Program of the 144 th ISIJ Meeting (November 2-4, 2002)

Current Advance in Materials and Process, Vol.15, No.4

High Temperature Processes

Lecture No.	Title		Speaker	P	age
Melting and S	Solidification of Metal and Slag Oxides-Melt a	nd Solidify			
01 Melting of	iron by absorbing carbon from solid carbon of	or CO gas	K.Nagata		668
02 Carburizat	tion of reduced iron	-	K.Ohno	• • •	672
03 Melting dy	namics of copper-A first step to high-temper	ature nanotechnology	R.Kojima		676
04 Thermody	namics of melting temperature of alloys in sm	all particle systems	T.Tanaka	• • •	680
05 Analysis o process	f dissolution and isothermal solidification be	havior during transient liquid phase bonding	Y.Natsume	•••	684
06 Influence of	of pore blockade by molten slag on reduction	behavior of wustite compact	M.Nakamoto	•••	687
Charging Sin	ter Mixture Technology for Controlling Sinter	Cake Structure			
07 Revue on o	charging of raw mixture and formation of sinte	rcake	M.Nakano		690
08 Developme in the sint	ent of charging technology for raw mixture for ering bed	the improvement of packed structure	N.Oyama	•••	694
09 Raw mix pa by load co	acked structure control by intensified shifting ntrol using stand sintering	feeder and sinter cake structure control	H.Matsuoka	•••	698
10 Improveme	ent of sinter productivity with controlling bull	c density of sinter materials at sintering bed	M.Matsumura	• • •	702
11 Developme	ent of new technology for controlling the char	ge segregation in ore bed	S.Ishiwaki	• • •	706
12 Control of	charging on sintering bed by segregating slit	wire and its effect on productivity	K.Ichikawa	•••	710
13 Effect of ir	on ore type and slag ratio on the structural c	hange in packed bed of quasi-particles	T.Otomo	• • •	714
14 Design of	backing structure of raw materials to control	the void structure of sinter cake	E.Kasai	• • •	718

Current Advance in Materials and Process, Vol.15, No.5

Production and Utilization Technology

Lecture	No. Title	Speaker		Pag	ge
Mod	leling of Material Deformation for Numerical Simulation				
15 N	Nodeling of material properties for sheet metal forming simulation	H.Hayashi	•••	•	936
16 N	Nodeling plastic deformation behavior of steel sheets using anisotropic yield criteria	T.Kuwabara	•••	•	940
17 C	Constitutive models of large-strain cyclic plasticity for anisotropic sheet metals	F.Yoshida	•••	•	944
18 D	Deformation analysis of blanking using FEM considering ductile damage model	Y.Yoshida	•••	•	948
19 N	licro-macro simulation of sintering using Monte Carlo and finite element methods	K.Mori	•••	•	952
Melt	ting and Casting Processes of Advanced Materials				
20 R	ecent progress of melting and casting processes for titanium	C.Ouchi	•••	•	956
21 A	state of dental accurate casting method for Ti alloys	H.Fukui	•••	•	960
22 P	recision casting for TiAI intermetallic compound	T.Shibata	•••	•	964
23 T	echnology in the production of sputtering targets by the melting method	S.Nishi	•••	•	968
24 S	emi-solid forming process of stainless steel	K.Miwa	•••	•	972

Current Advance in Materials and Process, Vol.15, No.6

Microstructure and Properties of Materials

Lecture No.	Title		Speaker	Pa	ige
Hydrogen In	duced Fatigue Fracture and its Microstructure	in High Strength Steels			
25 The influe	ence of hydrogen on rolling contact fatigue lif	e and its improvement	N.Kino	• • •	1016
26 Microstru	ictures and hydrogen trapping sites in high-s	trength steels	K.Takai		1020
27 Hydroger	absorption into high niobium bearing steels	-	T.Omura	• • •	1024
28 Hydroger	effect on corrosion fatigue behavior of struc	tural steels	R.Ebara	• • •	1025
29 Fatigue s	trength of material with small defect		Y.Kondo	•••	1029
30 Micro-sti	ructural changes due to rolling contact fatigu	e	K.Ueda	• • •	1033
31 Formation	n process of white eching area under rolling c	ontact	H.Harada	• • •	1037
32 Improvem	nent of giga-cycle fatigue properties with mod	lified-ausforming	Y.Furuya	•••	1041
33 Improvem	ent of delayed fracture property of high strer	gth steels by microstructure control	T.Tarui	• • •	1045
Developmen	t and Application of Antibacterial Metals and	Ceramics			
34 Technica	I trend of anti-microbial treatment and ingred	lient	T.Tomioka	• • •	1049
35 The point	of the application and development of the ar	ti-vacteria metalic material	H.Yamagiwa	•••	1050
36 Antimicro	biability in field test for stainless steel conta	iining Cu	S.Suzuki	• • •	1052
37 Making of	f anti-bacteria clean surface using metals		M.Kumada	• • •	1056
38 An evalua	ation of antibacterial property of pure metals		K.Koyama	•••	1059
39 Reaction	of silver ion from inorganic antimicrobial and	amino acids	M.Uchida	• • •	1063
40 Developm	nent of silver bearing stainless steels with ant	i-bacteria activity	K.Takao	•••	1064
41 Mitigation	n of microfouling on silver contained stainless	s steels exposed to freshwater environment	Y.Kikuchi	•••	1068
42 Food fres	hness preservation using silver-bearing steel	S	H.Kikuchi	• • •	1072
43 Antimicro	bial evaluation of Ag containing coat plate w	eldment	I.Takeuchi	• • •	1074

