

# SLURRY

## SLURRY SEALING PROGRAM

HIGH PERFORMANCE MECHANICAL SEALS AND PACKING



# A history of proven results

## *Knowledge, experience, and service*

CHESTERTON® has over a century of experience in providing sealing solutions for a wide variety of tough sealing applications. Customers can benefit from Chesterton's sealing knowledge and experience.

We provide high-reliability sealing solutions designed specifically for slurry applications. Chesterton sealing solutions increase reliability, simplify installation with standardization, and extend sealing performance throughout your plant.

Our in-field program specialists and applications engineers have both the industry and product knowledge to deliver this high-level service.



# PROGRAM

## CHESTERTON SLURRY SEALING PROGRAM

### *Decrease costs and improve reliability*

Chesterton's Slurry Sealing Program is an efficient, systematic approach that assists users in meeting their productivity goals by reducing maintenance costs on targeted rotating equipment. Our program is built on knowledge and experience with sealing slurry equipment to increase reliability and document cost savings using both packing and seal technologies.

Experienced field specialists will methodically work with maintenance and reliability teams to develop baseline performance, implementing best available techniques optimized for your plant.

*Chesterton can create a customized, cost-effective solution to meet your specific needs.*

*Take advantage of the benefits the Chesterton Slurry Sealing Program has to offer.*



# SINGLE SOURCE SOLUTIONS

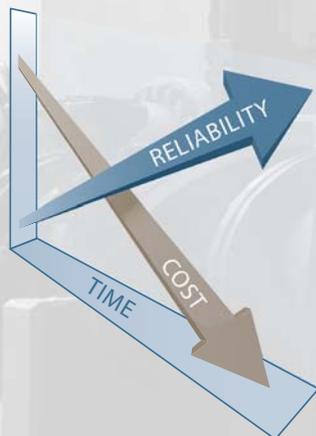
## Chesterton Slurry Sealing Solutions

### Best Available Technique (BAT)

Chesterton's global experience with high performance mechanical packings and seals ensures that the best available techniques are implemented for reliable slurry sealing, meeting your specific requirements.

In harsh, aggressive environments, employing the proper sealing methodologies can result in the most cost-effective solution to improve equipment reliability, extend equipment life, and reduce power and flush water consumption.

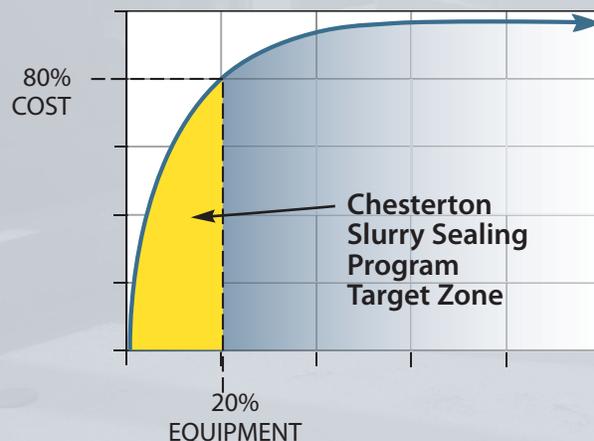
Chesterton can implement the BAT sealing solution that is right for your plant and equipment by optimizing the mechanical seal and packing selection for your plant.

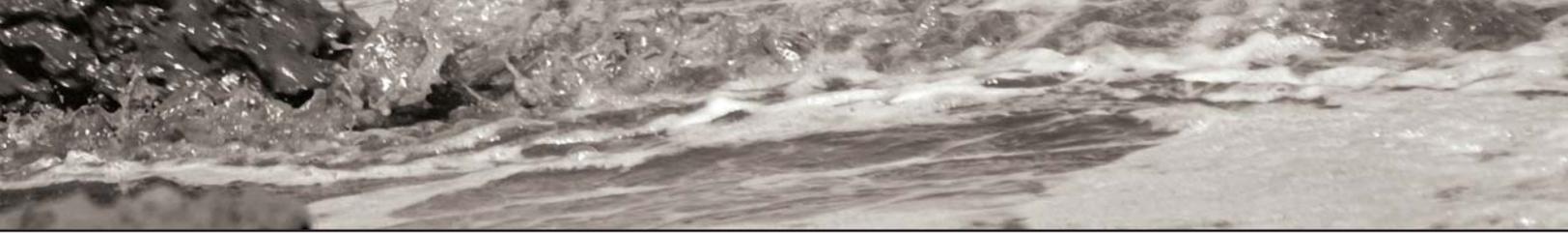


**Chesterton specialists and engineers** can work with you to prioritize equipment and optimize sealing solutions. By focusing on cost-effective sealing techniques on high cost equipment, the Chesterton program will deliver rapid cost savings while driving up equipment reliability.

