACT CLEANERS

276(E)

Electronic Component Cleaner

Fast evaporating, high performance, solvent based degreaser that does not contain ozone depleting solvents.

Product Characteristics

Low residue
Non-chlorinated
No ozone-depleting materials
Available Container Sizes: Aerosol, 20 l, 208 l
200 l Europe warehouse only

Applications

Spray cleaning
Switches, controllers, panel meters
Circuit boards, contacts, levers
Control panels
Hard surface degreasing
Equipment, motors
Non-energized electrical equipment
Parts in process

- Cleans quickly with a fast evaporation rate
- Does not attack plastic or metal

Standards and approvals available on pages 87 – 90.

RECIRCULATING METALWORKING FLUIDS

372(E)

Opticool Emulsified Oils

Opticool fluids are the newest line of emulsifiable machinery coolants. Emulsified coolants are ideal where lubrication is important and operations are severe.

Product Characteristics	Applications
Unique, base oil technology	Broaching, drilling, reaming
Extreme-pressure capability	Tapping, threading, milling
Minimizes rancidity and odours	Turning, grinding, stamping
Corrosion protection	
Virtually eliminates adverse skin reactions	

Available Container Sizes: 20 l, 208 l, 1 000 l

- Long sump life
- Reduced purchases, disposal, and downtime costs
- Improves part finish and tool life

NON-RECIRCULATING METALWORKING FLUIDS

388

Synthetic Tapping Fluid

Safe, pure synthetic formula for machining operations performed at high-speed and -feed rates as well as manual or automatic single-shot cutting tool applications.

Product Characteristics	Applications
Ready to use	Tapping
Metal fines do not stick	Boring
Can be used with aluminium, and aluminium alloys	Reaming
	Threading
Does not smoke, fume, or mist	Drilling
Essentially odourless	Milling
Excellent lubricity and heat dissipation	May be used in mist applications

Available Container Sizes: 475 ml, 20 l, 208 l

- Fluid, penetrates tight tolerances
- Improves part finish and tool life
- Biodegradable, contains no oil or solvents

Standards and approvals available on pages 87 – 90.

CORROSION CONTROL

775(E)

Moisture Shield

An efficient, clear, moisture-displacing and anti-corrosion protective film that protects metal parts and equipment for months.

Product Characteristics

Transparent film
Excellent corrosion protection
Penetrates fine tolerances
High dielectric strength
Protects new metal from corrosion
Available Container Sizes: Aerosol, 20 l, 208 l

Applications

Parts in process, transit, or storage
Electrical systems
Marine industry
Drying out of wet electrical parts
Note: *Where long-term protection is desired use Chesterton's 740(E) Heavy-Duty Rust Guard*

- Short-term corrosion protection
- Easily removable with Chesterton's water-based or solvent based cleaners

740(E)

Heavy-Duty Rust Guard

This long-term, corrosion-preventative coating provides heavy-duty metal protection for all areas constantly exposed to humidity and corrosive fumes—without critical surface preparation.

Product Characteristics

Self-healing, if scratched
Transparent brown
Available Container Sizes: Aerosol, 5 l, 20 l, 208 l,
Product Availability: 5 l Europe warehouse only
(3,8 l is the equivalent size from USA)

Applications

Metal tools
Parts in process
Parts in storage
Pumps
Indoor structural steel
Note: *Product can be easily removed with Chesterton's 276(E) Electronic Component Cleaner or 274(E) Industrial Degreaser*

- Provides up to two years corrosion protection under sheltered outdoor conditions
- Does not peel or flake
- Excellent resistance to acid, alkali, and salt air fumes

Standards and approvals available on pages 87 – 90.

A WORLD OF PROTECTION

Industry faces adverse environmental conditions that attack components and structures which can result in compromised plant reliability and safety, as well as lost profits. Chesterton's ARC and CP coatings provide superior performance against erosion, corrosion, abrasion, and chemical attack to both metal and concrete surfaces. You can rely on Chesterton's low VOC, 100% solids protective linings to protect these surfaces in your industrial environment.

ARC Industrial Coatings Application Guide

These tables provide general guidelines for ARC product selection. Detailed product performance data can be found on product-specific data sheets and ARC chemical resistance guides.

ARC Metal Industrial Coating Systems repair, rebuild, and protect all types of industrial process equipment and structures from **abrasive, corrosive, and chemically aggressive environments.**

- Provide long-term protection
- Extend equipment life
- Cut downtime
- Reduce the need for spare parts
- Simplify maintenance procedures

<50°C (<120°F)
50 – 70°C (120 – 160°F)
70 – 90°C (160 – 195°F)
90 – 110°C (195 – 230°F)
110 – 130°C (230 – 265°F)
130 – 150°C (265 – 302°F)
150 – 180°C (302 – 356°F)
Wet Service Temperature

✓+ = Best Choice ✓ = Good Choice

		Specialty Coatings		Erosion Resistant			Corrosion, Erosion, and Chemical Attack							Abrasion Resistant				
		Patching/Repair/Rebuild	Machinable	Erosion/Corrosion Aqueous Solution	Erosion/Corrosion Mild Chemical	Erosion/Corrosion Elevated Temperature	Corrosion/Moderate Chemical	Corrosion/Harsh Chemical (Acid) Inorganic	Corrosion/Harsh Chemical (Acid) Organic and Bleaching Chemicals	Corrosion/Harsh Chemical (Alkalines)	Corrosion Flue Gasses	Potable Water Low Flow	Potable Water High Flow	Mild Sliding Abrasion	Moderate Sliding Abrasion	Severe Sliding Abrasion	Severe Sliding Abrasion/ Harsh Chemical	Impact Abrasion
Metal Industrial Coating Systems	855(E)			✓+	✓+	✓+	✓+					✓+	✓+	✓				
	858(E)	✓+	✓	✓+	✓+	✓+								✓				
	HT-T(E)			✓+	✓	✓+								✓				
	HT-S (E)			✓+	✓	✓+								✓				
	S1HB(E)			✓	✓		✓+											
	S1PW			✓	✓		✓+	✓				✓+		✓				
	S2(E)			✓+	✓+	✓	✓+	✓				✓	✓+	✓				
	S4+(E)						✓+	✓+		✓	✓							
	S5			✓	✓	✓+					✓			✓				
	S7						✓+	✓+	✓+		✓+							
	BX1(E)													✓	✓+	✓		✓
	I BX1(E)													✓	✓+	✓		✓+
	BX2(E)													✓+	✓	✓		✓
	T7 AR(E)													✓	✓	✓	✓+	
	MX FG													✓	✓	✓		

CHESTERTON Global Solutions, Local Service.

