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HKM GRANTS FINAL ACCEPTANCE FOR TWO NEW LADLE-TREATMENT STANDS FROM PRIMETALS TECHNOLOGIES

- **Plants operate fully automatically and are ready for further digitalization**
- **Copper-clad lids increase service life and ensure high steel quality**
- **LiquiRob systems offer highest safety standards for temperature measurement and unmanned sampling**
- **New equipment reduces operating costs**
- **Treatment capacity amounts to 5.2 million metric tons of liquid steel per year**

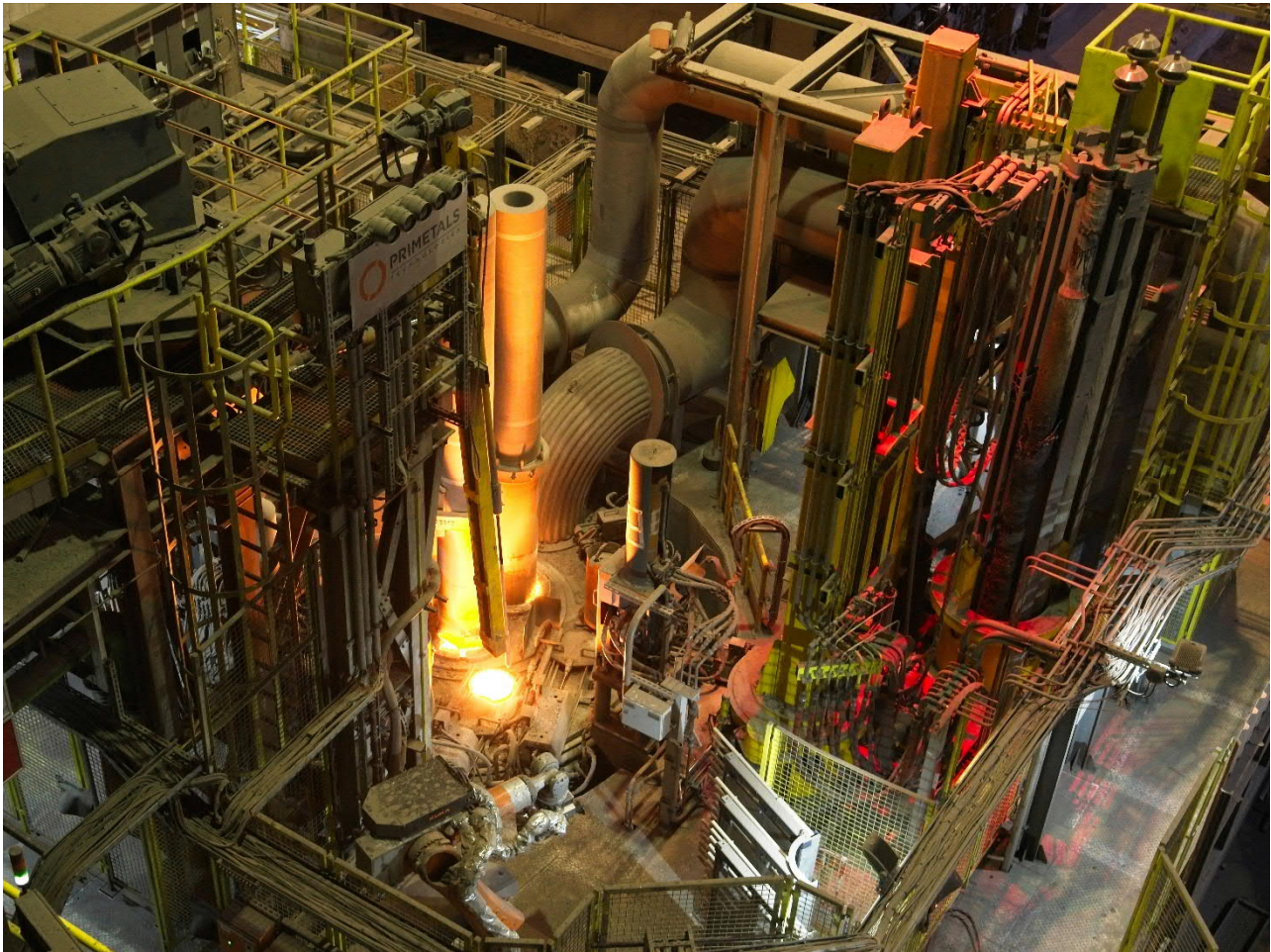
German steel producer Hüttenwerke Krupp Mannesmann GmbH (HKM) has granted Primetals Technologies final acceptance for two new ladle-treatment stands. The plants were built at the BOF steel plant at the Duisburg-Huckingen site. The heating stands are designed for 5.2 million metric tons of liquid steel per year in fully automated operation and are therefore well prepared for further digitalization. The use of copper-clad lids increases service life and ensures the quality of the produced steel. LiquiRob systems manage tasks such as temperature measurement and sampling which were carried out manually in the past, thus increasing operational safety. The installation of the new ladle-treatment stands reduces operating costs in the steel plant. In addition, the phosphorus content of the melts can be reduced and higher alloying percentages are now a possibility.

Primetals Technologies designed, supplied, and installed two 285-ton ladle-treatment stands for the BOF steel plant. The plants are designed as electric arc treatment and will be able to handle all melts produced in the two converters without exception. The resulting capacity of 5.2 million metric tons per year requires very high availability of the ladle treatment stands. This is reached thanks to high-quality copper-clad lids and a high-performance high-current system. Energy is supplied by the steel operations own power plant, which converts the blast-furnace top gas and coke gas into electricity. Both heating

stands are equipped with a fully automatic temperature and sampling manipulator (LiquiRob). The purging gas systems are coupled automatically.

The main tasks of the ladle-treatment stands are as follows: reducing refractory consumption of the converters by lowering tapping temperature by up to 50°C; reducing phosphorus content in the steel; producing melts that necessitate a higher degree of alloying; increasing the optional use of pig iron or scrap in steelmaking; optimizing the use of lime; and reducing the amount of slag. The furnace transformers for the electrical supply of the treatment stands as well as the electrical, automation, and control systems are also within the scope of supply. The arrangement of the ladle-treatment stands directly in the production line behind the converters and the extremely limited space available in this area of the steel plant required a complex layout with special portal design. Primetals Technologies was responsible not only for the process equipment but also for installation and commissioning.

Hüttenwerke Krupp Mannesmann GmbH (HKM) operates an integrated steel mill at its Duisburg Huckingen site. The steel mill is divided into the port, sinter plant, coke plant, blast furnace plant with two blast furnaces, and LD converter steel mill with two converters. In addition, VD plants and two round continuous casters and three slab casters are used in the steelmaking plant. HKM produces over 1.800 different steel grades. With a production capacity of 5.6 million metric tons per year of slab and round bars, HKM is one of Germany's largest steel producers.



One of two ladle-treatment stands with copper-clad lids and a LiquiRob from Primetals Technologies.

This press release and a press photo are available at <http://www.primetals.com/press/>

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