Program of the 144 th ISIJ Meeting (November 2-4, 2002)

44 Antimicrobial and mechanical characteristics of antimicrobial aluminum alloys fabricated from casting and powder processing	M.Yuguchi	••• 1076
Properties of Scales Formed during Steel Production and Their Influence on Efficiency and Final Products		
45 High temperature oxidation of low carbon steel in relatively low oxygen concentration atmospheres	Y.Kondo	••• 1080
46 High-temperature oxidation of Fe-Si alloys in oxygen	T.Amano	••• 1084
47 High-temperature oxidation of Fe-36%Ni bicrystals in air	K.Kusabiraki	••• 1085
48 Influence of steel composition and cooling rate on the precipitation characteristics of Fe_3O_4	S.Taniguchi	••• 1089
49 Effects of temperature and composition on the adhesion of the scale on Cr contained steels	M.Takeda	••• 1092
50 Effect of water vapor on degradation of Cr ₂ O ₃ scale formed on stainless steels	A.Yamauchi	••• 1096
51 Structure and spalling of oxide scales formed on steels in H ₂ O-containing atmospheres	S.Nishizawa	••• 1100
52 Copper enrichment properties at grain boundaries and susceptibility to surface hot shortness in recycled steels	K.Takehana	••• 1104
53 Effect of elements in liquid copper phase on surface hot shortness in steels	C.Nagasaki	••• 1108
54 Influence of thermal history on surface hot-shortness of Cu-Sn containing steel	M.Hatano	••• 1112
55 Application of resonance measurement to the estimation of mechanical properties of scales on steels	I.Saeki	··· 1116
56 Effect of scale thickness on scale deformation in hot strip rolling	H.Okada	··· 1119
Process Evaluation and Material Characterization		
Lecture No. Title	Speaker	Page
Analytical Methods for Tramp Elements in Iron and Steel		
57 Simultaneous determination of arsenic, bismuth and antimony in steels by high power nitrogen microwave induced plasma atomic emission spectrometry coupled with hydride generation method	A.Matsumoto	••• 1336
 57 Simultaneous determination of arsenic, bismuth and antimony in steels by high power nitrogen microwave induced plasma atomic emission spectrometry coupled with hydride generation method 58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination of tramp elements in steel 	A.Matsumoto T.Itagaki	•••• 1336 ••• 1340
58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination	T.Itagaki	
 58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination of tramp elements in steel 59 Optimization and evaluation of measurement conditions for determining trace elements in iron and steels be 	T.Itagaki	••• 1340
 58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination of tramp elements in steel 59 Optimization and evaluation of measurement conditions for determining trace elements in iron and steels to GF-AAS 	T.Itagaki y T.Kobayashi N.Uehara K.Oguma	••• 1340 ••• 1344
 58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination of tramp elements in steel 59 Optimization and evaluation of measurement conditions for determining trace elements in iron and steels to GF-AAS 60 Determination of tramp-element in steel by reversed-phase high-performance liquid cromatography 	T.Itagaki y T.Kobayashi N.Uehara	•••• 1340 ••• 1344 ••• 1346
 58 Comparison of ICP atomic emission intensities on axial view and radial view, and determination of tramp elements in steel 59 Optimization and evaluation of measurement conditions for determining trace elements in iron and steels b GF-AAS 60 Determination of tramp-element in steel by reversed-phase high-performance liquid cromatography 61 Separation of tramp elements in iron and steel by ion exchange 	T.Itagaki y T.Kobayashi N.Uehara K.Oguma	 · · · 1340 · · 1344 · · 1346 · · 1347