

Press

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Primetals Technologies Upgrades Hulamin Aluminum Cold Mill Line in South Africa With Hot Edge Inductors

- Hot edge inductors supplied as upgrade to existing S5 cold mill line to enhance rolling capability
- Enables the mill line to improve product quality, meeting the demands of the can packaging market
- Implementation of edge inductors scheduled for first quarter of 2024

Recently, Primetals Technologies received an order from Hulamin for the addition of hot edge inductors as part of an upgrade to its current aluminum cold rolling mill in Pietermaritzburg, South Africa. This upgrade will address strip issues such as tight edges. The enhancement will allow the plant to achieve excellent product quality and improve the overall rolling capability. Primetals Technologies will be responsible for the design, procurement, manufacture, supply, and implementation of the inductor system.

Effective flatness control system

The function of the hot edge inductors is to apply heat to the work rolls at the strip edge position, raising the roll temperature outside of the strip width, which extends the rolls' thermal camber to provide improved control of the strip edge shape. This reduces the chance of strip breakage caused by tight strip edges. Additionally, the inductor system consumes less energy during operation when compared to similar products in the market, such as hot edge sprays – at a lower installation cost.

Improved product quality

During rolling, coolant sprays are applied to manage the temperature of the roll, thus maintaining product flatness. However, during high-speed rolling, a drop in thermal camber can occur at the strip edge, creating a "cool spot" on the roll at the strip edge. At this point along the roll, the cooling spray has no effect on product flatness, leading to tight edge issues.

The hot edge inductor addresses this problem by providing additional heat to the work roll at the strip edge position, expanding the roll and alleviating tight edges. This leads to improved control of the strip edge shape, enabling customers to achieve their key objectives of product quality and maximum cold mill capacity, thereby allowing Hulamin to meet the market demand in can packaging.

Largest semi-fabricator in sub-Saharan Africa

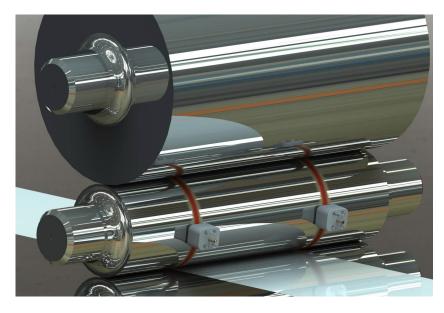
Hulamin is the largest aluminum semi-fabricator in South Africa supplying customers across Africa and the world with aluminum sheet, plate, and foil products, serving demanding markets such as packaging, automotive, transport, building, electrical, and general engineering. The company exports more than 60 percent of its sales to global customers and operates three businesses: rolled products, extrusions, and containers.

Key facts: Scope of Supply

The project scope includes the supply of the hot edge inductor system, comprising of:

- Induction heating heads
- Heater power control cabinet
- Exit feed table
- Hydraulic cylinders with integrated position transducers
- Hydraulic valve stand
- Inductor head cooling system
- Position control system

Hydraulic cylinders are provided to position induction heating heads close to the roll surface, thus overcoming thermal camber, which leads to tight edge issues generated during high-speed rolling.



Inductor system for work rolls from Primetals Technologies.



A view of the S5 cold rolling mill. Primetals Technologies will upgrade the mill with hot edge inductors.

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Primetals Technologies, Limited, headquartered in London, United Kingdom, is a pioneer and world leader in the fields of engineering, plant building, and the provision of lifecycle services for the metals industry. The company offers a complete technology, product, and services portfolio that includes integrated electrics and automation, digitalization, and environmental solutions. This covers every step of the iron and steel production chain—from the raw materials to the finished product—and includes the latest rolling solutions for the nonferrous metals sector.

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