PRIMETALS TECHNOLOGIES

Press

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Primetals Technologies to engineer continuous caster and secondary metallurgy facilities for MMKI

- **Annual production capacity to increase to four million metric tons of slabs**
- **Project includes ladle furnace, alloying station and dedusting system**
- **Expanded product portfolio**
- **Cross-section heat-pacing solution to coordinate steel production with casting operation**
- **Reduction of dust content in cleaned gas**

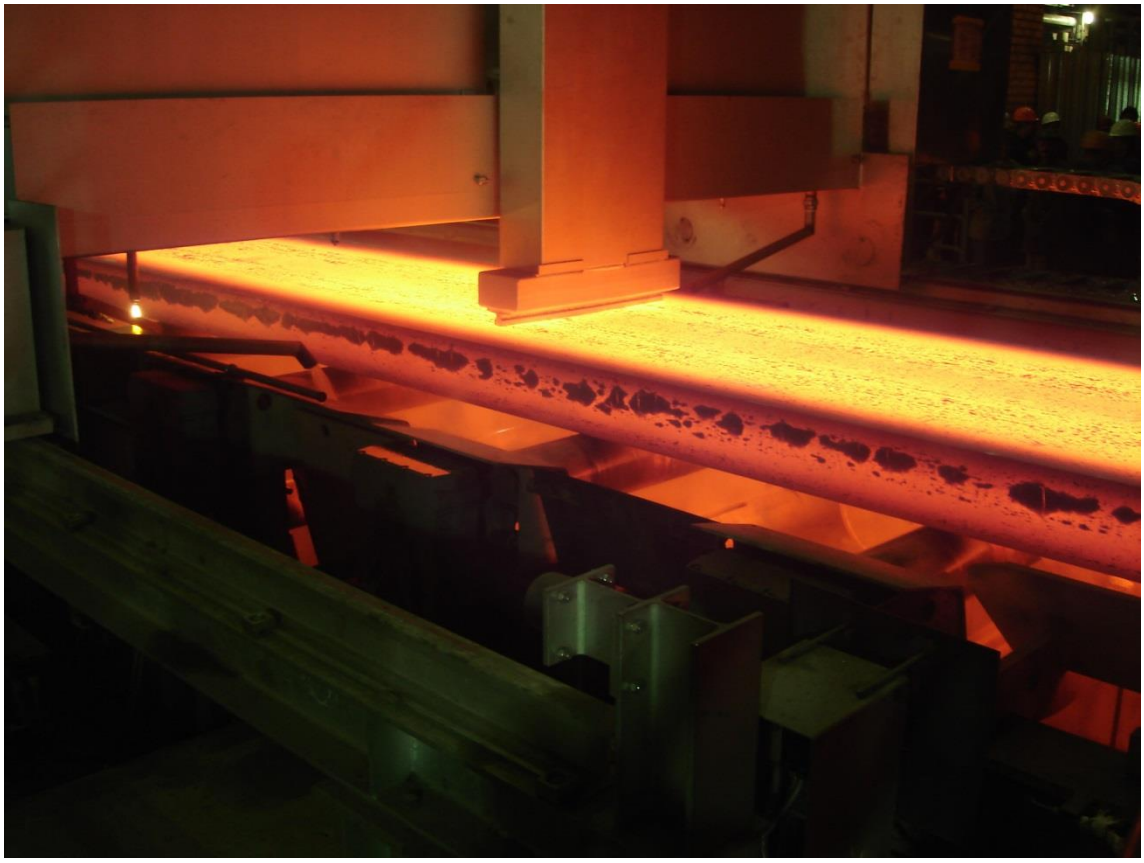
Primetals Technologies has received an order from Ukrainian steel producer "Iljitsch" Metallurgical Combinate in Mariupol (MMKI) to engineer a continuous slab caster, a twin ladle furnace with an alloying station, and the associated dedusting system. The two-strand caster CC4 will be designed to produce 2.5 million metric tons of slabs per annum. This will increase MMKI's annual production capacity to around four million metric tons, as well as enhancing and expanding its product portfolio to include, for example, HC, UHC and ULC steels. A level 3 heat-pacing solution will coordinate the steel production with the casting operation.

MMKI produces steel with three LD (BOF) converters. A new 150 metric ton twin ladle furnace from Primetals Technologies and the associated alloying station will be used to help set the desired steel grades and the correct casting temperature. A transformer with a rated power of 28 MVA will provide the electrical energy for the ladle furnace, enabling a heating rate of 4.5 °C per minute. Primetals Technologies will design a dedusting system to clean the offgases from the ladle metallurgy facility. This will process around 206,000 standard cubic meters per hour, and reduce the dust content of the cleaned gas to less than twelve milligrams per standard cubic meter.

The engineering order for the continuous slab caster covers all the installations from the ladle turret and the ladle car through to the exit zone with its weighing, torch cutting, marking and deburring machines. The caster from Primetals Technologies will have a machine radius of nine meters and a metallurgical length of 29.8 meters. It will cast slabs with thicknesses of 170 and 250 millimeters in widths ranging

from 900 to 1,550 millimeters. The maximum casting speed will be 2.2 meters per minute. It will process peritectic and peritectic alloyed steels, low, medium, high and ultra-high carbon grades, as well as medium-carbon alloyed steel. The caster will be equipped with automatic LevCon mold level control, a straight, cassette-type Smart Mold with the DynaWidth technology package to automatically adjust the width of the slab online, and the DynaFlex mold oscillator. The strand guide will be equipped with smart segments and I-Star rollers. DynaGap Soft Reduction, the Dynacs 3D secondary cooling model, and DynaJet nozzles will also be installed, making it possible for MMKI to produce a wide variety of high-quality grades. The interior quality of the slabs will also be improved.

MMKI is one of the largest iron and steel works in Ukraine, The company produces a wide range of flat products made of carbon, low-alloyed and alloyed steel grades for various applications. These include heavy plates for pipelines, shipbuilding, pressure vessels and the construction industry, as well as hot and cold rolled plates and coils. Primetals Technologies previously supplied continuous slab caster CC3 to Mariupol, where it has been in operation since 2005.



Continuous slab caster CC3 from Primetals Technologies at "Iljitsch" Metallurgical Combinate in Mariupol (MMKI), Ukraine. Recently, Primetals Technologies received the order to engineer the continuous slab caster CC4 and secondary metallurgy facilities for MMKI.

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.