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Primetals Technologies to modernize continuous slab caster for Angang Iron & Steel

- **Modernization to improve productivity and product quality**
- **Greater flexibility for product mix and casting formats**
- **Fast project implementation will minimize downtimes**

Angang Iron & Steel Group Co., a Chinese steel producer, has awarded Primetals Technologies an order to modernize the twin-strand continuous slab caster CCM1 in steel works no. 3 at its Anshan plant. The objectives of the project are to improve the product quality and productivity, and also to increase the flexibility of the processing of different steel grades and casting formats. The casting plant will be equipped with modern equipment and technology packages, including DynaGap Soft Reduction to improve the interior quality of the slabs. In order to minimize shutdown times, the project planning attached particular importance to a quick implementation. The modernization is scheduled for completion in the third quarter of 2018.

Angang Iron & Steel Group Co. is located in Anshan in Liaoning Province. It has an annual production of more than 33 million metric tons (2016), and is one of China's leading steel producers. Steel works no. 3 in Anshan employs a conversion route through a basic oxygen converter, ladle furnace and RH plant. It has an annual capacity of five million metric tons and supplies two casting plants. Continuous slab caster CCM2 has already been modernized by Primetals Technologies and has been back in successful operation since July 2015.

Twin-strand continuous slab caster CCM1 in steel works no. 3 has a production capacity of 2.5 million metric tons per annum. Its machine radius is nine meters and metallurgical length 36 meters. The caster produces slabs with a thickness of 230 millimeters in widths ranging from 990 to 1,550 millimeters. The maximum casting speed is 2.1 meters per minute. The plant casts ultra-low carbon to high carbon steels, peritectic, deep drawn and HSLA steels, as well as micro-alloyed, low-alloyed and silicon steels.

The modernization project includes equipping continuous slab caster CCM1 with a new tundish car and a new tundish with LevCon mold level control. The straight cassette-type Smart Mold is equipped with the Mold Expert breakout detection system, DynaWidth for automatic width adjustment, and the DynaFlex mold oscillator. Bender and Smart Segments as well as I-Star rollers are used in the strand-guiding system.

The Dynacs secondary cooling system dynamically calculates and controls the temperature profile along the entire strand. This enables the working points of the strand cooling, and thus the final strand solidification, to be determined precisely as a function of the casting speed, slab format and steel grade. DynaGap Soft Reduction is used to improve the interior quality of the slabs. The roll gap is dynamically adjusted during the final solidification in accordance with the operating points calculated by Dynacs. This minimizes segregation in the center of the strand. The secondary cooling uses DynaJet spray cooling with a center/margin setting.

Primetals Technologies will handle the basic engineering of the tundish, the ladle shroud, the dummy bar system, the supporting structure and the maintenance stands, as well as the detailed engineering for the shroud manipulator, the tundish car, mold and mold oscillator, the segments of the strand-guiding system, the secondary cooling and the dummy bar. The automation system and the consulting services for the construction and commissioning are also part of the order.



Continuous slab caster from Primetals Technologies

This press release and a press photo are available at
www.primetals.com/press/

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