### Bad Actors

Our analyses of plant rotating equipment costs show that, many times, over 80% of costs are associated with less than 20% of the equipment. Chesterton's Slurry Sealing Program will focus on these bad actors and the best achievable sealing technology.





### **Tailings Pump—Packing**

**Baseline:** Excessive maintenance costs for parts and labor due to three-month MTBF.

**Results:** Reduced maintenance costs by 80% and improved MTBF to over 12 months with engineered packing system.



### **Tailings Pump—Seals**

**Baseline:** Production downtime caused by frequent re-packing failures and pump sleeve replacement.

**Results:** Reduced downtime and eliminated sleeve replacement with the 170 Mechanical Slurry Seal.

### **Ore Processing Pump—Packing**

**Baseline:** High maintenance labor costs due to excessive repacks from caustic washing.

**Results:** Reduced the 1200 repacks per year by over 90% with high-performance, chemical-resistant packing.



### **Ore Processing Pump—Seals**

**Baseline:** Downtime costs due to equipment disassembly and four-month MTBF.

**Results:** Improved throughput by reducing seal replacement time to less than one hour and significantly increasing MTBF with 442 Split Sealing System.

### **Chesterton Slurry Sealing Program Equipment and Application Targets**

- Limestone side entry mixers
- Tailings pond pumps
- Hard metal pumps
- Process slurry pumps
- Sludge pumps
- Dewatering pumps
- Grit pumps
- Deflakers
- Boiler bottom ash pumps
- Phosphate pumps
- Mash pumps
- Lime mud pumps
- Scrubber fly ash
- River water pumps
- Waste stream pumps
- Feed pulp pumps
- Stock pumps
- Evaporators
- Transfer pumps
- Broke pulpers
- Screens
- Progressive cavity pumps
- Shaft bottom pumps
- Starch washing pumps
- Coatings pumps
- Beneficiation pumps
- Liquor pumps
- Refiners
- Dryers

# SLURRY SEALING SOLUTIONS



Chesterton offers sealing products developed specifically for the challenging environments in slurry-intensive industries. These products are designed around your application needs and deliver real solutions with measurable results. By combining both high-performance mechanical packings and mechanical seals, Chesterton has the unique ability to select the best of sealing methodologies to meet your specific requirements.

## Mechanical Seals

*Our mechanical seals are specifically designed to work with little or no flush water. Our split and heavy duty mechanical seal solutions and seal support systems are proven reliable performers.*



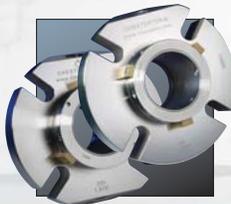
### 170 Slurry Seal

Engineered to operate in heavy slurry environments and eliminate costly external seal flushes. The 170 technology uses line-to-line, hydraulically-balanced seal faces and positions the springs entirely outside the seal to ensure non-clog operation.



### 442 Split Seal

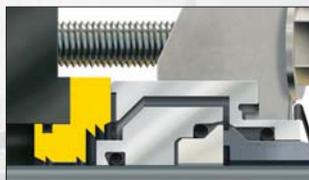
This split technology is designed specifically for large equipment, requiring no disassembly and delivering measurable productivity improvements. Flush flow rates can be significantly reduced with the use of the 442 Split Seal and the innovative SpiralTrac™ environmental controller.



### High-Performance Single and Dual Cartridge Seals

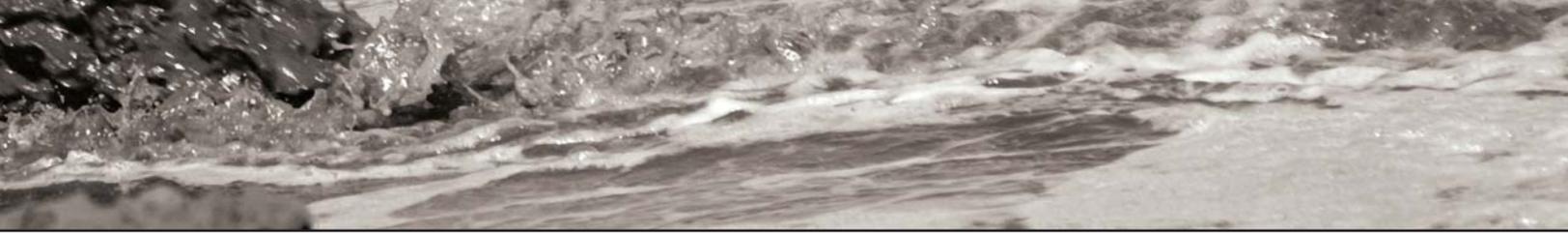
High-performance cartridge seals with low heat generation allow for long-lasting performance with minimal cooling required. A wide variety of non-clogging designs allow for optimized design selection and standardization.

