

London, August 08, 2023

Liberty Steel Galati orders new MULPIC system for heavy plate mill line in Romania

- **New plate cooling system based on the MULPIC technology and water treatment plant to be supplied as part of heavy plate mill line upgrade**
- **Enables the plant to expand the product mix and improve the quality of the final products used in offshore, shipbuilding, construction, and pressure vessel markets**
- **Implementation is scheduled for end of 2024**

In April 2023, Primetals Technologies received an order from Liberty Galati for a new Multi-Purpose Interrupted Cooling (MULPIC) system and a water treatment plant that will be implemented at its heavy plate mill line in Romania. The technology provides an in-line plate cooling system designed to reach the cooling rates and temperature drops required for plates of varying product dimensions. This will expand the product range and improve the plates' product quality.

Sandip Biswas, CEO of Liberty Primary Steel and Mining, says: "This state-of-the-art accelerated cooling installation represents another milestone in Liberty Galati's strategy to expand its portfolio of high value-added products and increase production flexibility and profitability. The accelerated cooling system is essential for modern plate mills, like the ones here at Galati, to produce higher strength and value-added grades which require higher cooling rates and greater cooling accuracy. The project will be completed next year and will allow us to respond to our customers' demand for higher value and quality products."

Ultra-precise and uniform cooling of each plate

The MULPIC technology is an in-line and integrated plate cooling system that is offered as a complete mechatronics package, combining the machinery with smart process control technology. The system comprises high precision valves with large flow range, high water nozzle density, and actuators with advanced flow control valves, crown, and edge control functions. This guarantees superior cooling performance and uniform temperature along the length and width of the plate.

The tailor-made water treatment plant consists of several pump groups installed to supply cooling water to the MULPIC machine. The installed pumps are partly frequency-controlled and can switch between different pump groups within seconds. This reduces maintenance requirements and improves the uniform cooling of the plate.

Improvements in product quality

Controlled water distribution with a cooling accuracy of up to 12°C allows for the processing of any combination of plate thicknesses from 8 to 80 millimeters and widths from 1,500 to 4,150 millimeters. The plates' excellent temperature and flatness uniformity results in higher strength steel grades and improved product quality.

The accelerated in-line cooling and thermomechanical rolling result in immense savings in alloying materials. A reduction of 25 to 50 percent in alloying elements is achieved in higher strength steel grades, resulting in lower energy usage and environmental impact associated with the mining, extraction, and processing of the alloying elements.

The online plate cooling technology: Mulpic

Primetals Technologies will design and supply the entire in-line plate cooling system comprising three banks with each bank measuring six meters in length. The banks consist of a total of 12 headers and the height of each header can be adjusted from 500 to 1,500 millimeters to ensure the ultra-precise cooling of each plate. The headers and water pipework are made of stainless steel, guaranteeing long equipment lifetime and reduced overall lifetime emissions.

Leading integrated steel manufacturer

Liberty Galati is the largest integrated steel plant in Romania. The production facility is fully integrated, starting from raw materials, sintering, blast furnace, meltshop, heavy plate mills, hot strip mill, cold rolling complex, and galvanizing and organic coating lines. Construction for the heavy plate mill started in 1961, and the first production milestone was inaugurated two years later. Liberty Galati has a nominal annual capacity of 3 million tons of hot rolled quarto plates.

Ajay Aggarwal, Liberty Steel Group's President Europe and Chairman of the Board of Liberty Galati: "We are continuing our transformation to green steel while modernizing and further developing our operations. Our investment in this new unit is yet another step forward by our Galati team towards our long-term goals. Along the way, we are pleased to collaborate with partners with the highest expertise, such as Primetals Technologies who have developed some of the most advanced cooling technologies."



MULPIC, a world-leading plate cooling technology from Primetals Technologies.

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Contact for journalists:

Björn Westin, Press Officer
press@primetals.com

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Primetals Technologies, Limited
A Group Company of Mitsubishi Heavy Industries
Communications

Chiswick Park, Building 11, 566
Chiswick High Road
W4 5YS London
United Kingdom