

Cover photo:
Uhde coke plant technologies
Uhde GmbH, Dortmund, Germany

Contact: www.uhde.biz
E-mail: info.uhde@thyssenkrupp.com

MPT

INTERNATIONAL

Editorial

A. Hannewald

- 1 Still high potentials in metallurgical technologies

Columns

- 6 International industry news
- 80 Technical innovations
- 91 Ask the expert
- 91 Cartoon
- 92 Literature service
- 94 In the next issue
- 94 Imprint

Topical themes

M. Reinke

24 Developments in coke making technology

Coke plant technology has been improved over many decades. High capacity ovens with oven heights of up to 8.4 m, useful volumes of more than 90 m³ and the associated gas treatment facilities, which handle the large volume flows of raw gas generated by coke production units with capacities of more than 2.5 million t/year coke, fulfil all ambitious operation tasks as well as work safety and environmental regulations.

Ironmaking

O. Mielenz, A. Krüner,
H. Köchner, H.-P. Rüter,
M. Peters, P. Schmöle

44 Advanced monitoring of liquid iron filling level and dead man position inside the blast furnace

A new on-line measurement technique for continuous assessment of liquid iron filling levels and dead man position inside the blast furnace hearth was developed and successfully applied to operational practice at ThyssenKrupp Steel.

Steelmaking

F. Memoli, M. Bianchi Ferri

58 New track record for Consteel due to new environment-friendly features

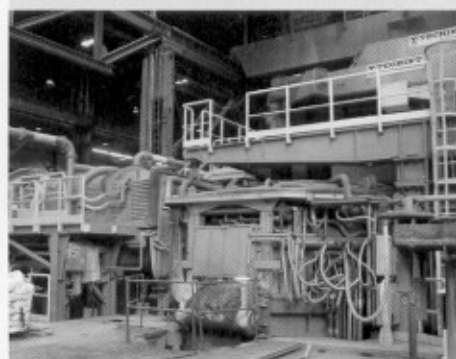
Eight new Consteel® systems have been ordered between January and August 2007. The new drivers behind this success include the environmental aspects of the system as well as the increase in productivity of the EAF.

Steelmaking

T. Feldhaus, B. Feldhaus

50 Innovative injection system in desulphurization plants

In comparison to conventional technologies, a PFD dense phase conveyor increases process efficiencies, reduces the amount of desulphurization agents needed, speeds up the desulphurization process and, thus, increases the productivity of the steel plant.



First heat at TSW

D. Riedinger, H.-P. Pfaff

68 Optimization potentials of DC arc furnace regulating systems

Many DC arc furnaces have been operating since their commissioning without modifying or optimizing the regulating system. This is where the great potential of the old installations lies.

R. Kim, R. Worberg

40 Thermodynamics of heat-recovery coke ovens

Besides the common horizontal chamber coke oven technology, heat recovery and non-recovery technologies are not particularly widespread outside China, India and the USA and it is unknown whether any systematic investigations exist. However, a significant innovation is required if heat recovery technology is to be developed to the standards of modern conventional coke plant technology. To support the design criteria this technology was analysed.

Continuous casting

C. Travaglini

72 Large-size round bloom caster at Huaigang Special Steel

A new 6-strand continuous casting plant for jumbo-size round blooms was started up successfully at Huaigang Special Steel in China. The round bloom caster has shown very good behaviour since the very beginning, both in terms of productivity and quality. Production and quality indexes are close to unit values, meaning that the applied technology guarantees simple machine management allowing full control of the machine in every phase of the production process.



6-strand caster for jumbo-size round bloom

Hot rolling

A. Glümann, R. L. Ricciatti

74 State-of-the-art velocimeter for tube and bar mill applications

While most of the requirements for speed and length measurement in flat rolling can be met by the use of currently available velocimeters, applications in tube and bar mills have not been easy to satisfy. The Kelk Accuspeed laser velocimeter has now been proven to be an accurate and reliable instrument for these difficult applications.

Automation

78 New heavy-plate production line for MMK Russia

Magnitogorsk Metallurgical Combine (MMK) in Russia has ordered a single-strand caster and a 5 m heavy-plate rolling mill. The range of products to be manufactured at these new facilities is to include pipe grades up to X120 for the gas and oil industry.

Advertisers' index

Atos spa	15
Aumund Fördertechnik GmbH	27
Automazioni Industriali Capitano srl	83
Badische Stahl-Engineering GmbH	65
CMI UVK GmbH	37
Costacurta S.p.A.-VICO	43
Danieli S.P.A.	4, 5
EISENBEISS GmbH	76
EMPCO (Canada) LTD.	I.B.C.
GeGa Lotz GmbH	21
Heinrich Grünewald	33
GSB Group GmbH	88
Ingenieurbüro Hachmann und Partner	87
Herr - Voss Corp.	63
hpl-Neugnadenfelder Maschinenfabrik GmbH	49
iba AG	81
IMPAC Infrared GmbH	53
INTECO Internat. Technische Beratung Ges.m.b.H.	71
Kalenborn Kalprotect	13
Maschinenfabrik Köppern GmbH & Co. KG	33
Lechler GmbH	89
MAC	23
Messe Düsseldorf GmbH	11, 20
Kiro-Nathaus GmbH	38
Nisterhammer Maschinenbau GmbH & Co. KG	23
Outotec	35
POLYTEC GMBH	7
Reinguss GmbH	33
Helmut Rübsamen GmbH & Co. KG	53
RUSSULA, S.A.	77
S&B Industrial Minerals	57
Schäfer&Urbach GmbH & Co. KG	19
Schenck Process GmbH	29
SGL CARBON GmbH	O.B.C.
Shapeline AB	37
Siemens VAI	8, 9
SMS MEVAC GmbH	I.F.C.
SPECTRO ANALYTICAL INSTRUMENTS GmbH & Co. KG	37
Steel Academy	90
Stein Industrie-Anlagen	53
Stopinc AG	17, 18
TAIM - TFG S.A.	31
Tenova Melt Shops	55
Thermo Fisher Scientific	67
TMT Tapping Measuring Technology	61
VELCO GmbH Ges. f. Förder-, Spritz- und Silo-Anlagen mbH	84
Ventilatorenfabrik Oelde GmbH	39
WOKO Magnet- und Anlagenbau GmbH	12
PAUL WURTH S.A.	47, 48
Zumbach Electronic AG	57
Zwick GmbH & Co.	88