ARC Concrete Industrial Coating Systems repair, rebuild, and protect all concrete structures from **abrasive, corrosive, and chemically aggressive environments.**

Moderate Chemical | Severe Chemical

- Provide long-term protection
- Avoid costly structural rebuild
- Improve safety and reduce environmental hazards
- Simplify maintenance procedures
- Cut downtime

		Pitching Grout	Grading Grout	Chemical Process Spill Areas	Machine/Mechanical Room Floors	Clean Room Floors	Plating Rooms	Traffic Aisles	Food Processing/ Packaging	Interior Chemical Containment	Exterior Chemical Containment	Floor Drains	Battery Charger Rooms	Locker/Shower Rooms	Broadcastable, Non-Slip Surfaces	Bottling Lines	Pump Bases	Fabrication/ Manufacturing Floor	Manholes/ Septic Systems
Concrete Industrial Coating Systems	EG-1(E)	✓+	✓+																
	S1HB(E)									✓	✓								✓+
	791(E)*	✓+	✓+	✓+	✓		✓+	✓	✓	✓+	✓+	✓+	✓+			✓+	✓+	✓+	✓+
	988(E)*			✓+	✓+		✓+	✓	✓	✓+	✓+	✓+	✓+				✓+	✓+	
	NVE(E)*			✓+	✓+		✓+	✓	✓	✓+	✓+	✓+	✓+				✓+	✓+	
	CS2(E)**			✓+	✓+	✓	✓+	✓	✓	✓+	✓	✓+	✓+	✓	✓	✓	✓+	✓	✓
	CS4(E)**			✓+	✓+	✓+	✓+		✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	
	NVE VC(E)**			✓+	✓+	✓+	✓+		✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	✓+	

**Are resurfacing for mechanical and chemical exposures **Are thin film for chemical protection*

Ceramic Polymer Coatings are designed as a high performance, thin film internal and external corrosion and surface protection for metal and concrete substrates. Use to protect all types of structures and equipment from **light abrasive mediums, corrosive and mild chemical environments.**

✓++ = Best Choice ✓+ = Better Choice ✓ = Good Choice

- Single coat systems—savings on application costs
- Easy to apply by spray and manual application
- Long-term corrosion and surface protection
- Low VOCs—safe to use

Up to 80°C (176°F)
Up to 100°C (212°F)
Up to 120°C (248°F)
Wet Service Temperature

		Substrate		Application		Typical Industries (others available on request)			Erosion, Corrosion, and Mild Chemical Attack	Light Abrasion
		Steel	Concrete	External	Internal	Offshore, Sea Water	Hydrocarbon Process Crude Oil	Biogas	Corosion/ Moderate Chemical****	Light Sliding Abrasion
Ceramic Polymer Coatings	CP-Synthofloor BETA 8016		Primer							
	CP-Synthofloor 8010		Primer							
	Ceramic-Polymer STP-EP HV	✓+	✓+**	✓+	✓+	✓+	✓+		✓+	✓+
	Ceramic-Polymer SF/LF	✓+	✓+**	✓+	✓+	✓++	✓+		✓+	✓+
	Proguard CN 200	✓+	✓+**	✓+	✓+	✓+	✓++	✓+	✓+	✓+
	Proguard CN-1M & CN-OC*	✓+*	✓+**	✓+*	✓+	✓+	✓+	✓++	✓+	✓++
	Proguard 169 (37)***				✓					

** CN-OC: for stainless steel substrate* *** Primer necessary* **** Polyurethane topcoat layer (UV & weather resistance)* ***** Please consult*

EROSION-RESISTANT COATINGS FOR METALS

ARC 855(E)

Abrasion Control Liquid

An advanced, liquid, ceramic composite that is formulated to protect equipment from aggressive chemical attack, corrosion, and erosion.

Product Characteristics	Applications
Two-coat system	Fans and housings
Easily applied by brush or roller	Heat exchangers
Minimum thickness of 250 µm (10 mils) per coat	Water boxes
	Pump casings and impellers
	Screws
	Condensers
	Tanks and vessels
	Valves

Technical Data	
Dry Temperature (Max)	120˚C (250˚F)
Wet Temperature (Max)	65˚C (150˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	415 – 40,7 (5 900)
Salt Fog	>10 000 hrs
Available Sizes	0,75 l; 1,5 l; 5 l; 16 l

- Improves fluid flow efficiency
- Extends equipment life
- Cuts downtime
- Reduces the need for spare parts

ARC 858(E)

Abrasion Control Compound

An advanced, trowelable, ceramic composite for the repair and protection of all metal surfaces subjected to erosion, corrosion, and chemical attack.

Product Characteristics	Applications
Applied by trowel or spatula	Pump casings and impellers
Normally applied at a thickness of 1,5 mm (60 mils) or more	Fans and housings
	Pipe elbows
	Screws
	Pitted tanks and pipes
	Heat exchangers
	Valves

Technical Data	
Dry Temperature (Max)	160˚C (320˚F)
Wet Temperature (Max)	70˚C (160˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	351 – 34,5 (2 800)
Available Sizes	0,25 kg; 0,94 l; 1,5 l; 5 l; 16 l

- Rebuilds damaged equipment
- Repairs and smoothes pitted surfaces
- Able to be top coated with other ARC/Ceramic Polymer Coatings

Standards and approvals available on page 93.

ARC HT-T(E), HT-S(E)

HT-T(E)—Spark-Testable, High-Temperature, Trowelable, Abrasion – Control Compound

HT-S(E)—Spark-Testable, High-Temperature, Sprayable, Abrasion – Control Liquid

Advanced ceramic composites that are formulated to protect equipment from corrosion and erosion in elevated temperature immersion of aqueous solutions.

