

AXORA

METALS & MINING AX01223

**Novel grinding media for
enhanced throughput**

The technology
marketplace for
heavy industry

axora.com



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NOVEL GRINDING MEDIA FOR ENHANCED THROUGHPUT

How it works

Grinding is one of the most energy-intensive stages of mineral processing. The same equipment has been used for decades with very few successful modifications. Comminution is estimated to count for 3% of total global electricity consumption and is a significant source of CO₂. With pressure from internal and external stakeholders to improve sustainability and cut costs, mining companies are constantly looking for ways to reduce energy consumption in grinding processes. All of this makes this solution particularly attractive for both ball and sag mill processing.

By using a novel shape of grinding media, this unique and multi-award-winning solution is proven to dramatically reduce the time needed to get the required passing size, therefore boosting productivity. In doing so, it saves up to 40% on energy usage and costs, and lowers CO₂ emissions. It achieves all of this without changing the flow sheet or grinding equipment.

This solution is easy to deploy and can be loaded as a replacement to traditional grinding media during recharge cycles.

Key facts

\$1M+

economic benefit

40%

potential power saving

100%

potential throughput improvement



Example of grinding mill

TOP BUSINESS BENEFITS

There are five main business benefits to this novel grinding solution:

- › Cuts energy consumption
- › Increases productivity
- › Reduces carbon footprint
- › Speeds up the grinding process
- › Reduces costs

The grinding process is typically energy-intensive and thus high on carbon emissions. This novel patented grinding media solution is easy to install and operate, and will produce the same required passing size with no changes to the flow sheet, process, or grinding equipment.

An additional benefit is that the grinding media themselves last longer - so in addition to higher throughput and lower energy costs, there is the simple benefit of low-cost grinding media.

Sample success story

Tests have been performed by world-class labs, and with the technology now rolling out to full-scale mining operations, a number of customer success stories are being prepared. In one full-scale pilot, the mine throughput was improved by 100%.

Top benefits

- › Cuts energy consumption
- › Increases productivity
- › Reduces carbon footprint
- › Speeds up the grinding process
- › Reduces costs



Example of grinding mill

FAQ

Do full-scale pilots perform as well as lab tests?

Yes, in lab and production plant tests this solution has been proven to deliver up to 40% energy savings by grinding the minerals in a more efficient way.

Is this solution compatible with mass production?

Yes, this solution is designed for mass production, and can be manufactured by existing ball suppliers by casting, rolling or forging.

Where do I source the media from?

There are several manufacturing facilities already established across the world, although in the medium term the existing steel ball manufacturers are expected to re-tool to ensure they can provide these new media to their existing customers.

About Axora

Axora is the global technology **marketplace** for heavy industry. We source the best innovative solutions, to solve the biggest industrial problems.

Our service helps industrial companies to discover, evaluate, procure and deploy technology from all over the world.

Entrusted globally by 100s of industrial leaders and innovative solution providers, we help companies take action to hit their safety and sustainability goals.

Your next steps

→ [Email us](#)

About the solution provider

This multi-award-winning company has created a cutting-edge industrial solution that reduces the energy costs and resulting emissions typically used for grinding. It also speeds up the grinding process and increases throughput.

The team started more than 10 years ago on an academic research project, with multiple peer-reviewed publications between 2010 and 2020. Once they decided to commercialise, the focus turned to patenting and they now have over 300 patents in 65 countries. The team has supplemented the inventing academic team with business and commercial team members, with Axora being the primary channel to market in many parts of the world.

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