

ISIJ International

**Special Issue on
Diversified Estimation of
Nonmetallic Inclusion
Particles in Steel**

**Volume 53
Number 11
2013**

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

SPECIAL ISSUE ON DIVERSIFIED ESTIMATION OF NONMETALLIC
INCLUSION PARTICLES IN STEEL

CONTENTS

- 1905 Preface to the special issue on "diversified estimation of nonmetallic inclusion particles in steel" (Preface)
R. INOUE
- 1906 Applicability of nonaqueous electrolytes for electrolytic extraction of inclusion particles containing Zr, Ti, and Ce
R. INOUE, R. KIMURA, S. UEDA and H. SUIO
- 1913 Analysis and significance of non-metallic inclusions in non grain-oriented electrical steel
E. ZINNGREBE, P. ŠEDÁ, C. VAN HOEK and B. VAN ARENDONK
- 1923 Two-dimensional observation of emission image of a copper chip excited in a glow discharge plasma
M. MATSUURA and K. WAGATSUMA
- 1927 Rapid inclusion and defect detection system for large steel volumes
C. BUCK, F. BÜRGER, J. HERWIG and M. THURAU
- 1936 SEM observation of inclusions in steel samples using fast cleaning and modification of the surface by glow discharge (Note)
K. TSUJI and K. SHIMIZU
- 1939 X-ray elemental imaging in depth by combination of FE-SEM-EDS and glow discharge sputtering
F. ONOUE and K. TSUJI
- 1943 Morphology of nonmetallic-inclusion clusters observed in molten metal by X-ray micro-computed tomography (CT)
T. LI, S. SHIMASAKI, S. TANIGUCHI, K. UESUGI and S. NARITA
- 1953 Elemental depth analysis of corroded paint-coated steel by confocal micro-XRF method
K. NAKANO, K. AKIOKA, T. DOI, M. ARAI, H. TAKABE and K. TSUJI
- 1958 Particle coagulation in molten metal based on three-dimensional analysis of cluster by X-ray micro-computer tomography (CT)
T. LI, S. SHIMASAKI, S. TANIGUCHI, K. UESUGI and S. NARITA
- 1968 Determination of size distribution and probable maximum size of inclusions in AISI304 stainless steel
Y. KANBE, A. KARASEV, H. TODOROKI and P. G. JÖNSSON
- 1974 Evolution of non-metallic inclusions in secondary steelmaking: Learning from inclusion size distributions
M.-A. VAN ENDE, M. GUO, E. ZINNGREBE, B. BLANPAIN and I.-H. JUNG
- 1983 Experimental and numerical investigations on non-metallic inclusions distribution in billets casted at a multi-strand continuous casting tundish
M. WARZECHA, T. MERDER, P. WARZECHA and G. STRADOMSKI
- 1993 Emission spectrometric analysis using an Okamoto-cavity microwave-induced plasma with nitrogen-oxygen mixed gas
Y. ARAI, S. SATO and K. WAGATSUMA
- 2000 Characterization of selective oxidation of manganese in surface layers of Fe–Mn alloys by different analytical methods
K. SHINODA, T. YAMAMOTO and S. SUZUKI
- 2007 Effect of nitrogen on the formation and evolution of non-metallic inclusions in Fe–Al–Ti–N alloy
W. CHOI, H. MATSUURA and F. TSUKIHASHI

**A-23 Abstracts of the papers published in Tetsu-to-Hagané Vol. 99 (2013), No. 11
Announcements from ISIJ**