- Extends equipment life
- Spark testable for pinhole–free verification
- Reduces downtime
- Cures in service

Product Characteristics

HT-T(E)– Applied at a nominal thickness of 900 – 1150 µm (35 – 45 mils) by trowel or plastic applicator

HT-S(E) – Easily applied by spray, brush, or roller Minimum thickness of 250 µm (10 mils) per coat

Applications

Hydrocyclones
Heat exchangers
Pump volutes and impellers
Condensate pumps
Tanks
Valves
Offshore equipment

Technical Data	
Dry Temperature HT-T(E) (Max)	150˚C (302˚F)
Wet Temperature HT-T(E) (Max)	110˚C (230˚F)
Dry Temperature HT-S(E) (Max)	175˚C (347˚F)
Wet Temperature HT-S(E) (Max)	150˚C (302˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	>140 – 14 (2 000)
Available Sizes	5 l, 16 l (only HT-S)

COATINGS FOR CORROSION, EROSION, AND CHEMICAL ATTACK FOR METALS

ARC S1PW

General Purpose, Sprayable, Corrosion Protection Coating

An advanced, ceramic-reinforced, liquid composite formulated to protect metal surfaces from corrosion and MILD chemical attack.

- Low permeability provides long-term protection
- Spark testable for pinhole–free verification
- Sprayable viscosity for rapid installation

Product Characteristics

Two-coat system
Easily applied by spray, brush, or roller
Minimum thickness of 250 µm (10 mils) per coat

Applications

Structural steel
Cooling water systems
Pipeline coatings
Service water systems
Wastewater structures
Tanks

Technical Data	
Dry Temperature Service (Max)	62˚C (144˚F)
Wet Temperature Service (Max)	52˚C (126˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	477 – 46,8 (6 790)
Salt Fog	>10 000 hrs
Available Sizes	5 l, 16 l

Standards and approvals available on page 93.

ARC S2(E)

Ceramic-Reinforced, Sprayable, Erosion-Resistant Coating

An advanced, liquid, ceramic-reinforced coating for the protection of all metal surfaces subject to erosive, corrosive, and severe fluid flow conditions.

Product Characteristics	Applications
Two-coat system	Fans and housings
Easily applied by spray, brush, or roller	Heat exchangers
Minimum thickness of 250 µm (10 mils) per coat	Cooling water systems
	Hoppers
	Tank linings
	Scrubber systems
	Pump and valve assemblies
	Pipeline coatings

Technical Data	
Dry Temperature (Max)	80˚C (175˚F)
Wet Temperature (Max)	52˚C (125˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	436 – 42,8 (6 200)
Salt Fog	>20 000 hrs
Available Sizes	1125 ml (cartridge), 1,5 l; 5l; 16 l

- Improves fluid flow efficiency
- Extends equipment life
- Sprayable viscosity for rapid installation
- Spark testable for pinhole-free verification

ARC S4+(E)

100% Solids, Mineral-Reinforced, Epoxy Novolac, Acid-Resistant Coating

An advanced, liquid, polymer coating formulated to protect equipment from extreme chemical attack and corrosion.

Product Characteristics	Applications
Two-coat system	Chemical storage tanks
Easily applied by spray, brush, or roller	Chimneys and stacks
Minimum thickness of 375 µm (15 mils) per coat	Exhaust gas ductwork
	Fans and housings
	Heat exchangers
	Tank linings
	Structural steel

Technical Data	
Dry Temperature (Max)	110˚C (230˚F)
Wet Temperature (Max)	50˚C (122˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	337 – 33,1 (4 800)
Salt Fog	>10 000 hrs
Available Sizes	1125 ml (cartridge), 16 l

- Provides long-term protection
- Low permeability for immersion conditions
- Sprayable viscosity for rapid installation
- Spark testable for pinhole-free verification

Standards and approvals available on page 93.

ARC S7

High-Temperature, Chemical-Resistant, Epoxy Novolac Vinyl Ester Coating

A low-VOC, epoxy novolac vinyl ester-based coating intended for high-temperature exposures in chemically aggressive applications where the risk for thermal cycling may be present.

Product Characteristics	Applications
Two-coat system	Flue gas ducts
Applied via conventional airless spray systems, brush, or roller	Heat exchangers
Wet film thickness of 0,25 – 0,5 mm (10 – 20 mils) per coat	Quench zones
	Flue gas particulate filters
	Chemical reactors
	Chemical storage and process tanks

Technical Data	
Dry Temperature (Max)	180˚C (355˚F)
Wet Temperature (Max)	135˚C (275˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	166 – 16,3 (2 370)
Available Sizes	14 l

- Extends asset life
- Provides long-term protection
- Easily applied for rapid installation
- Spark testable for pinhole-free verification

ABRASION-RESISTANT COATINGS FOR METALS

ARC BX1(E) / BX2(E)

ARC BX1(E)—Coarse Grade, Sliding Wear Compound
ARC BX2(E)—Fine Grade, Sliding Wear Compound

Advanced, ceramic-reinforced composites for the repair and protection of all metal surfaces subjected to severe abrasion and erosion/corrosion.

Product Characteristics	Applications
High volumetric ceramic particle loading	Separators and cyclones
Applied by trowel or plastic applicator tool	Hoppers/chutes
BX1(E) - Applied at a minimum thickness of 6 mm (1/4") or more	Coal pulverisers
	Hydropulpers
BX2(E) - Applied at a minimum thickness of 3 mm (1/8") or more	Wear plates
	Slurry pumps
	Pipe elbows
	Pulverised fuel lines
	Screws

Technical Data	
Dry Temperature (Max)	205˚C (400˚F)
Wet Temperature (Max)	95˚C (205˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	>210 – 21 (3 000)
Available Sizes	1.5 l, 5 l, 20 kg, 12 x 20 kg

- Reduces the need for spare parts
- Simplifies maintenance procedures
- Extends equipment life
- Improves safety by reducing hotwork

Standards and approvals available on page 93.

ARC I BX1(E)

Impact- and Wear-Resistant Epoxy Composite

I BX1(E) is a urethane modified, amine-cured epoxy coating highly reinforced with ceramic beads and flakes for resistance to severe sliding abrasion where impact forces or rapid vibration is a concern.

