



Looking to boost
the efficiency of your mill?

Magotteaux
cement
mill internals



We create the perfect mill lining system to address your needs!

Mill internals

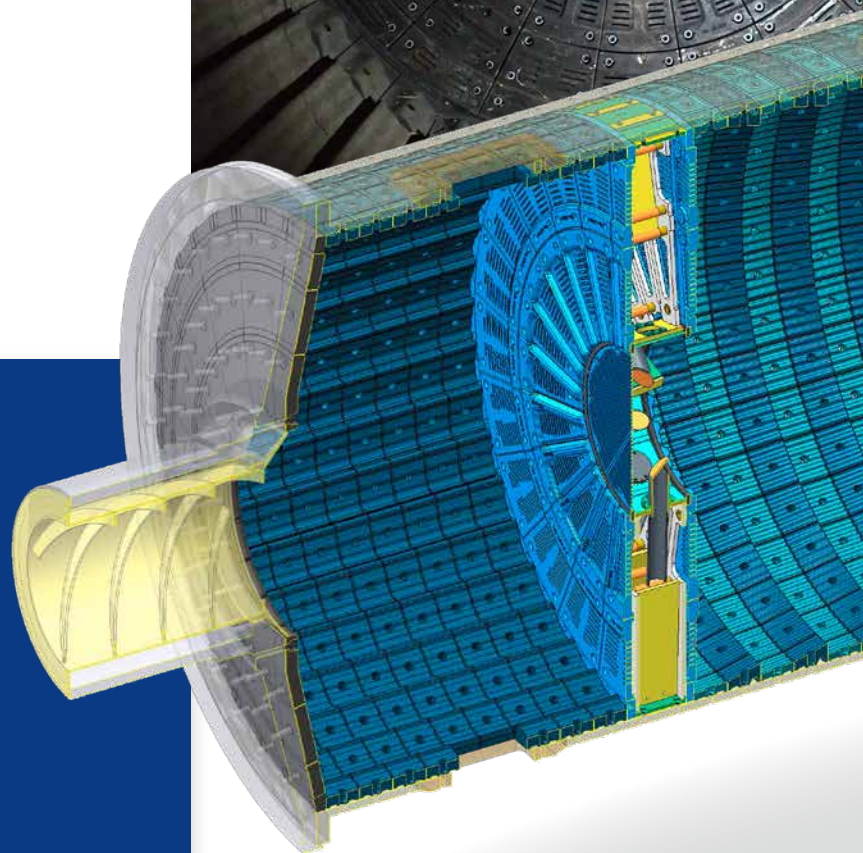
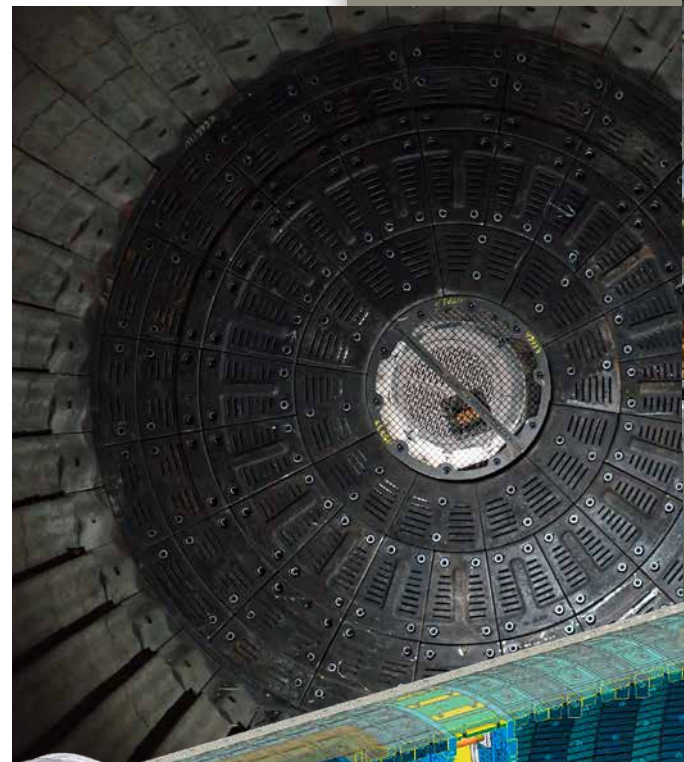
“Universal liner or a one size fits all solution?”

