

Proceedings



June 6-10, 2010 - Hamburg, Germany

Volume 2

Pyrometallurgy I



Conference organized by GDMB, IIMCh, MetSoc, MMIJ, SME and TMS

Editor

GDMB

Paul-Ernst-Straße 10, D-38678 Clausthal-Zellerfeld

Internet: www.GDMB.de

Volume 1	ISBN 978-3-940276-25-4
Volume 2	ISBN 978-3-940276-26-1
Volume 3	ISBN 978-3-940276-27-8
Volume 4	ISBN 978-3-940276-28-5
Volume 5	ISBN 978-3-940276-29-2
Volume 6	ISBN 978-3-940276-30-8
Volume 7	ISBN 978-3-940276-31-5
Set (Volume 1+2+3+4+5+6+7)	ISBN 978-3-940276-32-2

All rights reserved. No part of this publication may be reproduced or electronically processed, copied or distributed without the prior consent by the editor.

The content of the papers is the sole responsibility of the authors. All papers were peer reviewed by the corresponding members of the technical groups of the organizing societies.

Editorial staff:	Dipl.-Ing. Jens Harre
Production and marketing:	GDMB Informationsgesellschaft mbH
Printed by:	Papierflieger

© GDMB

Clausthal-Zellerfeld 2010

Bibliographische Information Der Deutschen Bibliothek

Die Deutsche Bibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliographie; detaillierte bibliographische Daten sind im Internet über <http://dnb.ddb.de> abrufbar.

Bibliographic information published by Die Deutsche Bibliothek

Die Deutsche Bibliothek lists this publication in the Deutsche Nationalbibliographie; detailed bibliographic data is available in the internet at <http://dnb.ddb.de>.



Table of Contents – Volume 2

Pyrometallurgy I (Authors A-L)

Design of Copper-Cobalt Sulphating Roasters for Katanga Mining Limited in D.R. Congo	587
Dr. Kamal Adham, Tuisko Buchholz, Alex Kokourine, Rayson Lu, Jim Sarvinis, Andrew Tohn, Stephane Girouard	
Filsulfur and Gypsulfur: Modern Design Concepts for Weak Acid Treatment	601
Dr. Angela Ante	
Feasibility to Profitability with Copper ISASMELT™	615
G. R. Alvear F., P. Arthur, P. Partington	
Present and Future Modernization of Metallurgical Production Lines of the Głogów Copper Smelter	631
Leszek Byszyński, Leszek Garycki, Zbigniew Gostyński, Tomasz Stodulski, Jerzy Urbanowski	
Energy Consumption in Copper Sulphide Smelting	649
P. Coursol, P. J. Mackey, C. M. Díaz	
Problems of Lead and Arsenic Removal from Copper Production in a One-Stage Flash-Smelting Process	669
J. Czernecki, Z. Śmieszek, Z. Miczkowski, G. Krawiec, S. Gizicki	
Control of Fugitive Emissions in a Continuous Mitsubishi C-Furnace during Limestone Fluxing	685
Adam Salomon de Friedberg, Alan Hyde, Mark Coleman	
Modern Flash Smelting Cooling Systems	699
K. Fagerlund, M. Lindgren, M. Jåfs	
<i>Proceedings of Copper 2010</i>	XIII



Introduction of a Slide Gate System for Copper Anode Furnaces Dipl.-Ing. Klaus Gamweger	713
New Highly Efficient Rotary Furnace for Environmentally Friendly Refining Process Dr. Bernhard Hanusch	721
Sulphur Capacity of the “FeO”-CaO-SiO ₂ Slag of Interest to the Copper Smelting Process H. M. Henao, P. C. Hayes, E. Jak	731
Changes in the ISASMELT TM Slag Chemistry at Southern Peru Ilo Smelter Enrique Herrera, Leopoldo Mariscal	749
Experimental Study of Phase Equilibria of Silicate Slag Systems M. Phil. T. Hidayat, Dr. H. M. Henao, Prof. P. C. Hayes, Prof. E. Jak	761
Dryer Fuel Reduction and Recent Operation of the Flash Smelting Furnace at Saganoseki Smelter & Refinery after the SPI Project Mitsumasa Hoshi, Katsuya Toda, Tatsuya Motomura, Masaharu Takahashi, Yushiro Hirai	779
Development of the Continuous Copper Converting Using Two-Zone Vaniukov Converter E. Jak, L. Tsymbulov	793
Liquidus Temperature in Calcium Ferrite Slags in Ca ₂ Fe ₂ O ₅ and Ca ₂ SiO ₄ Primary Phase Fields with Cu and Fixed Po ₂ E. Jak, B. Zhao, C. Nexhip, D. P. George-Kennedy, P. C. Hayes	811
Numerical Simulation of Fluid Flow and Melt Temperature in Settler Zhou Jun, Zhou Ping, Chen Zhuo, Liu Anming, Meichi	823



Profit Enhancement through Steam Selling	831
Kyoung-Soo Jung, Gun-Woong Byun, Sung-Ho Shin	
Gas Injection Phenomena in Converters – An Update on Buoyancy Power and Bath Stopping	839
Dr. Joël P. T. Kapusta	
Recovery of Valuable Metals from Converter Slags by Reduction with Iron	863
Dipl.-Ing. Stefan Konetschnik, Dipl.-Ing. Helmut Paulitsch, Dipl.-Ing. Dr.mont. Josef Pesl, Ao.Univ.Prof. Dipl.-Ing. Dr.mont. Helmut Antrekowitsch	
Waste heat boilers for Copper Smelting Applications	879
Dipl.-Ing. Stefan Köster	
Processing of High-Silicon Copper Sulfide Concentrates by Vanyukov Smelting	893
S. M. Kozhakhmetov, S. A. Kvyatkovskiy, E. A. Ospanov, Z. S. Abisheva, A. N. Zagorodnyaya	
Boiler Tube Cooling of TSL-Furnace Walls	907
Heikki Lankinen, Rauno Peippo	
Experimental Estimation of the Residence Time Distribution in a P-S Converter	919
C. López, A. Almaraz, R. Cuenca, B. Hernández, F. Reyes, G. Plascencia	
Numerical Simulation of Air Blowing into a Copper Matte in a P-S Converter Using a Convergent / Divergent Nozzle	931
C. López, A. Almaraz, I. Arellano, E. Martínez, M. A. Barrón, T. A. Utigard, G. Plascencia	