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## Shandong Iron & Steel orders two continuous slab casters from Primetals Technologies

- Total annual capacity of 4.6 million metric tons of slabs
- Technology packages ensure high quality slabs and flexibility even under fluctuating casting conditions
- "Connect & Cast" supports quick commissioning

Chinese steel producer Shandong Iron & Steel Group Rizhao Co., Ltd. has ordered two twin-strand continuous slab casters from Primetals Technologies. They will be installed in a new, high-quality steel production plant that will be erected in the Rizhao coastal region of Shandong Province. The casters are designed to produce 4.6 million metric tons of slabs per annum. A number of technology packages will ensure high surface and interior quality, even under fluctuating production conditions, and facilitate flexible casting operations. The equipment and technology packages will be installed according to the Primetals Technologies "Connect & Cast" principle. This means that all plant functions and systems are completely ready for use from the very first batch. Casting plants CC1 and CC2 are scheduled to go on stream in June 2017.

The steel for the two continuous casting machines will be produced in basic oxygen steel converters with a total annual capacity of five million metric tons. The casters will be equipped with LevCon mold level control, straight, cassette-type Smart Molds, DynaWidth for automatic adjustment of slab width, and hydraulic DynaFlex mold oscillators. Smart Segments, I-Star Rollers and DynaJet spray nozzles will be installed in the strand-guide system. DynaGap Soft Reduction will ensure that the slabs have a high interior quality. Dynacs 3D with eleven spray cooling zones will be used for the secondary cooling system. The CC Control package will handle basic automation and CC Optimization the process automation.

The two continuous casters will have a machine radius of 9.5 meters and metallurgical length of around 32 meters. They will produce slabs with a thickness of 230 millimeters in widths ranging from 1,000 to

1,950 millimeters. The casting speed will reach up to 1.7 meters per minute. The casters will process a wide range of carbon steels, peritectic grades, structural steel, HSLA (high strength low alloy) steels, deep-drawn grades, and various alloys for pipes.

Primetals Technologies will be responsible for the detail engineering of the casting platform and strand-guide system, the basic engineering of the exit zone, and the basic and detailed engineering for the maintenance area, as well as for configuring the automation system and associated software. Primetals Technologies will also supply core components, hydraulic cylinders, drives, spray nozzles, and electrical and automation equipment. The scope of services will also include supervision of installation and commissioning work as well as customer training.

Connect & Cast is a registered trademark of Primetals Technologies in some countries.



Twin-strand continuous slab caster from Primetals Technologies. Two comparable machines will be supplied to Chinese steel producer Shandong Iron & Steel Group Rizhao Co., Ltd.

This press release and a press photo are available at <a href="https://www.primetals.com/press/">www.primetals.com/press/</a>

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Primetals Technologies, Limited headquartered in London, United Kingdom is a worldwide leading engineering, plant-building and lifecycle services partner for the metals industry. The company offers a complete technology, product and service portfolio that includes integrated electrics, automation and environmental solutions. This covers every step of the iron and steel production chain, extending from the raw materials to the finished product – in addition to the latest rolling solutions for the nonferrous metals sector. Primetals Technologies is a joint venture of Mitsubishi Heavy Industries (MHI) and Siemens. Mitsubishi-Hitachi Metals Machinery (MHMM) - an MHI consolidated group company with equity participation by Hitachi, Ltd. and the IHI Corporation - holds a 51% stake and Siemens a 49% stake in the joint venture. The company employs around 9,000 employees worldwide. Further information is available on the Internet at <a href="https://www.primetals.com">www.primetals.com</a>.