Product Characteristics	Applications
High volumetric ceramic particle loading	Hoppers and chutes
Applied by trowel or plastic applicator tool	Slurry pumps
Applied at minimum thickness of 6 mm (1/4") or more	Pipes and pipe elbows
	Pneumatic conveyors
	Pulverisers and impact zones

Technical Data	
Dry Temperature (Max)	205˚C (400˚F)
Wet Temperature (Max)	95˚C (205˚F)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	>211 – 21 (3 000)
Available Sizes	20 kg, 12 x 20 kg

- High impact resistance
- Reduces the need for spare parts
- Simplifies maintenance procedures
- Extends equipment life
- Improves safety by reducing hotwork

ARC T7 AR

Abrasion-Resistant, Ceramic-Reinforced Coating for High-Temperature and Chemical Exposures

A novolac epoxy/vinyl ester-based, protective barrier coating for high-temperature, chemical exposures where aggressive chemicals and highly abrasive conditions may be present.

Product Characteristics	Applications
One coat system	Flue gas ducts
Applied by trowel	Process tanks
Minimum thickness of 3 mm – 4 mm (120 – 160 mils)	Agitator blenders
	Valves
Kit also includes ARC T7 AR VC (veil coat) for final coat smoothing	Slurry pumps
	Pipes
Colour: Red	Quench zones

Technical Data	
Dry Temperature - Continuous (Max)	180°C (355°F)
Wet Temperature - Water (Max)	135°C (275°C)
Tensile Adhesion (ASTM D4541) – kg/cm² - MPa (psi)	158 kg/cm² – 15,5 MPa (2 249)
Available Sizes	20.4 kg

- Resists a wide range of inorganic as well as organic acids and hydrocarbon-based chemical compounds
- Resists abrasion
- Easily apply by trowel

Standards and approvals available on page 93.

ARC 791(E)

100% Solids, Novolac Resin Blend, Trowel-Applied, Quartz-Reinforced Concrete, High-Build Concrete Coating

A quartz-reinforced composite that is designed to resurface and restore concrete surfaces, to protect new concrete, and to repair concrete damaged by chemical and physical abuse.

Product Characteristics	Applications
Trowelable overlayment	Chemical containment
Applied at minimum thickness of 6 mm (1/4")	Floor drains and sumps
Can be applied to damp concrete	Process floor
Non-shrinking, no solvents, 100% solids	Equipment bedding
Colour: Grey	Pump bases/grouting
	Structural support columns

Technical Data	
Dry Temperature (Max)	93˚C (200˚F)
Wet Temperature (Max)	66˚C (150˚F)
Compression Strength (ASTM 579) - kg/cm² - MPa (psi)	644 – 63 (9 160)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	>35.1 – 3.4 (500) Concrete failure
Available Sizes	System Kit, Bulk Kit

- Covers a broad range of chemical exposures
- Provides long-term protection
- Avoids costly structural rebuild
- Easily applied to vertical surfaces/non-sagging

ARC 988(E)

Highly Chemically Resistant, 100% Solids, Pure Novolac Resin-Based, Trowel Applied, Quartz-Reinforced Concrete, High-Build Concrete Coating

A high performance, quartz-reinforced composite that is designed to resurface and restore concrete surfaces, to protect new concrete, and to repair concrete damaged by severe chemical and physical abuse.

Product Characteristics	Applications
Trowelable overlayment	Chemical containments
Applied at minimum thickness of 6 mm (1/4")	Equipment bases
Can be applied to damp concrete	Secondary containment areas
Non-shrinking, no solvents, 100% solids	Sumps, trenches, and neutralization tanks
Colours: Grey, Red	

Technical Data	
Dry Temperature (Max)	93˚C (200˚F)
Wet Temperature (Max)	65˚C (150˚F)
Compression Strength (ASTM 579) - kg/cm² - MPa (psi)	1070 – 105 (15 200)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	Greater than 35,1 – 3.4 (500) Concrete failure
Available Sizes	System Kit, Bulk Kit

- Resists cracking and delamination
- Reduces safety hazard caused by damaged concrete
- Easily applied to vertical surfaces/non-sagging

Standards and approvals available on page 93.

THIN FILM COATINGS FOR CONCRETE

ARC CS2(E) / CS4(E)

CS2(E)—General Purpose, Thin Film, Novolac Blend, Epoxy Coating
CS4(E)—Highly Chemically Resistant, 100% Novolac Resin, Epoxy Coating

Thin film, advanced composites that are formulated to protect concrete surfaces. CS2(E) is used for mild chemical attack and CS4(E) for harsh chemical attack.

- Provides long-term protection
- Excellent resistance to permeation
- Versatile for a variety of conditions

Product Characteristics	Applications
Easily applied by notched squeegee, brush, roller, or spray equipment	Concrete tanks, Chemical tanks
Can be applied to damp concrete	Water intakes and dams
High-gloss surface	Secondary containment
Non-shrinking, no solvents, 100% solids	Process floor areas
Minimum thickness of 250 – 375 µm (10 – 15 mils) per coat	Cooling towers
Colours: CS2 grey, CS4 red	Chemical plant floors
	Floor drains, sumps
	Drainage troughs
	Equipment bases

Technical Data	
Dry Temperature (Max)	CS2(E): 93˚C (200˚F) CS4(E): 80˚C (175˚F)
Wet Temperature (Max)	CS2(E): 52˚C (125˚F) CS4(E): 40˚C (105˚F)
Compression Strength (ASTM D695) - kg/cm2 - MPa (psi)	CS2(E): 802 (11 380), CS4(E): 895 (12 680)
Tensile Adhesion (ASTM D4541) - kg/cm² - MPa (psi)	CS2(E): >35.1 – 3.4 (500) Concrete failure CS4(E): >35.1 – 3.4 (500) Concrete failure
Available Sizes	5 l (only CS4); 16 l

ARC NVE System

High-Temperature and Chemical-Resistant, Epoxy Novolac Vinyl Ester Coating

A modified, novolac vinyl ester lining system intended for high-temperature exposures in chemically aggressive applications. The product may be applied as a high-build system or thin-film system.

- Blocks chemical penetration
- Serves demanding applications
- Stops migration of chemicals

Product Characteristics	Applications
Thin film - NVE(E) VC (Veil Coat)	Process floors
Applied at minimum thickness of 250 – 375 µm	Secondary containments
Colours: Red	Trenches, drains, and sumps
High-build - NVE(E) TC (Top Coat)	Tanks
Applied at minimum thickness of 6 mm (1/4")	Pipelines
Colour: Grey	

Technical Data	
Dry Temperature (Max)	200˚C (392˚F)
Wet Temperature (Max)	135˚C (275˚F)
Compression Strength (ASTM 579) - kg/cm² - MPa (psi)	NVE(E) TC (High-Build System): 801 – 78.6 (11 400)
Tensile Adhesion to Concrete - kg/cm² - MPa (psi)	>28 – 2,8 (400)
Available Sizes	System Kit

Standards and approvals available on page 93.

