



**Cover photo:**

A state-of-the-art Simetal Ultimate furnace currently produces more than 7,500 t per day

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# MPT

## INTERNATIONAL

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*A. Hannewald*

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## Topical themes

*M. Abel, M. Hein*

### 44 The breakthrough for 320 t tapping weight

Today, steelmakers make increasingly exacting demands on electric arc furnaces in terms of productivity and cost efficiency. A Simetal Ultimate furnace is powered by a 240 MVA transformer, which is currently the biggest transformer used for electric steelmaking worldwide. The article reports about the different modes of operation of this furnace. Special emphasis is put on the evolution of productivity, including the design steps of the EAF during commissioning.

## Company profile

### 30 Siemens VAI moves even closer to its customers

Siemens VAI is creating a new structure of manufacturing and service centres to support its moves to become a local supplier of plants and process solutions. Siemens VAI plans to further increase local content, especially in China, India, Russia and Ukraine. Following a rise in new orders in 2007, Siemens VAI is expecting “considerable” further growth.

## Environmental protection

### 34 Recycling services for residues of the steel industry

Befesa is an international company specializing in the integral management of industrial residues and the generation and management of water. Befesa operates facilities capable of treating 2.6 million t/year of industrial residues and to desalinate 1.1 million m<sup>3</sup>/day of water. One of the main business fields is the recycling of residues from steel and galvanizing plants.

## Steelmaking

*P. Clerici, F. Dell’Acqua, J. Maiolo, V. Scipolo*

### 40 Dynamic EAF control using highest performing technology

The “intelligent electric arc furnace”, known as the *Tenova iEAF™*, is an innovative automation system, based on continuous measurements and online process models, developed for dynamic control and optimization of the electric arc furnace (EAF). The overall benefits of this system are increased productivity, improved economical performance through reduced conversion costs and less process variability.

*Interview*

### 50 Looking for the ultimate melting solution

Scrap has never been as valuable as nowadays. Its price has more than doubled over the past five years. The demand for this raw material is increasing continually. As a result, electric steel production is continuing to gain in importance. MPT International spoke with Friedhelm Wagener, who is in charge of the worldwide electric steel plant business at Siemens VAI MT (formerly VAI Fuchs).

L.C. Prichard, S.Krämer, C. Klein, J. Müller

## 52 First operational results at the new SeverCorr mini-mill, USA

SeverCorr is a brand-new steel company located in the US state of Mississippi. Between December 2006 and November 2007 SeverCorr started up a new mini-mill for strip production previously erected on a greenfield site and tailored completely to the requirements of the automobile industry as main customer. The most important results of the commissioning phase are summarized and the initial operating experience is presented.

## Continuous casting

L. Morsut, D. Cappellari

## 62 Data analysis system for metallurgical processes

In a modern steel plant, a vast amount of data is constantly being collected by various acquisition systems (PLC, SCADA etc.). The MoreIntelligence system has been conceived and developed for the transformation of the huge amount of production data available as information for decision-making.

## Hot rolling

M. Schäfer

## 68 Modernization of the hot rolling mill at Aleris

Aleris commissioned a new 4 m plate and roughing mill - the strongest of its kind - in January of this year. This very unique modernization project is documented by videos and presentations on the DVD attached to this article.



## Automation

J. Aittola

## 72 Coil and sheet handling and packaging automation

During the past few years Corus has been automating not only the production lines, but also their material handling and packing functions too. Pesimal delivered an automated coil packing line to Corus IJmuiden and an automated sheet packing line to Corus Namascor both in the Netherlands.

H. Golm, J. Hundrieser

## 74 New methods of monitoring cooling water circuits

For reliable operation of closed water circuits of a blast furnace, converter or electric arc furnace, continuous monitoring of selected control parameters increases process safety and system reliability. The systematic, continuous measurement of silicate acid, phosphate, total organic carbon, hardness or other substances contained in the water make it possible to detect critical events at an early stage and thus take actions.

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