

Press

London, May 30, 2017

AOD converter and dedusting system from Primetals Technologies brought into operation for SIJ Acroni

• Additional secondary metallurgy route increases production capacity by over 20 percent

• Savings on alloying elements reduce production costs

In April, an AOD converter with a capacity of 95 metric tons and a dedusting system from Primetals Technologies were brought into operation for SIJ Acroni d.o.o, a Slovenian steel producer belonging to the Slovenian Steel Group (SIJ). This has given SIJ Acroni another steel production option to add to its existing process route and increased its production capacity by more than 20 percent. The new AOD converter has expanded SIJ Acroni's product portfolio, taken the load off the existing production processes in the steel works, and improved product quality. It also provides a higher flexibility on the raw material side to allow the usage of less expensive charging materials and to consequently reduce the production costs. Primetals Technologies received the order in the middle of 2015.

SIJ Acroni is Europe's leading producer of stainless quarto plates. It also specializes in electrical and special steels, which have been sold in the form of hot and cold-rolled coils, heavy plates, and cold-formed profiles, which are mainly used for special niche products. The SIJ Acroni plant lies in Jesenice, about 60 kilometers northwest of the capital, Ljubljana. The crude steel had previously been smelted in an electric arc furnace, and decarburized in a VOD converter with a capacity of 90 metric tons. As the duration of treatment is significantly longer than that for carbon steels, this plant configuration is a bottleneck in the production of stainless steel. This has now been eliminated by the installation of an AOD converter, which has increased both the production capacity and the flexibility of the steel works. Additional advantages of an AOD converter are the low degree of slagging of alloying elements, such as chromium, and the option of using cheaper ferrochromium grades with a higher carbon content than alloying elements.

Primetals Technologies was responsible for the design and production of the key components of the AOD converter and the dedusting system, and supervised their construction and commissioning. The

new materials handling system for the converter has been connected to the existing system in order to ensure maximum flexibility. The scope of supply also included process automation specifically designed for AOD converters. This ensures that raw materials are used efficiently and minimizes treatment times. The converter is equipped with a Drive Damper. This reduces the vibrations caused by the injection processes and thus the mechanical stresses acting on the entire system from the converter down to the foundations. The patented system reduces wear and maintenance costs while also lengthening the service life of the plant. The dedusting system, which was installed at the same time as the AOD converter, ensures that emissions are kept below the current limits. It is a fully automated filter-bag system with an extraction capacity of around 900 000 cubic meters per hour, which ensures that the off gases from the new AOD converter, associated secondary units and the existing ladle furnace are captured and cooled.

The project was handled by a consortium with the Slovenian company Esotech d.d., Velenje. Esotech was responsible for the structural steel work, constructing the plant, and supplying the water treatment plant.



The new converter from Primetals Technologies being charged on April 24, 2017 at SIJ Acroni, the Slovenian steel producer.

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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 7,000 employees worldwide. Further information is available on the Internet at www.primetals.com.