ARC S1HB(E)

High-Build, Single-Coat, Edge-Retentive Barrier Coating

A 100% solids, mineral-reinforced, high-build coating to protect metal and concrete against chemical corrosion and erosion.

- Allows for one-coat application
- Cures and bonds to damp and marginally prepared surfaces
- 2:1 mix ratio simplifies heated plural component spray application

Product Characteristics

High-build (1 – 2 mm/ 40 – 80 mils) coating designed for rough surfaces

Allows for one-coat application

Easily applied by heated plural component spray with brush application for touch-up

UV-sensitive pigment for QC inspection

Applications

Crude oil storage tanks
Wastewater clarifiers
Thickener tanks
Chemical storage tanks
Grit chambers
Wet wells/junction boxes
Manholes
Pipelines/penstocks
Cathodic protection systems

Technical Data	
Dry Temperature	80˚C (175˚F)
Wet Temperature	52˚C (125˚F)
Compression Strength (ASTM D695)	875 kg/cm2 (85.8 MPa), 12460 psi
Tensile Adhesion to Concrete - kg/cm² – MPa (psi)	>28 – 2,8 (400)
Available Sizes	51L and 480L Kit

CERAMIC POLYMER COATINGS

CP-SYNTHOFLOOR BETA 8016 / 8010

2-component epoxy primer. This product is suitable as a primer/key coat on concrete surfaces.

8016 – Lightly filled system for suspended concrete substrates.

8010 – Unfilled system designed for slab on grade concrete. This product is for damp concrete surfaces, "green" concrete, and concrete surfaces where rising damp is expected.

- Excellent adhesion properties and wetting characteristics
- Simple application by airless spraying or roller

Product Characteristics

Very good mechanical resistance
CP-Synthofloor BETA 8016:
- Medium viscosity
- Colour: Beige

CP-Synthofloor 8010:
- Low viscosity
- Colour: Clear

Applications

Concrete substrates – with suitable Ceramic Polymer/ARC Topcoat system for the following mediums:
- Water/sewage
- Alkalis
- Mineral oil
- Saline solutions
- Diluted acids
- Lubricants and fuels (incl. aviation fuel)

Technical Data	
Dry Temperature – Continuous (Max)	80°C (176°F)
Wet Temperature – Water (Max)	Short term 60°C (140°F)
Bending Tensile Strength (DIN EN ISO 178)	30 MPa (4 351 psi)
Available Sizes	CP-Synthofloor BETA 8016: 30 kg CP-Synthofloor 8010: 25 kg (larger sizes available on request)

Standards and approvals available on page 93.

CERAMIC-POLYMER
STP-EP HV / STP-EP

Ceramic-Polymer STP-EP is a surface-tolerant two-pack ceramic composite epoxy coating providing outstanding protection to a variety of substrates.

STP-EP – Low viscosity, thin-film system applied up to 200 microns.

STP-EP HV – High viscosity, high-build system applied up to 1000 microns.

Product Characteristics	Applications
Surface tolerant (SA1, ST3, ST2)	Steel structures
Good chemical resistance and abrasion resistance	Tanks
Resistance against many hydrocarbons and seawater	Process tanks
Colours: Various RAL colours on demand, preferable grey tones	Pipelines
	Offshore and onshore constructions

Technical Data	
Dry Temperature (Max)	120°C (248°F)
Wet Temperature (Max)	100°C (212°F)
Adhesive Strength on Steel (ASTM D4541)	37 MPa (5,366 psi)
Available Sizes	19.98 kg 1000 ml cartridge

- Surface tolerant system—low surface preparation requirements (for non-immersion)
- Economical—one-layer application up to 1000 µm (at 20°C)
- Simple application by airless spraying, roller, or cartridge system

CERAMIC-POLYMER
SF/LF

Ceramic Composite Coating for Demanding Offshore/Onshore applications

A ceramic-reinforced epoxy-based coating specially designed for harsh environments.

Product Characteristics	Applications
ISO 20340 (Performance requirements for protective paint systems for offshore and related structures)	On- and Offshore facilities
High flexibility	Splash zones
Colours: Various RAL colours on demand	Tubing and pipelines
	Storage tanks

Technical Data	
Dry Temperature (Max)	90°C (194°F)
Wet Temperature (Max)	80°C (176°F)
Adhesive Strength on Steel (ASTM D4541)	34 MPa (4 931 psi)
Salt Spray	10 000 hrs (DIN EN ISO 9227:2006-10), ISO 20340
Available Sizes	16 kg, 30 kg (larger sizes available on request)

- For aggressive environmental conditions
- Economical—one-layer application up to 800 µm (at 20°C)
- Simple application by airless spraying or roller

Standards and approvals available on page 93.

PROGUARD CN 200

Internal Coating for Chemical Attack in Industrial Environments

A solvent-free novolac epoxy-based ceramic coating for long-term protection against chemicals and elevated operating temperatures on a wide variety of substrates.

Product Characteristics	Applications
Excellent chemical resistance	Storage tanks
Mild abrasion resistance	Process vessels
ISO 20340 (Performance requirements for protective paint systems for offshore and related structures)	Pressure vessels
	Pipelines
Colours: Various RAL colours on demand	Wastewater

Technical Data	
Dry Temperature (Max)	150°C (302°F)
Wet Temperature (Max)	120°C (248°F)
Adhesive Strength on Steel (ISO 4624)	27 MPa (3 916 psi)
Salt Spray	10 000 hrs (DIN EN ISO 9227:2006-10), ISO 20340
Available Sizes	16.5 kg, (larger sizes available on request)

Proguard CN 200 a.s. - available with antistatic properties for flammable storage applications (Note - different sizes and characteristics)

- For chemical, light sliding abrasion and erosion/ corrosion protection
- Economical—one-layer application up to 1200 µm (at 20°C)
- Simple application by airless spraying or roller

PROGUARD CN-1M / CN-OC

Chemical- and Abrasion-Resistant Coatings for Elevated Temperatures in Aggressive Atmospheres.

Chemically resistant, special epoxy novolac coatings containing low friction additives and high-tech, microparticle reinforcement.