There is no such thing when it comes to choose a liner. Certainly not when we want to create optimum mill efficiency and performance!

That's why Magotteaux has developed:

1. a complete range of liners
2. an extended know-how and expertise

We help you to optimize your specific grinding process by developing a specific solution designed to address your requirements.



Our range of products:

Liners 1st chamber

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- Feed end liner
- Lifting liner

Liners 2nd chamber

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- Classifying liner
- Finishing liner
- Retaining rings

Diaphragms

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- Intermediate diaphragms
- Open transfer diaphragm
- Central discharge diaphragm
- Outlet diaphragm
- Grate plates and/or backside plates



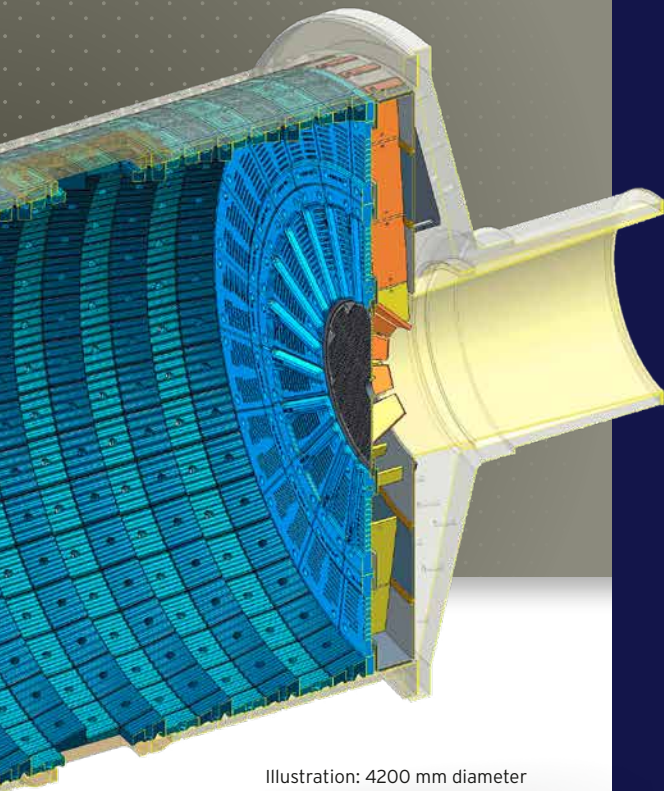


Illustration: 4200 mm diameter standard cement mill

Product advantages



Lifetime

- Manufactured from superior wear material
 - > favorizing slow and constant wear
 - > match your shutdown cycles while ensuring the best productivity
- Extended wear life of the liners > maximize mill availability, reduce the number of shutdowns, and minimize mill downtime



Maintenance and safety

- Liners are easy to install and replace in a fast and safe process
 - > for your operators' and subcontractor's safety
 - > positive impact on your plant safety records



Reliability

- Orders delivered on time > easy planification
- Mill liners developed using advanced technologies > highest performance and wear resistance
- Selection of the right alloys for your specific milling conditions
 - > avoid breakages or other failures
 - > avoid unscheduled stops



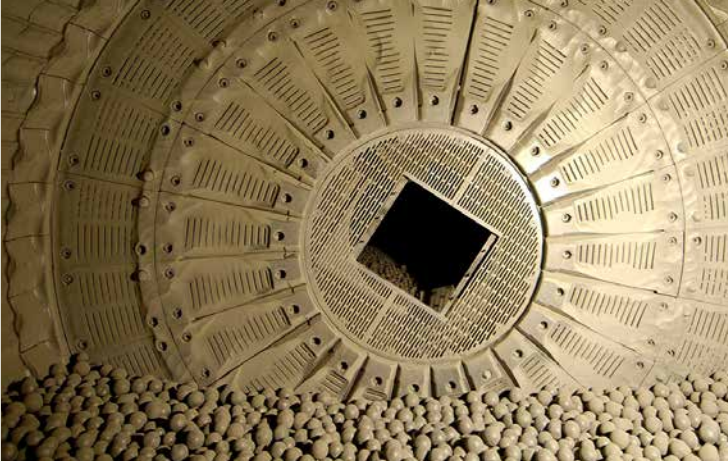
Efficiency and sustainability

- The most advanced simulation tools are used to design the liner profile and define the optimum shape of the lining plate.

Results:

- Optimization of the kwh/t and therefore the cost per ton of cement produced
- Extension of the life cycle and maximization of the production rate
- Lower global footprint

→ We supervised **1000+** installations all around the world. We are experts in boosting the efficiency of your mill!

