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PRESS RELEASE

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NISCO invests in six-strand billet casting machine from SMS Concast

MIYANEH STEEL COMPLEX

Handshake between M. R. Taheri, Managing Director of MMTE (Mines & Metals Engineering GmbH) and Pierpaolo Rivetti, SMS Concast. From left: Abdolreza Amirsoleimani, SMS Iran Branch Manager; Carlo Cascino, SMS Concast; Mojtaba Rastegar, MMTE.

National Iranian Steel Company (NISCO), which belongs to the state-owned Iranian Mines and Mining

Industries Development and Renovation Organization (IMIDRO), has ordered a six-strand billet casting machine from SMS Concast AG, a company of SMS group. The plant will be part of a newly built EAF-based meltshop and designed for an annual capacity of more than 800,000 tons of billets.

The new steel complex built in Miyaneh, a city in the province of East Azerbaijan in the north-west of Iran, is expected to serve as a basis for the industrial development of the province.

SMS Concast will supply latest technology to achieve the specified quality and productivity targets in the shortest possible time. The six-strand caster will produce billets of low, medium and high-carbon steels, among others for rebar production.

The six-strand Concast CONVEX® CCS casting machine will have a casting radius of nine meters and produce billets of 130, 150 and 200 millimeters square in lengths ranging between six and twelve meters. Depending on the steel grades and casting mode (open or submerged), the casting speeds will vary between 4.5 and 1.5 meters per minute.

The casting machine will come with the proven SMS Concast-developed CONVEX® mold, a frequently used and well established technology in the market. Due to its special internal geometry, the mold provides a higher heat transfer and more uniform solidification in the corner areas. Efficient guiding of the strand shell inside the mold with maximized cooling symmetry provides for higher casting speeds while achieving an improved quality of the as-cast product.

The CONVEX® mold is part of the cartridge-type mold unit, a pre-assembled quick-change unit. The self-centering design and the self-sealing connections for the water that cools the mold ensure optimal alignment and safe operation. In case of a section change or for maintenance work, the mold assembly can be quickly changed - in five to ten minutes. This reduces downtimes to an absolute minimum and maximizes plant availability, both of which will result in a very high productivity level. The foot rolls are attached to the mold

cartridge. This avoids bulging of the billets and keeps the cast strand securely centered.

The secondary cooling process is divided into four zones, with the cooling parameters being set according to the section size, steel grade and casting speed. The first two section-dependent zones operate with water cooling only. Zones three and four are section-independent. They use air-mist cooling. With the level-2 automation system installed, the secondary cooling process can be dynamically controlled on the basis of a software model.

Besides the above described features, the machine will be equipped with a cantilever-type tundish car on the casting platform, a tundish stopper system for submerged casting, a hydraulic short-lever oscillation system of the latest generation and fully integrated PLC for fully automatic operation of the entire plant.

The SMS Concast process control system (level 2) integrates the process control philosophy, production strategy and metallurgical models. The software developed by SMS Concast comes with user-friendly intuitive applications and graphical interfaces that support the operators and allow them to interact with the systems and monitor the entire production process.

The continuous acquisition of information from the level-1 system and consistent recording of the acquired data form the basis for reliable online and offline analyses, comprehensive reporting and process optimization.

In a challenging market situation, in which every cent counts, cost efficiency with respect to the cost and quality of the final product is a crucial factor. Therefore, SMS Concast has developed new smart products that enhance its customers' competitiveness.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 13,500 employees who generate worldwide sales of more than EUR 3 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.