## Seal Support Systems



### SpiralTrac™

These environmental controllers have revolutionized the sealing environment in stuffing boxes. They are used with Chesterton mechanical seals to reduce the flush fluid required and further enhance seal reliability by driving seal cavity circulation and solids removal.



## Mechanical Packing

*Our proven packing systems reduce or eliminate the introduction of flush, packing lubrication leakage, and excessive sleeve wear, minimizing gland adjustments and repack frequency.*



### GraphMax™

Developed to handle high-speed and high-temperature rotating equipment applications. The reinforced graphite construction, self-lubricating and heat-dissipation properties make GraphMax an outstanding performer in slurry sealing programs. It is also designed for use in valve application including steam valves. GraphMax is a solution for plant-wide standardization programs, eliminating flush, and effectively eliminating leakage in pumps and valves.



### 1830 SSP

Developed to meet the requirements of slurry applications. This low-friction, non-abrasive packing reduces heat generation and shaft or sleeve wear. Structural carbon is integrated into the design of this advanced expanded graphite PTFE packing, resulting in a more resilient packing. The unique hybrid material and construction result in low leakage and long life.



### 1740

This PTFE-lubricated yarn packing withstands hardened sleeves to provide excellent extrusion resistance in abrasive applications. It provides combined resistance to pressure, temperature, chemicals, and wear. It is ideal as an engineered set for specific applications and can be used as end rings where anti-extrusion capability is required.



### InnerLube

With a built-in lubrication system, this synthetic composite yarn packing extends equipment life by reducing friction and wear against the sleeve. InnerLube absorbs twice the blocking agents as conventional packings for better leakage control and superior life.



### 412-W

Exclusive synthetic yarn provides durable performance and extrusion resistance. Continuous lubrication during break-in and twice the blocking agents as traditional fibers provide more reliable start ups and excellent leakage control.



### SuperSet™

Combines the superior sealing capabilities of Chesterton's Mechanical Packing products with the patented SpiralTrac™ technology. This sealing system has proven to increase packing and equipment life while dramatically reducing flush rates. Available off-the-shelf for popular pumps and as custom solutions.

# CHESTERTON

## Chesterton Support Products and Programs

*In addition to sealing needs, Chesterton offers support products developed specifically for the challenging environments in slurry-intensive industries. These products are designed around user's application needs and deliver real solutions with measurable results.*

### Protecting your equipment

#### ARC Composites

The flow of abrasive slurries through process equipment can reduce critical tolerances, negatively affecting operational reliability and the net asset value of your equipment. By using ceramic-reinforced ARC composites you can protect new equipment from the abrasive service at a fraction of hardened metal cost. Restore worn equipment to service condition at less than half the cost of spare parts.



### Improving bearing reliability

#### Engineered Polymer Solutions and Technical Products

Most industrial bearings fail to reach their design life, resulting in lost productivity and increased costs. Improving bearing life requires a system approach that combines lubricant technology, correct application methods, and optimized bearing sealing protection.

By combining these elements into a program approach, Chesterton can help industry reduce downtime, lower operating costs, and improve productivity.



*Contact your local Chesterton representative for advice on how these materials can reduce your costs today.*

## GLOBAL SOLUTIONS, LOCAL SERVICE

Since its founding in 1884, the A.W. Chesterton Company has successfully met the critical needs of its diverse customer base. Today, as always, customers count on Chesterton solutions to increase equipment reliability, optimize energy consumption, and provide local technical support and service wherever they are in the world.

Chesterton's global capabilities include:

- Servicing plants in over 100 countries
- Global manufacturing operations
- More than 500 Service Centers and Sales Offices worldwide
- Over 1200 trained local Service Specialists and Technicians

Visit our website at  
[www.chesterton.com](http://www.chesterton.com)



ISO certifications available at [www.chesterton.com/corporate/iso](http://www.chesterton.com/corporate/iso)

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