

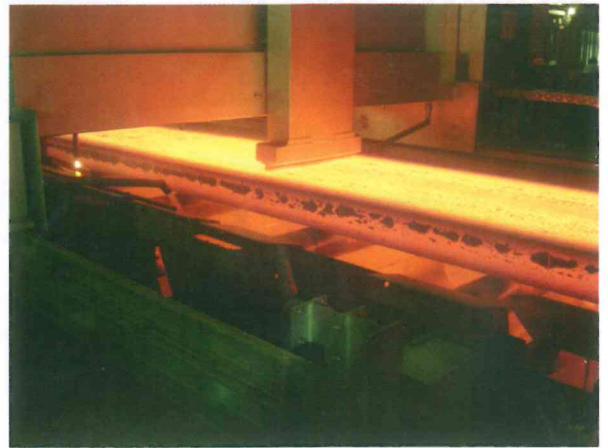
## Primetals is to engineer continuous caster and secondary metallurgy facilities for MMKI

Primetals Technologies has received an order from Ukrainian steel producer "Iljitsch" Metallurgical Combine 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 t of slabs per year. This will increase MMKI's annual production capacity to around 4 million t, 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 t twin ladle furnace from Primetals 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/min. Primetals will design a dedusting system to clean the off-gases from the ladle metallurgy facility. This will process around 206,000 m<sup>3</sup>/h, and reduce the dust content of the cleaned gas to less than 12 mg/m<sup>3</sup>.

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 will have a machine radius of nine meters and a metallurgical length of 29.8 m. It will cast slabs with thicknesses of 170

and 250 mm in widths ranging from 900 to 1,550 mm. The maximum casting speed will be 2.2 m/min. 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. Dyna-Gap Soft Reduction, the Dynacs 3D secondary cooling model, and DynaJet noz-



zles 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.

## Retech Systems commissions electron beam melting system

Retech Systems LLC recently commissioned a new 2-gun electron beam (EB) melting system to add capability to the Internal Research & Development (IR&D) team. This system will be available for developmental use by customers of Retech as well as the Seco/Warwick group of companies and will be able to

melt a range of materials from titanium & Ti alloys, to silicon and other refractory metals.

With the addition of this equipment, Retech is expanding what is already one of the most fully integrated melting system manufacturing facility worldwide. The system installation began early in 2015,

with support from the following sponsor companies: Von Ardenne, Oerlikon Leybold Vacuum, CED, Fluid Gauge Company, GNB, Motion Industries, ifm, Zemarac.

The final commissioning took place over the second half of 2015 and customers have already begun to utilize this unique installation.