

London, April 21, 2016

Primetals Technologies receives final acceptance from Rizhao for the first three Arvedi ESP lines

- **Plant 1 went on stream within 20 months**
- **Plant 3 was started-up within 15 months and received final acceptance after 22 months**
- **Production is now focused on hot strip with a thickness of 0.8 millimeters**

Chinese steel producer Rizhao Steel Group Co., Ltd (Rizhao) awarded Primetals Technologies the final acceptance certificate (FAC) for three of a total of five Arvedi ESP lines. For two of the lines, the FACs were received in January, for the third one on April 1. Although the project schedule was very tight, the ambition was to complete all phases on time, what was successfully achieved. The first two lines were ordered in 2013 and went on stream within 20 and 22 months, respectively. The start-up of ESP plant 3, ordered in 2014, was achieved within 15 months. The lines are designed for a total annual production of 7.65 million metric tons of high quality, ultra-thin hot strip, in widths up to 1,600 millimeters and thicknesses down to 0.8 millimeters. The lines produce carbon steel, high-strength, low-alloy grades, and two-phase steels. The production ranging from 0.8 to 6 mm thickness is now focused on hot strip with a thickness of 0.8 millimeters, leading to production sequences in which more than 50 percent of the products have a thickness of less than one millimeter.

The Arvedi ESP plants enable Rizhao to tap into the attractive domestic and foreign markets for high quality, ultra-thin products. With a length of just 180 meters, the plants are considerably more compact than conventional casting and rolling mills. Energy consumption is up to 45 percent lower than in a conventional casting and rolling process, and CO₂ emissions are also significantly lower.

Primetals Technologies was responsible for the engineering of the Arvedi ESP plants, and supplied the mechanical equipment, media systems, technology packages and automation system. The entire line is controlled by an integrated basic automation (level 1) and process automation (level 2). This ensures finely tuned interaction between the casting and rolling processes. The project also included a comprehensive training and support package. This covered not only the theoretical and practical training

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of the customer's personnel on the existing ESP plant belonging to Acciaieria Arvedi SpA in Cremona, Italy, but also support provided by specialists from Acciaieria Arvedi for starting up and operating the new plants.



ESP Line Number 2 from Primetals Technologies in Operation at Rizhao Steel

This press release and a press photo are available at

www.primetals.com/press/

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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 www.primetals.com.

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