Product Characteristics	Applications
Excellent chemical resistance	Storage tanks
High corrosion and abrasion protection to a wide variety of substrates	Process vessels
	Pressure vessels
Colours: black and anthracite	Pipelines

Technical Data	
Dry Temperature (Max)	150°C (302°F)
Wet Temperature (Max)	120°C (248°F)
Adhesive Strength on Steel (ASTM D4541)	36 MPa (5 221 psi) on carbon steel
Available Sizes	12.5 kg / 13.33 kg (depends on resin combination) 1000 ml cartridge

- For chemical, light sliding abrasion and erosion/ corrosion protection
- Economical—one-layer application (thickness depends on viscosity version)
- Simple application by airless spraying, roller, or cartridge system

Standards and approvals available on page 93.

PROGUARD 169 (37)

PU-Topcoat with long-term stability to UV radiation

A highly crosslinked polyurethane topcoat with excellent physical properties. The glossy, nonporous surface is durably resistant against UV radiation and weathering

Product Characteristics	Applications
According to ISO 12944-9 up to classification C5 Colours: Various colours (RAL or NCS tone)	Topcoat for existing corrosion protection system, for scopes such as: Steel structures Tanks and pipelines Bridges Automotive, railway On- and offshore facilities

- Extreme UV stability and weather resistance
- One-coat, fast curing (Opacity depends on colour. With light colours a second layer—wet-on-wet—may be necessary)
- Simple application by airless spraying or roller

Technical Data	
Dry Temperature (Max)	120°C (248°F) - at temperatures above 100°C light and bright colours may become yellow
Available Sizes	11.5 kg (larger sizes available on request)

Standards and approvals available on page 91.

Ancillary Products

803(E) Industrial and Marine Solvent

Powerful water-based alkaline cleaner to remove oil and grease from metal and concrete surfaces.
Go to page 67.

277(E) Metal Surface Degreaser

A fast-acting, low-residue, non-chlorinated, industrial-strength solvent degreaser designed to remove oils, greases, dirt, and dust.
Go to chesterton.com.

ARC High Solids Spray System

Simple and efficient way to reliably spray selected ARC composites.
Go to chesterton.com.

415(E) Concrete Sealer

Tough polymer coating that seals, protects, and beautifies old and new concrete, brick, rock, wood, and metal.
Go to chesterton.com.

IL and MRO Products

For NSF approvals please go to http://info.nsf.org/USDA/Listings.asp?Company=N02425

Product	NSF Category	FDA	Military/Federal Specification	Other
218(E) HDP	A1	–	–	–
235 SSC	A4			
235(E) SSC	A4	–	–	–
273 Electric Motor Cleaner	K2	–	–	–
273 Electric Motor Cleaner (Aerosol)	K2	–	–	–
274 Industrial Degreaser	C1, K1, K2	178.3530	–	–
274 Industrial Degreaser (Aerosol)	C1, K1, K2	178.3530	–	–
274(E) Industrial Degreaser (Aerosol)	C1, K1, K2	178.3530	–	–
274(E) Industrial Degreaser (Bulk)	C1, K1, K2	178.3530	–	–
276 Electronic Component Cleaner (Aerosol)	K2	178.882 172.884 178.3530 178.3650	–	–
276 Electronic Component Cleaner (Bulk)	K2	178.882 172.884 178.3530 178.3650	–	–
276(E) Electronic Component Cleaner (Aerosol)	K2	178.882 172.884 178.3530 178.3650	–	–
276(E) Electronic Component Cleaner (Bulk)	K2	178.882 172.884 178.3530 178.3650	–	–
277 Metal Surface Degreaser (Aerosol)	C1, K1	178.882 172.884 178.3530	–	–
277 Metal Surface Degreaser (Bulk)	C1, K1	178.882 172.884 178.3530	–	–
277(E) Metal Surface Degreaser (Aerosol)	C1, K1	178.882 172.884 178.3530	–	–
277(E) Metal Surface Degreaser (Bulk)	C1, K1	178.882 172.884 178.3530	–	–
294 CSD	C1, K1, K3	–	–	–
294(E) CSD	C1, K1, K3	–	–	–
346 Descaler and Chemical Cleaner	A3	–	–	–
3500 Valvelon	P1	–	–	–
360 Phosphate-Free Cleaner	A1, A4	–	–	–
360(E) Phosphate-Free Cleaner	A1, A4	–	–	–
390 Cutting Oil (Aerosol)	H2, P1	–	–	–
395 Tapping Lubricant	H2	–	–	–
438 PTFE Coating (Aerosol)	H2	–	–	–

For NSF approvals please go to http://info.nsf.org/USDA/Listings.asp?Company=N02425

Product	NSF Category	FDA	Military/Federal Specification	Other
601 Chain Drive Pin and Bushing Lubricant (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
601 Chain Drive Pin and Bushing Lubricant (Bulk)	H2	–	–	German Mining 62.12.22.63-2012-3
601(E) Chain Drive Pin and Bushing Lubricant (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
601(E) Chain Drive Pin and Bushing Lubricant (Bulk)	H2	–	–	German Mining 62.12.22.63-2012-3
610 Plus Synthetic Lubricating Fluid (Bulk)	H2	–	–	–
610 Synthetic Lubricating Fluid (Aerosol)	H2	–	–	–
610(E) Plus Synthetic Lubricating Fluid (Aerosol)	H2	–	–	–
610 MT Plus	H2	–	–	–
615 High-Temperature Grease #1	H2	–	–	–
615 High-Temperature Grease #2	H2	–	–	–
622(E) White Grease	H1	178.3570 177.1550	–	Halal, Kosher
625 CXF, 625(E) Corrosion-Resistant, Extreme Pressure, Food-Grade Grease	H1	178.3620 178.3570	–	Halal, Kosher
629 High-Temperature White Grease	H1	178.3570 177.1550	–	–
630 SXCF (Aerosol)	H1	178.3570		–
630 SXCF (Bulk)	H1	178.3570	–	–
630(E) SXCF (Aerosol)	H1	178.3570	–	–
651 Detergent Lubricating Oil (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
651 Detergent Lubricating Oil (bulk)	H2	–	–	German Mining 62.12.22.63-2012-3
651(E) Detergent Lubricating Oil (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
651(E) Detergent Lubricating Oil (Bulk)	H2	–	–	German Mining 62.12.22.63-2012-3
652 Pneumatic Lubricant and Conditioner	H2	–	–	–
652(E) Pneumatic Lubricant and Conditioner (Bulk)	H2	–	–	–
660 Silicone Lubricant (Aerosol)	H1	181.28 178.3910 178.3570	–	–
660 Silicone Lubricant (Bulk)	H1	181.28 178.3910 178.3570	–	–

