

ISIJ International

**Special Issue on
Recent Progress of
Science & Technologies
for the Iron Ore
Agglomeration Process**

**Volume 53
Number 9
2013**

The Iron and Steel Institute of Japan
www.isij.or.jp

SPECIAL ISSUE ON RECENT PROGRESS OF SCIENCE & TECHNOLOGIES
FOR THE IRON ORE AGGLOMERATION PROCESS

CONTENTS

- 1491 Effect of surface properties of iron ores on their granulation behavior
H. MAO, R. ZHANG, X. LV, C. BAI and X. HUANG
- 1497 Technology for productivity improvement of sintering based on designing of composite granulation and bed structure of sinter mixture
C. KAMIJO, M. HARA, Y. YAMAGUCHI, M. YOSHIKAWA, J. KANO, M. MATSUMURA and T. KAWAGUCHI
- 1503 Effect of particle size of iron ore and coke on granulation property of quasi-particle
T. MAEDA, R. KIKUCHI, K. OHNO, M. SHIMIZU and K. KUNITOMO
- 1510 Continuous measurement and control of sinter mix moisture for decrease in sintering fluctuation
K. NOZAWA, K. MORIOKA, T. KINUGASA, K. ANO and K. OSUGA
- 1515 Optimization of dolomite usage in iron ore sintering process
G. ZHANG, S. WU, S. CHEN, J. ZHU, J. FAN and B. SU
- 1523 Effect of coke breeze addition timing on sintering operation
Y. ARIKATA, K. YAMAMOTO and Y. SASSA
- 1529 Effect of the separation of large limonite ore particles in the granulation process of sinter raw materials
J. ZHU, S. WU, J. FAN, G. ZHANG and Z. QUE
- 1538 Improvement of permeability of sintering bed by adding dry particles to granulated raw materials
Y. YAMAGUCHI, C. KAMIJO, M. MATSUMURA and T. KAWAGUCHI
- 1545 Influence of coke breeze positioning on the sintering behavior of pellets and raw material bed with embedded pellets
T. HIGUCHI, Y. IWAMI, Y. KURIKI, K. NUSHIRO, M. SATO and N. OYAMA
- 1555 DEM simulation of collapse phenomena of packed bed of raw materials for iron ore sinter during charging
S. ISHIHARA, R. SODA, Q. ZHANG and J. KANO
- 1561 Sintering behavior of return fines and their effective utilization method
S. WU, J. ZHU, J. FAN, G. ZHANG and S. CHEN
- 1571 Influence of CaO source on the formation behavior of calcium ferrite in solid state
J. YIN, X. LV, S. XIANG, C. BAI and B. YU
- 1580 Analysis of combustion rate of various carbon materials for iron ore sintering process
K. MURAKAMI, K. SUGAWARA and T. KAWAGUCHI
- 1588 Combustion rate of coke in quasi-particle at iron ore sintering process
K. OHNO, K. NODA, K. NISHIOKA, T. MAEDA and M. SHIMIZU
- 1594 Effect of granule structure on the combustion behavior of coke breeze for iron ore sintering
Y. TOBU, M. NAKANO, T. NAKAGAWA and T. NAGASAKA
- 1599 Utilization of biomass for iron ore sintering
T. KAWAGUCHI and M. HARA
- 1607 Substitution of charcoal for coke breeze in iron ore sintering
L. LU, M. ADAM, M. KILBURN, S. HAPUGODA, M. SOMERVILLE, S. JAHANSHAHI and J. G. MATHIESON
- 1617 Effect of utilization of metallic Fe particles as an agglomeration agent on the permeability of sintering bed
K. FUJINO, T. MURAKAMI and E. KASAI
- 1625 Reduction of CO₂ emissions by use of pre-reduced iron ore as sinter raw material
H. YABE and Y. TAKAMOTO
- 1633 Effect of oxygen enrichment on sintering with combined usage of coke breeze and gaseous fuel
Y. IWAMI, T. YAMAMOTO, T. HIGUCHI, K. NUSHIRO, M. SATO and N. OYAMA
- 1642 Effect of coke combustion rate equation on numerical simulation of temperature distribution in iron ore sintering process
K. OHNO, K. NODA, K. NISHIOKA, T. MAEDA and M. SHIMIZU
- 1648 Simulation of sintering process – Effects of contraction force by particle shrinkage and melted particle volume on growth of void and crack –
S. YUU and T. UMEKAGE
- 1658 Non-linear state estimator for the on-line control of a sinter plant
J. SAIZ and M. J. POSADA
- 1665 Efficient and clean production practice of large-scale sintering machine (Review)
D. WANG, S. WU, C. LI and J. ZHU
- 1673 Optimization of firing temperature for hematite pellets
T. UMADEVI, N. F. LOBO, S. DESAI, P. C. MAHAPATRA, R. SAH and M. PRABHU
- A-19 Abstracts of the papers published in Tetsu-to-Hagané Vol. 99 (2013), No. 9**