

Contents

Foreword

An Inaugural Greeting from the New President of the ISIJ Z. MORITA... i

Technical Review

Combustion Technology in Steel Industry T. SUZUKI...807

Commentary

Recent Advance in Fluidization Technology S. MORI...817

Technical Papers and Technical Reports

Development of Heat-pattern Control System along the Width Direction of Sintering Bed
..... R. NAKAJIMA, S. KUROSAWA, H. FUKUYO, T. WADA, R. KIMURA and Y. YAMAOKA...825

Low Silicon Operation in Blast Furnace with Flux Injection through the Tuyeres
..... R. NAKAJIMA, S. KISHIMOTO, H. HOTTA, A. SHIMOMURA, K. ISHII and Y. YAMAOKA...832

Bubble Characteristics in the Momentum Region of Air-Water Vertical Bubbling Jets
..... M. IGUCHI, H. KAWABATA, T. IWASAKI, K. NOZAWA and Z. MORITA...840

Measurement of Heat Transfer Rate between Particle and Fluid in Counter-current Moving Beds
..... T. AKIYAMA, R. TAKAHASHI and J. YAGI...848

Disintegration of Bubbles and Acceleration of Gas-Liquid Reaction with Ultrasonic Vibrating
Nozzle in Water Model Experiment M. KAWAKAMI, N. TONO, S. DOUWAKI and K. ITO...856

Controllability of Particle Size and Efficiency of Electromagnetic Energy on Electromagnetic
Atomization Process of Molten Metal S. NINAGAWA, K. SASSA, T. KOZUKA and S. ASAI...863

Stability Analysis of Free Surface of Liquid Metal Levitated by Electromagnetic Force
..... S. TAKEUCHI, J. ETAY and M. GARNIER...870

Phosphorus Reaction between Molten Iron of High Carbon Concentration and Slag Containing
FeO and Fe₂O₃..... P. WEI, M. SANO, M. HIRASAWA and K. MORI...878

Analysis on Buckling of Steel Plates in a Process of On-line Controlled Cooling N. YOSHIHARA...886

Effects of Alloying Elements and Thermomechanical Treatment on Mechanical and Magnetic
Properties of Cr-Ni Austenitic Steel T. TAKEMOTO, Y. MURATA and T. TANAKA...894

Effects of Surface Texture on Cooling Curve during Quenching of Heated Metals in Subcooled Water
..... M. NARAZAKI, S. FUCHIZAWA and M. INABA...902

Effects of Chemical Composition on the Heat-treatment Response of Ti-15V-3Cr-3Sn-3Al Based
Beta Titanium Alloys N. NIWA, T. DEMURA and K. ITO...910

Saturation of Damage in Fretting Fatigue of High Strength Steels in Seawater
..... K. NAKAZAWA, M. SUMITA and N. MARUYAMA...917

Subsurface Crack Initiation in High Cycle Fatigue of Ti-6Al-4V Alloys at Cryogenic Temperatures
..... O. UMEZAWA, K. NAGAI and K. ISHIKAWA...924

Effect of Microstructure on Fracture Toughness of Ti-15V-3Cr-3Sn-3Al Alloy
..... T. HORIYA, H. G. SUZUKI and T. KISHI...932

Fabrication and High Temperature Properties of Single Crystal Component of Advanced Ni-base
Superalloys Y. OHTA, Y. G. NAKAGAWA and S. OHAMA...940

The Effect of P and Si Segregation to Grain Boundary on the Intergranular Corrosion of Type 304L
Stainless Steel K. HOSOI, T. YOKOSUKA, T. YOSHIDA, I. MASAOKA and Y. SASADA...948

Evaluation of Gas Turbine Materials for Low BTU Coal Gasification Generation
..... T. KOBAYASHI, T. ARAI, T. ITAGAKI and M. YAMAZAKI...956

Research Note

Microstructure and Mechanical Properties of an α -particle Irradiated Type 316 Stainless Steel

..... K. MIYAHARA, Y. SAKAMOTO, H. KAYANO and Y. HOSOI...964

Letter

Technical Terms for the Technology of Surface Treatment

..... Y. MIYOSHI...967

Reports

Report on the 4th ISIJ-VDEh Refractory Technical Exchange Meeting

..... T. MORIMOTO...971

Reports of the 75th General Assembly and the 119th ISIJ Meeting

..... 973

Column 977

Notification from the Information Center of

The Editor's Postscript1040

ISIJ..... N190

Notice to Members N171

Proceedings to the Institute N191

鉄と鋼 定価 2,884 円 (本体 2,800 円, 消費税 84 円)

Tetsu-to-Hagané Price : ¥ 2,884.- (including Consumption Tax ¥ 84.-)

(Only for export, ¥ 2,800.- excluding Consumption Tax ¥ 84.-)

編 集 委 員 会

委 員 長 南雲 道彦

編集運営委員会

石井 邦宜	入江 敏夫	及川 洪	大河内春乃	大谷 泰夫
小野 陽一	尾上 俊雄	菊池 實	權藤 永	雀部 実
佐野 正道	新宮 秀夫	中岡 一秀	新居 和嘉	垣生 泰弘
林 央	溝口 庄三	吉田 豊信		

和文会誌分科会

主 査 雀部 実	幹事 大河内春乃			
委 員 小豆島 明	姉崎 正治	井口 泰孝	石川 圭介	石黒 徹
伊藤 邦夫	岩田 英夫	遠藤 孝雄	大中 逸雄	大矢 清
岡本健太郎	片山 裕之	金子 智	河井 良彦	川上 正博
木村 肇	栗林 一彦	斉藤 良行	坂木 庸晃	佐藤 駿
清水 正賢	下村 隆良	高嶋 修嗣	高城 重彰	高橋 政司
田口 整司	田中 紘一	田村 至	長谷川守弘	肥田 行博
藤井 徹也	古川 武	牧 正志	松尾 孝	三原 豊
三吉 康彦	八木順一郎	安中 弘行	鎌田 征雄	若野 茂
渡辺 勉				

© COPYRIGHT 1990 社団法人 日本鉄鋼協会

本書に掲載されている記事の無断転載ならびに無断コピーを禁じます。

This publication, or any part thereof, may not be reproduced in any form without the written permission of the ISIJ.