

ISSN 0935-7254

MPT

INTERNATIONAL

5

October
2009

INTI-Extensión y Desarrollo División Biblioteca	
	0684
04	ENE 2010



High-productivity pusher furnace at the Metinvest Trameal plate mill



Cover photo:
Tenova LOI-Italmimpianti Genova, Italy

Contact: www.tenovagroup.com
E-mail: tenova@tenovagroup.com

MPT INTERNATIONAL

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- 3 Opportunities waiting to be grabbed**

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Topical themes

M. Carbonaro, M. Fantuzzi, S. Gnemmi, C. Mori

- 34 High-productivity pusher furnace enables flexible plate production at Metinvest Trameal**

Metinvest Trameal commissioned a new reheating furnace at its plate mill in San Giorgio di Nogaro, Italy, to increase productivity of the plant. The furnace is characterized by a very wide charging mix which called for the design of a dedicated highly flexible automation system for slab handling. The 100 t/h pusher furnace has been in operation for more than one year with satisfactory results.

Maintenance

F. Benedetti, M. Padovan

- 16 Computerized maintenance management to provide a cost benefit for the operator**

The Danieli Maintenance Management System combines performance data from the plant units and the management of costs; only if such activities are organized and correctly managed from an engineering point of view they can provide a cost benefit for the plant operator.

Steelmaking

R. Robey, M. Whitehead, G. Parker, H. Thomson

- 24 Improved hot metal desulphurisation at Corus Scunthorpe Works**

Powder injection times for hot metal desulphurisation have been dramatically cut by up to 50% at Corus Scunthorpe by the modernisation of the plant using Twinjection™ technology which introduces two powder streams into the hot metal down a single refractory lance. Lower sulphur levels can now be achieved using co-injection of lime and magnesium in a fraction of the previous injection times.

Continuous casting

- 30 Vertical slab caster commissioned at Baosteel**

The new vertical slab caster enables a wide range of highly critical steel grades to be continuously cast, which would not be able to be produced in a conventional bow-type caster. Steel production in the existing ingot casting route could also be partially taken over by the new caster.

Hot rolling

O. Ehrich, M. Lubas

- 42 Gentle plate handling**

The new vacuum lifting beams in the Duisburg-Süd plate mill of ThyssenKrupp Steel optimize the stacking operation on the roller table and plate destacking from the cooling bed. The cycle time for the plate transfer amounts to some 36 seconds.

E. Thorstenson

- 44 Drive selection for rolling mills**

This article concentrates on the selection of variable speed motor drives for long product rolling mills. Among the selection principles discussed are DC vs. AC drives, braking, common DC bus AC drives, installation and maintenance considerations.

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32 Start of industrial endless thin slab/hot strip production at the Arvedi ESP line

For the first time ever, hot-rolled coils can now be commercially produced in a thin-slab casting/rolling plant directly from liquid steel in a continuous and uninterrupted manufacturing process. Thin-gauge strip is produced in better quality and at lower costs compared to alternative processes. This new casting-rolling facility represents the world's most compact line for the production of hot-rolled strip.

Forging

48 Italian steel forge modernized to produce ultra-large shafts

To further strengthen its forging operation ThyssenKrupp Acciai Speciali Terni recently implemented a variety of measures, including a 250 t capacity manipulator and an innovative VOD plant in the melt shop.

Cold rolling

R. Effertz

50 Improved capacity through process-optimised fluids in cold rolling mills

By founding SMS Lubrication GmbH, the SMS group has now added to its portfolio the development and supply of process-optimised fluids.

Surface treatment

P. Davies

52 New generation of PVC plastisols

The latest PVC coil coating from BASF provides enhanced ultra violet and weathering resistance. The product has significant health and safety and environmental advantages over alternative products.

Quality assurance

F. Lücking, H. Peintinger

54 Combining gauge data for safe quality decisions

With a new approach, gauge data of coils can be easily synchronized and used for computer-assisted quality grading rules.

R. Bernal

62 Automatic edge inspection at slitting lines

A remote video inspection tool makes sure sheet edges and scoring cuts meet customer specifications and mill requirements while eliminating costly re-trimming.

O. Palzer

64 Measuring system for steel bar and wire rod

The MMS measuring device enables continuous measurement and optimisation of the tolerances with high accuracy and reproducibility.

Environmental protection

T. Sagermann

72 Environmental engineering for sustainable production

Plantmaker SMS Siemag has further strengthened its traditional dedication to energy-efficient and environmentally friendly plant technology and equipment.