Siemens VAI to modernize hot strip rolling mill in Duisburg-Bruckhausen for ThyssenKrupp Steel Europe

Siemens VAI Metals Technologies has received an order from ThyssenKrupp Steel Europe AG to completely modernize its hot strip rolling mill no. 1 in Duisburg-Bruckhausen (Germany). The objectives of the project are to further improve product quality and broaden the range of products. The value of this order lies in the mid double-digit million euro range. Modernization of the hot strip rolling mill is scheduled to be completed in August 2012. Siemens VAI had previously received an order at the beginning of the year from ThyssenKrupp Steel Europe to modernize its medium-strip mill at Hoesch Hohenlimburg in Hagen, Germany.

The Bruckhausen location of ThyssenKrupp Steel Europe produces more than three million tons of cast steel slabs per annum. The plant can produce not only high quality steels but also high-silicon electrical strip grades. The plant has a compact hot strip mill and a wide hot strip mill. Roughing down takes place in hot-strip mill no. 1 with the aid of a two-high reversing stand and a four-high intermediate stand. Siemens VAI will install a heavy edger on the reversing stand, as well as the hydraulic and lubricating systems. The edger will enable a wider range of slab widths to be rolled, and will also improve the width tolerances of the roughing down. Apart from that, the roll separating force of the intermediate stand will be increased, and it will be equipped with long-stroke cylinders for hydraulic automatic gauge control (HAGC).

The finishing mill has seven, four-high rolling stands. In the course of the modernization, Siemens will supply the strippers – each consisting of a looper and side guides – for all the stands. The entry guides on stand F0 will have driven rolls. Descaling and cooling stations will be installed downstream of stands F0 to F2, and stands F1 to F3 will be equipped with roll-gap lubrication and anti-peeling systems to safeguard the roll surfaces. The new equipment will reduce both the roll separating force required and the wear on the rolls. This will also improve the standard of finish of
the rolled strip. A system for selective lubrication of the work rolls near the edges of the strip will be installed on stands F4 to F6 to reduce contour defects still further.

All the stands in the finishing mill will be equipped with SmartCrown technology to improve the profile and flatness control. Stands F0 to F3 will also be fitted with devices to shift the work rolls and L-bending blocks. These will have integrated position sensors to facilitate control of the actual strip gauge in the stand control system. This will minimize gauge deviations, especially at the head end of the strip. Long-stroke cylinders will also be installed on all stands for the hydraulic automatic gauge control (HAGC). The profile and flatness control will be matched to the associated new actuators, and optimized. The same will apply to the controllers of the new hydraulic actuators in the roll screw, loopers and side guides. The scope of supply also includes all the technology packages required to run the plant. Siemens will also supply the equipment for changing the work and backup rolls on stands F0 to F3, and upgrade the bearings of the backup rolls. This will allow considerably higher rolling forces than before.

Further information about solutions for steel works, rolling mills and processing lines is available at:

http://www.siemens.com/metals

A photo supplements this press release. Please see:

http://www.industry.siemens.com/data/presse/pics/IIS201106018.jpg
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