New automation equipment boosts sheet steel production efficiency at SSAB

SSAB Tunnplåt (Swedish Steel Group sheet steel products), Borlänge, Sweden, has replaced old control equipment with an advanced automation solution from ABB. Anders Jansson (foreground), project engineer at SSAB and Peter Sjödin, project manager at Tändkulan supervising the operation of the cold tandem mill, expects to see fewer production stoppages and improved productivity as a result.

SSAB Tunnplåt is the largest manufacturer of sheet steel products in Scandinavia and one of the world's leading producers of high-strength steel grades. 22 cm-thick slabs produced at other SSAB facilities are reheated in the hot strip mill's large furnaces and rolled into raw coils a few millimeters thick. These coils are either sold as hot-rolled strip or cut-to-length sheets, or processed further, including rolling in the five-stand cold tandem mill.

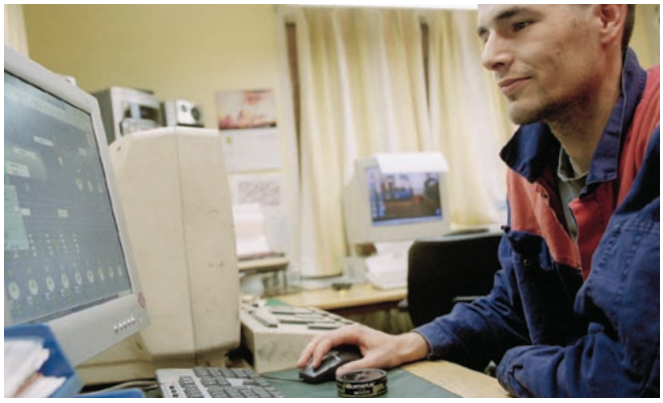
New ABB automation system

With the help of local system integrator Tändkulan, SSAB replaced the old control equipment for the cold tandem mill hydraulic installation with a new automation system from ABB. The delivery included a low-voltage type MNS switchgear with intelligent Insum technology and a 10/0.5 kV transformer, AC 800M and S800 I/O, and Process Portal with four operator workplaces, 500 tags and a communications unit (CI 857) between the switchgear and the AC 800M controller.

Control and monitoring with Aspect Object™ technology

From their first-floor control room, operators control and monitor the tandem mill's upgraded hydraulic installation located on the floor of the new mill facility.

AC 800M and S800 I/O, a general-purpose I/O system with fieldbus interface, and the Process Portal together form a complete DCS system. The Process Portal is based on Windows and supports open standards like OLE, OPC and Active-X. Utilizing Aspect Object technology developed by ABB, each component, such as a pump, tank or valve, plus information about it, constitutes its own object on the operator workplace.



SSAB manufactures about 2.8 million tonnes of sheet steel products annually. Production facilities include a five-stand cold tandem mill, now controlled by an advanced automation system based on Industrial^{IT}.

ABB's Industrial^{IT} technology now controls the hydraulic equipment in the cold tandem mill, linking together the hardware and software in a simple way. "Operators are very satisfied," says SSAB supervisor Anders Jansson.

Satisfied process operators

Operators are very satisfied with the Process Portal and quickly felt at home with the familiar Windows environment, according to SSAB's project engineer Anders Jansson. Monitoring is more efficient and alarms are detected faster than in the old control environment from the 1980s. Fault diagnosis is also much quicker. If a pump or other object in the hydraulic installation fails to start, the operators can see the reason for this in the form of an icon on their computer screens.

Installation quick and cost-efficient

Tändkulan, a system integrator and certified cooperation partner of ABB, was responsible for delivery and installation. They provided the hardware (computers as well as switchgear and a transformer from ABB), planned the electrical installations, and supplied the communications interface between AC 800M and ABB's intelligent low-voltage switchgear. They also trained operators.

The system communicates with the switchgear via a fieldbus and an Ethernet interface. The hardware configuration comprises four computers, three of which are operator clients linked to ABB's AC 800M. Switchgear components also become Aspect Objects so that they too can be controlled and monitored via the Process Portal. This strategy utilizes the benefits of ABB's Industrial^{IT} to the full, since it is a simple matter to link together hardware and software.

Controlling a switchgear installation via a fieldbus and Ethernet substantially lowers installation costs. Furthermore, monitoring the switchgear is improved at the same time as the risk of outages is minimized.

Anders Jansson is highly pleased with the whole ABB automation refit. He praises Tändkulan's contribution to the project, and is more than happy with the improved production efficiency in the cold tandem mill.

www.rcb2.se, 3285, Printed in Sweden, Västerås 2003.

Automation Technologies
SE-721 59 Vasteras
Sweden
Phone: +46 (0) 21 342000
Fax: +46 (0) 21 137845
www.abb.com/controlsystems
e-mail: processautomation@se.abb.com

Automation Technologies
29801 Euclid Avenue
Wickliffe, Ohio 44092, USA
Phone: +1 440 585 8500
Fax: +1 440 585 8756
www.abb.com/controlsystems
e-mail: industrialitsolutions@us.abb.com

Automation Technologies
Dudenstraße 44-46, D-68167
Mannheim, Germany
Phone: +49 (0) 1805 266776
Fax: +49 (0) 1805 776329
www.abb.de/processautomation
e-mail: marketing.control-products@de.abb.com

3BSE034874R0001