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Primetals Technologies to modernize continuous slab caster for Baosteel in Shanghai

- **Machine head and complete strand-guiding system to be replaced**
- **Plant to be converted to produce slabs with thicknesses up to 357 millimeters**
- **To produce high-quality slabs for demanding applications**

Primetals Technologies has received an order from the Chinese company, Baoshan Iron & Steel Co. Ltd. (Baosteel), to modernize continuous slab caster no. 3 in the company's steel works no. 1 in Shanghai. The machine head and the complete strand-guiding system will be replaced. The goal of the modernization is to produce high-quality slabs for demanding applications. The modernization will also increase the maximum slab thickness to 357 millimeters. The plant's production capacity is around 2.3 million metric tons per annum. Once cast, the slabs are further processed in Baosteel's plate rolling mill and hot rolling mill. The modernized casting plant is scheduled to come into operation in the first quarter of 2018.

The Baosteel Group is one of the world's largest iron and steel corporations, producing around 35 million metric tons of steel in 2015. Baosteel produces high-quality products for both the domestic and the world markets. Continuous slab caster no. 3 was constructed by JSP and has been producing slabs with a minimum thickness of 220 millimeters since 2003. It has a machine radius of ten meters and a metallurgical length of 34.5 meters. On completion of the modernization it will be able to cast slabs in thicknesses of 250, 300 and 357 millimeters in widths ranging from 1200 to 2300 millimeters. The range of products includes extremely low to high-carbon steels, micro and low-alloyed, peritectic and HSLA grades, structural steels, pipes and sheet steels.

Primetals Technologies will be responsible for the basic and detail engineering of the caster, supervise manufacturing, installation and commissioning, and supply all technological components. The casting plant will be equipped with a straight cassette-type Smart Mold with LevCon mold level control, Mold

Expert for automatic breakout detection and process data monitoring, DynaWidth for inline control of the slab width, the DynaFlex mold oscillator and an electromagnetic mold stirrer.

High-temperature-casting (DynaTac)-compatible EcoStar Spiral rollers will be used to support the strand in the strand-guiding system segments. To dynamically control the strand temperature, the process models DynaPhase and Dynacs 3D will be used. It dynamically calculates and controls a three-dimensional temperature profile along the whole length of the strand. This enables the working points of the strand cooling and thus the final strand solidification to be determined precisely as functions of the casting speed, slab format and steel grade. An improvement in interior slab quality is achieved by using DynaGap Soft Reduction 3D. The roll gap is dynamically adjusted during the final solidification in line with the set points calculated by Dynacs 3D. The 3D spray system has movable nozzles in the segments to ensure uniform, optimal cooling of the slabs over their entire width.



Continuous slab caster from Primetals Technologies. A comparable casting machine will be modernized at Baoshan Iron & Steel Co. Ltd. (Baosteel) in Shanghai until 2018.

This press release and a press photo are available at

www.primetals.com/press/

Contact for journalists:

Dr. Rainer Schulze: rainer.schulze@primetals.com

Tel: +49 9131 9886-417

Primetals Technologies, Limited
A joint venture of Siemens, Mitsubishi Heavy Industries and Partners
Communications
Head: Heiko Huensch

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

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