



Anthony Artin, Director, Multotec Brazil.



Jaco Erasmus, Multotec Manager for Linings.

Driving sustainable lithium production in Brazil

Multotec is leveraging its custom wear solutions and global technical expertise to maximise uptime for a leading Brazilian lithium producer.

the global shift toward a low-carbon future.

The Brazilian producer was experiencing frequent production stoppages due to excessive wear on the rubber-lined chutes within its mineral processing plant. The operation uses Dense Media Separation (DMS) to separate lithium minerals from hard-rock ores, producing a lithium concentrate. However, the highly abrasive nature of the coarse material being transported from one process step to another proved too harsh for the conventional rubber-lined chutes to withstand. As a result, the rubber-lined chutes had a wear life of between two and three months before requiring refurbishment or replacement. This led to costly maintenance and regular production stoppages to refurbish or replace the chute linings.

A custom-engineered wear lining solution

In search of a more durable and sustainable wear lining solution, the lithium producer

partnered with Multotec Brazil, which recommended switching to ceramic-lined chutes. These wear-resistant ceramic tiles offer exceptional abrasion and impact resistance, while their smooth surface reduces friction, improving material flow at transfer points throughout the plant.

Drawing on its global expertise, Multotec Brazil collaborated with wear-lining experts from Multotec South Africa to custom-design and install wear-resistant ceramic-lined chutes, significantly extending wear life and restoring operational reliability for the client. The project involved lining 23 chutes with high-grade ceramic alumina tiles manufactured at Multotec's wear linings factory in Pretoria, South Africa.

A team of four experienced South African tilers spent three months in Brazil, completing the project while working alongside their Brazilian counterparts. The teams exchanged best practices, conducted training, and transferred valuable operational insights to ensure local skills development



Multotec teams from South Africa and Brazil collaborated, exchanged best practices, did training and transferred valuable operational insights to ensure local skills development and project sustainability.

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"This collaboration between Multotec Brazil and Multotec South Africa not only ensured the seamless installation of the ceramic-lined chutes but also equipped the local team with the skills and expertise needed to maintain the chutes," says Anthony Artin, Director at Multotec Brazil.

Substantial operational gains

The impact of the ceramic-lined chutes was substantial. The plant experienced increased uptime, improved operational efficiency, and reduced maintenance costs due to the improved wear rate of the ceramic linings. Whereas the previous rubber-lined chutes lasted just two to three months, the new ceramic-lined chutes now deliver a wear life of 12 to 18 months, a four to sixfold improvement.

To maintain these performance gains, Multotec continues to provide after-sales support, which includes monthly inspections, operator training on field-cutting ceramic tiles, and comprehensive wear audits. This approach ensures the ongoing efficiency of the ceramic linings and proactive maintenance when necessary.

Building on the success of this project, Multotec Brazil is also in discussions with the lithium producer to establish a maintenance contract. This agreement would streamline the ongoing maintenance of the ceramic linings and cover several other Multotec technologies in operation at the plant, including DMS cyclones, magnetic separators, demagnetising coils and screening media.

Additionally, the partnership could pave



Multotec's wear linings factory in Pretoria, South Africa, produces 60 to 200 tonnes of standard and bespoke engineered ceramics.

the way for a dedicated local workshop, further enhancing service support in the Minas Gerais region.

"Multotec's Wear Linings factory in Pretoria, South Africa, produces between 60 and 200 tonnes per month of standard and bespoke engineered ceramics, 80% of which are engineered to specific client specifications," says Jaco Erasmus, Manager: Linings at Multotec.

Smarter chute design and expanded collaboration

Looking ahead, Multotec Brazil will also provide support for the redesign and modification of all new steel chutes, using insights from current wear patterns to improve wear resistance before installing the lin-

ings. Beyond its commitment to delivering tailored wear solutions, the company recognises that proper chute design is critical, no matter the lining quality, as poorly designed chutes will still suffer from premature wear.

This next step in collaboration with the lithium producer underscores Multotec's global reach and innovative approach to delivering sustainable wear solutions that are engineered for abrasive environments, built to last, and focused on improving uptime, plant efficiency and the economic processing of lithium.

Multotec's solutions ultimately help bring more sustainable lithium concentrate to market, supporting the green energy and green mobility transition.

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Left: Multotec lined 23 chutes in Brazil and will redesign and line new chutes using insights from current wear patterns to improve wear resistance. Right: A lithium producer in Brazil upgraded its chutes from rubber lining to Multotec's custom ceramic lining, achieving a significant improvement in wear life.

