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Primetals Technologies Enters Turkish Market with Record-Setting Mill Startup at Kaptan Demir Çelik

- **Complete wire rod mill with state-of-the-art mechanical and automation technology**
- **New generation of No-Twist Mill with individually driven stands**
- **First Morgan Rod Reducing/Sizing Mill (RSM) in Turkey compatible with the tight tolerance requirements in the high carbon tire cord market**
- **Long rolling (LR) Process Expert, a comprehensive modular Level 2 automation solution, optimizes production processes**
- **From first hot coil to final acceptance of contract within 20 days**

Primetals Technologies has received the final acceptance certificate (FAC) for a wire rod mill modernization project at Kaptan Demir Çelik (Kaptan Iron & Steel, part of Kaptan Group) in Marmara Ereğlisi, Turkey. With an annual capacity of 650,000 tons, the facility will process carbon, austenitic stainless steel, and cold heading grades.

The project has expanded Kaptan's portfolio to include such value-added products as coiled rebar, fine grain rebar, and welding wire for the engineering and automotive industries in both domestic and export markets. The new equipment allows Kaptan to be a quality leader on the world market.

Setting a new standard

The startup was remarkably quick. It took only 21 days from start of hot commissioning until the first saleable product. This record-setting implementation has established a new industry standard and was made possible thanks to an experienced project team as well as close and effective collaboration between Primetals Technologies and Kaptan Demir Çelik.

The equipment's technological advantages, along with prominent aftermarket services, ensured by Primetals Technologies' local presence in Turkey, were two of the main influencing factors when Kaptan chose Primetals Technologies as supplier in 2021.

Consistently high quality at lower energy costs

The new wire rod outlet has increased Kaptan's overall production and finishing speeds. The mill rolls up to 105 tons per hour at speeds of up to 110 meters per second. Kaptan can now offer quality carbon

products ranging from 4.5 to 26 millimeters in diameter at an expanded range of rebar sizes from 6 to 20 millimeters.

Kaptan's new mill has the distinction of being the first to combine a Morgan Rod Reducing/Sizing Mill (RSM) with a next-generation No-Twist Mill (NTM) consisting of individually driven stands. This configuration allows Kaptan to consistently deliver high-quality finished products at reduced alloying and energy costs. The RSM can also achieve the tight tolerances required for the high carbon tire cord market. Additional production advantages result from a metallurgical in-line heat treatment process using high-precision Morgan Water Boxes and Morgan Stelmor Controlled Cooling Conveyor.

Streamlined operations

Primetals Technologies' electrical and automation supply included the main and auxiliary drives and motors, new Level 1 automation system with human-machine interface (HMI), new Level 2 Process Expert automation, as well as the central and local operator stations.

A state-of-the-art Level 1 automation solution from Primetals Technologies helped to minimize the total shutdown period of the wire rod mill and to realize a fast and easy production ramp-up. Using a tablet-style mobile control panel from Primetals Technologies, operators can safely control local equipment for inspection, adjustment, and other maintenance-related tasks.

The automation scope is rounded off by a cost-effective Level 2 process automation system. The Long Rolling (LR) Process Expert, developed by Primetals Technologies, is a platform for production management. Modules can be added to provide insights into material tracking and quality control. They are based on actual production data. The system features a simple interface to evaluate plant performance and to execute production process related optimization measures. Together, these systems pave the way for greater interconnectivity and more effective plant management.

The project scope also includes operating parts, guide equipment, offline devices for stand preparation, media systems, engineering services for other components, advisory services for construction and implementation, and training of personnel.

Ships to more than 100 countries

Kaptan Demir Çelik began production on its first rolling mill in 1964 and continues to expand its presence at Marmara Ereğlisi. Kaptan's products are used in more than 100 countries worldwide. With this reach, they have put themselves in pole position to lead the European market.

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10-stand next-generation Morgan No-Twist mill from Primetals Technologies.

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Contact for journalists:

Björn Westin, Press Officer
bjoern.westin@primetals.com
Mob. +43 664 6150250

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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