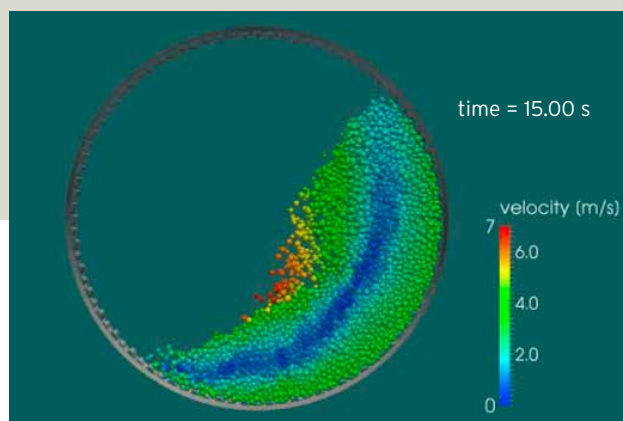


To meet your goals we broaden the scope!

Mill internals are important but optimum mill design can only be achieved when we consider all relevant parameters:

- Grinding charge
- Liners
- Energy
- Mill characteristics
- Material characteristics
- and more

We use the most advanced simulation techniques to model all parameters and design the solution to meet your targets.



Simulation tools with DEM
(Discrete Element Method)

Our 3 steps approach to ensure your mill efficiency

Phase 1

- Analyze the scope of operations
- Carry out comprehensive study of mill operating conditions: feed granulometry, %critical speed of filling charge, type of material (raw material, clinker, slag, coal)

Phase 2

- Based on our analysis, we select:
 - the best liner profile or diaphragm adapted to the specific conditions of your mill
 - the best adapted alloy. We provide a wide choice of alloys from martensitic to high and low chromium
 - a fastening system
- We can install the liners and/or diaphragm in the mill. The assembly is made following state of the art practices
- Our team of experienced technicians helps to supervise the mounting

Phase 3

- Monitoring the performance of the solution
- Follow-up of the liner, diaphragm and mill performance during its lifetime

Much more than liners – an organization

Mill liners are just one part of the equation, there is much more Magotteaux can do to support you.

Expertise

- With more than 1.000 mills equipped, Magotteaux has developed a unique know-how and expertise
- Successful innovation, smart design, high standard manufacturing techniques

Magotteaux is a leading supplier for tube mill internals.

A local team of experts

Our teams of engineers and technicians are close to you, listening and available to help in every aspect of your business.

A full range of products

Grinding media

We offer more than liners: We are the leading supplier worldwide able to advise and deliver the best suited grinding media type.

Full range of products, machines & tools:

We provide multiple technologies or machines to ensure a global optimization of the grinding circuit: separators (MagoClass[™]), pre-crushing (Mag'Impact[™]).



A local supplier with global footprint

- Supply from our 22 locations around the world > guarantee of quality, security of supply and on-time delivery.
- Shorter distances ensure lower environmental impacts!

What makes us different

Many different available alloys and heat treatments

The widest selection of liner shapes

We manage the entire scope of your mill

> We are able to fit your specifications, optimize your global circuit and reduce your global footprint.

Contact our account managers and experts to find out more about how we can support you to meet and surpass your goals.



Global coverage with local production

+ 100 years of innovation experience

22 production units across 12 countries

+150 countries covered through
our sales network

+1 million tons of products capacity

+3000 employees around the world

Part of **Sigdo Koppers Group**,
listed in Santiago (Chile)



Process optimization services
and products for abrasive
and impact applications.

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Magotteaux, a global leader with more than 100 years of expertise standing by your side.

At Magotteaux, we know it's an increasingly challenging world and any difference we can make to reduce the overall running cost of your operations will have a positive impact on your bottom line. We are committed to make your business as successful as possible while contributing to lower your environmental footprint.

Magotteaux is much more than just a supplier! As a true innovator, we invest continuously in innovation and develop strong and close relationships to understand your challenges and define the best possible solution prior to engineering and delivering the promised quality. We use innovative and modern monitoring tools to prove our promise and optimize your operations.

We are born recyclers, as more than 80% of our raw materials come from recycled goods. We invest in energy efficiency and renewable energy along with an active strategy to reduce, reuse and recycle. Circular economy is important for us. With multiple production units around the world, we are uniquely placed to offer an attractive scrap buy-back program.

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