First reverse cold mill worldwide upgraded to Hyper UC-mill by Primetals Technologies started up at Masteel

- Hyper UC-mills employ smaller diameter work rolls, reducing rolling loads
- Enables to produce harder and thinner materials with improved product quality
- Enables Masteel to meet the growing demand for electrical steels
- Mill concept saves investment and maintenance costs

In August, the first coil was produced on a reverse cold mill (RCM) modernized by Primetals Technologies at the cold rolling plant of Chinese steel producer Magang (Group) Holding Co (Masteel). The mill at the Maanshan production site represents the first upgrade to a Hyper Universal Crown (UC)-mill worldwide and was officially inaugurated later that month. Hyper UC-mills employ smaller diameter work rolls, thus reducing rolling loads. This allows for the production of harder and thinner materials with improved product quality. In addition, the mill concept saves investment and maintenance costs. The upgrade enables Masteel to meet the growing demand for electrical steels spurred by increasing requirements for end uses in e.g. vehicle electrification. Primetals Technologies had received the order to revamp the RCM in April 2017.

Masteel is a large-sized iron and steel complex in China’s Anhui Province which was founded in 1958. The company’s production amounted to 19.7 million tons (2017). Their iron and steel business is mainly engaged in ferrous metal smelting, rolling and processing as well as product sale and support services. Masteel owns top production lines for thin strip cold-rolling and thin strip hot-rolling, strip hot-galvanizing, strip color coating, silicon steel, H-beam, high-quality wire and rod, train wheel, etc.

Primetals Technologies’ main scope of supply for the RCM upgrade included the project block, mill rolls, roll chocks, drive spindle and drive gear box. In addition, Primetals Technologies was responsible for the supervision of erection and commissioning. The upgraded mill processes silicon steel grades with product thicknesses between 0.3 and 0.65 millimeters in a width range of 900 to 1,280 millimeters.
The Hyper UC-mill was recently developed by Primetals Technologies to achieve high performances of strip gauge and flatness control for High Strength Steel (HSS) rolling. This technology is also applicable for rolling high grades of non-grain oriented silicon steel and thin products. The technology is based on an optimized roll diameter combination (small work, intermediate and back-up rolls), a “work roll driven system” to achieve high flatness controllability, and the development of a high strength small diameter spindle to drive the work roll.

HYPER UC-MILL is a registered trademark of Primetals Technologies in certain countries.

Akira Goto, Director, Primetals Technologies Japan (left) and Ding Yi, Chairman of Maanshan Iron & Steel Co., Ltd., Magang (Group) Holding Co. (right) shaking hands in front of the first RCM upgraded to a Hyper UC-Mill at Masteel’s production site in Maanshan, China.

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