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Fourth Arvedi ESP line from Primetals Technologies started up at Rizhao Steel in China

- **Casting-rolling plant produces 1.7 million metric tons of high-quality, ultra-thin hot strip**
- **Arvedi ESP Plant was adapted to changes in crude steel production and space availability during the ongoing project**
- **Plant features Through-Process Optimization solution (TPO) and Industry 4.0**

At the Chinese steel producer Rizhao Steel Co., Ltd. (Rizhao Steel), the fourth Arvedi ESP (Endless Strip Production) plant supplied by Primetals Technologies was started up in April 2018. The casting and rolling plant will produce 1.7 million metric tons of high-quality, ultra-thin hot strip with thicknesses of down to 0.8 millimeters and widths of up to 1,300 millimeters. The product portfolio ranges from carbon steel to HSLA (high-strength low alloyed) grades. To cater to capacity shifts of Rizhao's crude steel production and a change in plant setup, the Arvedi ESP plant was reengineered for the use of larger ladles as well as for decreased space availability during the ongoing project. The plant features a Through-Process Optimization solution (TPO) and Industry 4.0. The order was placed with Primetals Technologies in 2014.

Rizhao Steel Co., Ltd. (Rizhao Steel), a company of the Rizhao Steel Holding Group, is located around 30 kilometers outside of the port of Rizhao in the south of Shandong province. The company has a production capacity of approximately 15 million metric tons of crude steel. Rizhao Steel's product portfolio includes hot-rolled coils, wire, rods and small-dimensioned I-beams, which are mainly sold to Chinese customers. The new Arvedi ESP plants enables Rizhao Steel to further expand its production capacities for high-grade thin strip products and production of cold-rolled substitutes.

Primetals Technologies was responsible for the engineering of the Arvedi ESP plant and supplied the mechanical equipment, the media systems, technology packages and the automation technology. The casting and rolling lines are controlled with the aid of consistent and integrated basic (level 1) and process automation (level 2). This ensures a finely coordinated interaction of the casting and rolling

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process. The installed Through-Process Optimization solution (TPO) comprises of the intelligent Through-Process Quality Control System (TPQC), a newly developed Industry 4.0 IT system and Through-Process Know-How (TPKH) modules. The TPO system will continuously monitor and manage product quality by recording all process parameters as well as measured production and product data, starting from the liquid phase up to the final processing lines.

The Arvedi ESP system produces hot strip directly from liquid steel in a continuous and uninterrupted production process in a linked casting and rolling plant. In this type of plant the power consumption and the related costs are up to 45 percent less than in the case of a conventional plant with separate casting and rolling processes. It also means a significant reduction of CO2 emissions. Furthermore, with a length of only 155 meters, the dimensions of these plants are clearly more compact than those of conventional casting and rolling plants.



Shaking hands in front of the first coil produced on the fourth Arvedi ESP line at Rizhao Steel: Yu Yao, Plant Manager ESP lines, Rizhao Steel; Harald Monn-Weiss, Site Manager Primetals Technologies; Xie Jibiao, Overall Plant Manager ESP Melt shop, Rizhao Steel (from left to right).

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

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