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Primetals Technologies to modernize minimill of Abinsk Electric Steel Works in Russia

- **Billet production to rise from 0.95 to 1.5 million metric tons per annum**
- **More quality steel grades will be produced**
- **New technology will ensure higher availability and lower maintenance costs**
- **Conversion costs will be substantially reduced**

Abinsk Electric Steel Work, a Russian producer of long products, has signed a contract with Primetals Technologies to modernize the electric arc furnace, ladle furnace and 6-strand continuous billet caster in the company's minimill. The aim of the modernization is to increase the production capacity of billets with cross sections of 130 and 150 millimeters from 0.95 to 1.5 million metric tons per annum. Additionally, Abinsk will be able to produce more quality steel grades, such as high carbon steel for wire and spring steel. The new technology will not only increase the availability of the steel works, but also decrease maintenance costs. Conversion costs will also be substantially lowered. The energy requirement of the electric arc furnace will be reduced from 410 to 370 kilowatt hours per metric ton. The modernized meltshop is scheduled to come into operation at the end of 2016, the continuous billet caster in the first quarter of 2017.

Abinsk Electric Steel Works is one of Russia's leading producers of reinforcing bars and other long products. The company runs an electrical steel works and two rolling mills in Rajon Abinsk, located in the South Russian region of Krasnodar. Primetals Technologies is responsible for the basic and detail engineering, the production and supply of the new equipment, and will supervise their construction and commissioning. The electrical steel works will be equipped with new cross-plant process automation.

The modernization also involves installing a PLC-Based electrode control system and a new oxygen injection system from Primetals for the electric arc furnace in the steel works. In addition, high-current cables and the complete high-current busbar system after the furnace transformer will be replaced. The

roof panels and elbow will be re-engineered, and a new furnace pressure control system with Direct Evacuation Damper after the hot gas duct of the furnace primary suction line will be installed.

The main hydraulic system of the electric arc furnace will be modified to improve furnace movements and minimize the power off times, approximately by 20 seconds per each scrap charging. In addition to the electric arc furnace also the ladle furnace will be modernized and will be equipped with a new, four strand wire feed and a new lime injection system.

For the modernization of the 6 strand continuous billet caster, Primetals Technologies will supply stopper casting equipment, consisting of stopper mechanisms with electromechanical actuators, shroud manipulators, emergency cut-off gates and automatic mold powder feeders. The maximum casting speed will be 5 meters per minute for the 130 x 130 millimeter casting format. New DiaMold tube molds, DynaFlex mold oscillators, electromagnetic stirrers, roller blocks and secondary cooling spray headers will be installed for casting with high casting speed. A new billet marking machine will be installed in the run-out area of the plant. The existing turnover cooling bed will be modernized, new hydraulic cylinders will be installed, and the cooling bed hydraulic system will be modified.



Abinsk Electric Steel Works in the South Russian region of Krasnodar. Primetals Technologies will modernize the electric arc furnace, ladle furnace and 6-strand continuous billet caster.

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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