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Rizhao Steel produces first coil on fifth Arvedi ESP line from Primetals Technologies

- **Casting-rolling plant produces 2.2 million metric tons of high-quality, ultra-thin hot strip**
- **Arvedi ESP Plant was adapted to increase production capacity during the ongoing project**
- **Plant is optimized for low energy rolling of ultra-soft steels.**
- **New features to match highest cold-rolling-standards for direct application market**

In late November 2020, the fifth Arvedi ESP (Endless Strip Production) plant supplied by Primetals Technologies produced the first coil at the Chinese steel producer Rizhao Steel Co., Ltd. (Rizhao Steel). The casting and rolling plant will produce 2.2 million metric tons of high-quality, ultra-thin hot strip with thicknesses of down to 0.6 millimeters and widths of up to 1,300 millimeters. The product portfolio ranges from carbon steel to HSLA (high-strength low alloyed) grades. In order to increase production capacity beyond the originally planned value, the Arvedi ESP plant was reengineered by increasing the number of caster segments and thus the caster length during the ongoing project. The new Mold Expert with fiber optic temperature measurement ensures higher resolution measurements for enhanced process control. New features are implemented to match highest cold-rolling-standards without subsequent processing steps. This leads to lowest energy consumption and related CO2 emissions for direct application products. ABP Induction, a group company of Mitsubishi Heavy Industries (MHI), supplied a highly efficient transversal flux inductive heating system, which is installed upstream of the finishing mill.

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 by means of consistent and integrated basic (level 1) and process automation (level 2). This ensures a precisely coordinated interaction of the casting and rolling process.

The Arvedi ESP 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 162 meters, the dimensions of the Arvedi ESP plant 5 at Rizhao Steel is clearly more compact than those of conventional casting and rolling plants.



Arvedi ESP plant No. 5 supplied by Primetals Technologies at Rizhao Steel in China

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

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