Shijiazhuang Iron & Steel Co., Ltd. (Shigang) orders another continuous caster from SMS Concast

Environment protection, digitalization and better product quality

Rectangular blooms cast on a continuous caster made by SMS Concast.

Shijiazhuang Iron & Steel Co., Ltd. (Shigang), a member of HBIS Group, has awarded an order to SMS Concast, a company of SMS group, covering the supply of a second continuous bloom caster. The order was placed within the frame of a relocation
program to reduce the environmental impact on the city of Shijiazhuang, China. Within the same program, Shigang had already ordered two 130-ton SHARC electric arc furnaces and a three-strand vertical continuous caster producing high-quality blooms from SMS group at the beginning of the year. This second continuous caster will be a traditional curved-type machine for the production of high-quality blooms. The product range will include steel grades from engineering steels and tire cord grades up to stainless steel. A wider portfolio of special steels will also be possible to be produced on this caster. With its three strands, the machine will cast blooms of 410 x 530 millimeters cross-section with lengths between 5.0 and 6.1 meters.

The caster with a radius of 16.5 meters will allow operating the caster at high quality level with a wide operating window for the Dynamic Mechanical Soft Reduction (DMSR). Just like the vertical caster, this machine will be equipped with state of the art technology to produce special steels for a wide range of applications and a wide selection of alloys. The technological package will include electromagnetic CONSTIR mold and final stirrers, a high-precision tandem resonance oscillator and a finely adjustable air-mist secondary cooling system with seven independently controllable cooling zones. The DMSR system will have eleven modules per strand to ensure the blooms perfect internal quality. In addition, the caster will feature an infrared temperature measuring system installed for the purpose of online quality control of the blooms and for controlling the dynamic secondary cooling system. Length measurement by laser and an online weighing system will assure high bloom weight accuracy. The technological package is rounded up by a water-box quenching system.

AUTOMATION SYSTEM WITH DIGITALIZED QUALITY CONTROL

Within the scope of digitalization, the plant will be provided with a state-of-the-art automation and data recording system to ensure fully digitalized quality tracking. Additionally the system will increase the yield
through optimization of the cut lengths of the blooms.

*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 14,000 employees who generate worldwide sales of more than EUR 2.8 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.*