For NSF approvals please go to http://info.nsf.org/USDA/Listings.asp?Company=N02425

Product	NSF Category	FDA	Military/Federal Specification	Other
660(E) Silicone Lubricant (Aerosol)	H1	181.28 178.3910 178.3570	–	–
660(E) Silicone Lubricant (Bulk)	H1	181.28 178.3910 178.3570	–	–
662 FG Barrier Fluid 22	H1	–	–	–
662 FG(E) Barrier Fluid 22	H1	–	–	Halal, Kosher
690 FG Lubricant (Aerosol)	H1	178.3620 178.3570	–	–
690 FG Lubricant (Bulk)	H1	178.3620 178.3570	–	–
690 FG(E) Lubricant (Aerosol)	H1	178.3620 178.3570	–	–
690 FG(E) Lubricant (Bulk)	H1	178.3620 178.3570	–	Halal, Kosher
706 Rustsolvo®	H2	–	–	–
706 (E) Rustsolvo®	H2	–	–	–
715 Spraflex®	H2	–	–	–
715 Spraflex® (Aerosol)	H2	–	–	–
715 Spraflex® Gold	H2	–	–	German Mining 62.12.22.63-2012-3
715 Spraflex® Gold (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
715(E) Spraflex® Gold (Aerosol)	H2	–	–	German Mining 62.12.22.63-2012-3
715(E) Spraflex® Gold (Bulk)	H2	–	–	German Mining 62.12.22.63-2012-3
723 Sprasolvo®	H2	–	–	–
723(E) Sprasolvo®	H2	–	–	–
723 FG Sprasolvo®	H1	172.884 178.3620 178.3650 178.3570	–	–
723 FG(E) Sprasolvo®	H1	172.884 178.3620 178.3650 178.3570	–	–
725 Nickel Anti-Seize Compound	H2	–	MIL-A-907	–
725(E) Nickel Anti-Seize Compound	H2	–	MIL-A-907	–
730 Spragrip®	P1	–	–	German Mining 62.12.22.63-2012-3
730(E) Spragrip®	–	–	–	German Mining 62.12.22.63-2012-3
740 Heavy-Duty Rust Guard	–	–	MIL-C-16173D Grade 1 and 4	German Mining 62.12.22.63-2012-2
740(E) Heavy-Duty Rust Guard	–	–	MIL-C-16173D Grade 1 and 4	German Mining 62.12.22.63-2012-2

For NSF approvals please go to http://info.nsf.org/USDA/Listings.asp?Company=N02425

Product	NSF Category	FDA	Military/Federal Specification	Other
775 Moisture Shield (Aerosol)	H2	–	MIL C 16173D Grade 3	–
775(E) Moisture Shield (Aerosol)	H2	–	MIL C 16173D Grade 3	–
783 ACR	–	–	–	German Mining 62.12.22.63-2012-3
783(E) ACR	–	–	–	German Mining 62.12.22.63-2012-3
785 Parting Lubricant	H2	–	–	–
785(E) Parting Lubricant	H2	–	–	–
785 FG Parting Lubricant	H1	–	–	–
785 FG(E) Parting Lubricant	H1	–	–	–
787 Sliding Paste	H2	–	–	–
800 GoldEnd® Tape	H1, P1	177.1615 177.1550	MIL-T-27730A MIL A-A-58092	UL® Listed USA, ULC Listed Canada, Oxygen Tested per ISO 10297 and ISO 11114-3, Oxygen certified BAM Ref. No. 2-1033/2014E, Certified Food Grade 1935-2004.
801(E) Industrial and Marine Solvent	A1, A4, A8	–	–	–
803 Industrial and Marine Solvent II	A1	–	–	–
803(E) Industrial and Marine Solvent II	A1	–	–	–
820 KPC	A1	–	–	–
820(E) KPC	A1	–	–	–
860 Mouldable Polymer Gasketing	P1	175.300 177.2600	–	German Mining 62.12.22.63-2012-3
900 GoldEnd® Paste	H2, P1	–	–	UL Listed

Mechanical Seals

Application	Certifications/Approvals	Product
ATEX	ATEX Cat 1 (Group 2) on Wet Applications	280™
ATEX	ATEX Cat 1 (Group 2) on Wet Applications	280M
ATEX	ATEX Cat 1 (Group 2) on Top-Entry Dry Applications	442™
ATEX	ATEX Cat 1 (Group 2) on Top-Entry Dry Applications	491
ATEX	ATEX Cat 1 (Group 2) on Top-Entry Dry Applications	442M™
ATEX	ATEX Cat 1 (Group 2) on Wet Applications	2810
ATEX	ATEX Cat 1 (Group 2) on Wet Applications	2810M
Drinking Water	ACS	150
Drinking Water	ACS, KTW*, WRAS*	491 DINS/ 491 DINL/ 1810 /2810
Drinking Water	ACS	442C™
Drinking Water	ACS, KTW*, WRAS*	1810
Food Approval	EC1935-2004	491 DINS / 491 DINL
Food Contact	FDA	280™
Food Contact	FDA	442™
Food Contact	FDA	442C™
Food Contact	FDA	1810
Drinking Water	NSF61	1810
Fugitive Emission Control	TA Luft/VDI 2440	280/1810/2810
Fugitive Emission Control	TA Luft/VDI 2440	4400
Marine	RINA Approval**	442 Family

**Only elastomers and seal faces* ***Customer Specification Listing*

Compression Packing

Application	Certifications/Approvals	Product
Drinking Water	WRAS	2212 /1935
Drinking Water	ACS	1725A
Food Contact	EC1935- 2004 - FDA 21 CFR	1935
Food Contact	FDA 21 CFR	1725A
Food Contact	FDA 21 CFR	CMS 2000-FP
Fugitive Emission Control	API-589 (Fire Safe) - API-607 (Fire Safe)	1600
Fugitive Emission Control	API-622 - API-607 (Fire Safe) - TA Luft/VDI 2440 -ISO 15848-1* - Total**-Chevron Texaco**	1622
Fugitive Emission Control	API-589 (Fire Safe)	5800
Fugitive Emission Control	API-589 (Fire Safe)	1400R
Fugitive Emission Control	TA Luft/VDI 2440	1600/477-1 LL
Fugitive Emission Control	TA Luft/VDI 2440	1724/477-1 LL
Fugitive Emission Control	TA Luft/VDI 2440	1724 Low E
Fugitive Emission Control	API-589 (Fire Safe)	5300GTPG / 1600
Fugitive Emission Control	API-589 (Fire Safe)	5800E
Fugitive Emission Control	API-589 (Fire Safe)	5800T
Military	MIL P-24790(SH)	1760
Nuclear	Nuclear 10CFR pt21	1601
Nuclear	Nuclear 10CFR pt21	5800
Nuclear	Nuclear 10CFR pt21	5300GTI / 1601
Oxygen Compatible	BAM Oxygen	1730
Oxygen Compatible	BAM Oxygen	1830
Oxygen Compatible	BAM Oxygen	1400R
Oxygen Compatible	BAM Oxygen	1724-OX

**Valve Test Standard* ***Customer Specification Listing*

Note: The above certifications and compliance are available on request.

Flange Gaskets

Application	Certifications/Approvals	Product
Drinking Water	DVGW - KTW	553
Drinking Water	DVGW - KTW	455EU
Drinking Water	DVGW	Duragraf F
Drinking Water	DVGW - KTW	Duragraf T
Food Contact	EC1935 - 2004 - FDA 21 CFR	184
Food Contact	EC1935 - 2004 - FDA 21 CFR	185
Food Contact	FDA 21 CFR	ECS-B
Food Contact	EC1935 - 2004 - FDA 21 CFR	ECS-T
Food Contact	FDA 21 CFR	ECS-W
Fugitive Emission Control	API-607 (Fire Safe) - TA Luft/VDI 2440	553
Fugitive Emission Control	Shell Spec MESC SPE 85/203	Duragraf T
Fugitive Emission Control	TA Luft/VDI 2440	ECS-T
Marine	ABS** Approval	ECS-T
Nuclear	Nuclear 10CFR pt21	199
Oxygen Compatible	BAM Oxygen	Duragraf F
Oxygen Compatible	BAM Oxygen	Duragraf T
Oxygen Compatible	BAM Oxygen	ECS-W

Fluid Power – Raw Materials

Application	Certifications/Approvals	Product
Food Contact	EC1935 - 2004 - FDA 21 CFR	AWC510
Food Contact	FDA 21 CFR	AWC520
Food Contact	FDA 21 CFR	AWC600 FDA Polyester TPE
Food Contact	FDA 21 CFR	AWC610
Food Contact	EC1935 - 2004 - FDA 21 CFR	AWC615
Food Contact	FDA 21 CFR	AWC650
Food Contact	FDA 21 CFR	AWC664 Oil Filled Off White Nylon
Food Contact	FDA 21 CFR	AWC703
Food Contact	FDA 21 CFR	AWC716 White FKM
Food Contact	FDA 21 CFR, EU 1935/2004	AWC737
Food Contact	FDA 21 CFR	AWC741
Food Contact	FDA 21 CFR	AWC753
Food Contact	EC1935 - 2004 - FDA 21 CFR	AWC754
Food Contact	FDA 21 CFR	AWC762 White Silicon
Food Contact	FDA 21 CFR	AWC830
Food Contact	FDA 21 CFR, 3A Sanitary, EU 1935/2004, EU 10/2011	AWC839
Marine	ABS** Approval	22KN5 Shaft Seal

**Customer Specification Listing

Note: The above certifications and compliance are available on request.

ARC

Application Area	Certifications/Approvals	Product
Drinking Water	WRAS Approval to 55°C (131°F) (UK Potable Water)	ARC 855(E)
Drinking Water	Israel Potable Water (Israel Standard SI 5452) up to 40°C (104°F)	ARC 855
Drinking Water	WRAS Approval Cold Water (UK Potable Water)	ARC S2(E)
Drinking Water	Global Migration Test – Italian Ministerial Decree no. 174 6/4/2004; (Iren Test Lab)	ARC S2
Drinking Water	Global Migration Test – Italian Ministerial Decree no. 174 6/4/2004; (Iren Test Lab)	ARC CS2(E)
Health and Safety Certificate for use in underground mines	German Underground Mining	ARC 855
Protection of Internal Surfaces	Total GS RC COR 002	ARC HT-S, ARC HT-T
Food Contact	FDA 21 CFR 175.300	ARC MX FG
Food Contact	Tested to Regulation (EC) No. 1935/2004	ARC 791
Food Contact	Tested to Regulation (EC) No. 1935/2004	ARC HT-S(E)
Drinking Water - Joining and Sealing Material	NSF Standard 61 - US Potable Water (Hot Water)	ARC 5ES
Drinking Water - Protective (Barrier) Materials	NSF Standard 61 - US Potable Water (Tanks, Pipes, Pumps, Valves)	ARC S1PW
Drinking Water	KIWA BRL- K759	ARC S2(E)-KIWA
Drinking Water	Swedish Type Approval 1711	ARC S2(E)-KIWA
Metal Repair and Hull Smoothing Types I and II	Mil Spec Approval - MIL-PRF-24176 (QPL-24176)	ARC 10
Metal Repair and Hull Smoothing Types I and II	Mil Spec Approval - MIL-PRF-24176 (QPL-24176)	ARC 858
Concrete Coatings	CE Marking to EN 13813	ARC 791(E) / ARC 988(E) / ARC NVE(E) / ARC EG-1(E)
Concrete Coatings	CE Marking to EN 1504-2	ARC CS2(E) / ARC CS4(E) / ARC S1HB(E)

Ceramic Polymer

Application Area	Certifications/Approvals	Product
Cold Drinking Water Onshore and Offshore	Folke Elsa NO	Ceramic Polymer SF/LF
Marine - Offshore	Norsok M-501, System No. 7B	Proguard M-ST1 & Proguard M-ST2
Marine - Offshore	Norsok M-501, System No. 1	Ceramic Polymer NK C5-1/C5-2/C5-3

**Customer Specification Listing

Note: The above certifications and compliance are available on request.

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