

2015 Iron & Steel Technology Index

AIST News and Miscellaneous

- 22nd Annual AIST Crane Symposium Review — September, p 174
- 2014 Leadership Conference Recap — February, p 184
- 2014 OSTC Study Tour — Japan — January, p 147
- 2014–2015 Member Chapter Officers — January, p 220
- 2015–2016 AIST Executive Officers and Board of Directors — June, p 46
- 2015–2016 AIST Foundation Board of Trustees — October, p 30
- 2015–2016 AIST Foundation Call for Scholarship Applications — January, p 32; February, p 32; March, p 30; April, p 42
- 2015–2016 AIST Foundation Scholarship Winners — October, p 35
- 2015 Kent D. Peaslee Junior Faculty Award Recipients — October, p 52
- 2015 Steel Curriculum Development Grant Recipients — October, p 46
- 2016–2017 AIST Foundation Call for Scholarship Applications — August, p 38; September, p 34; October, p 58; November, p 32; December, p 34
- Advocate's Corner: Steel Manufacturers Association — June, p 175
- AIC: 40 Years of Servicing the Steel Industry With Automated Solutions — October, p 189
- AIST Mexico Member Chapter Celebrates 20 Years — August, p 236
- AIST 2015 Basic Oxygen Furnace Roundup — April, p 260
- AIST 2015 Canada and U.S. Rod and Bar Rolling Roundup — August, p 204
- AIST 2015 Coke Oven Battery Roundup — March, p 96
- AIST 2015 Cokemaking Byproducts Roundup — March, p 254
- AIST 2015 Electric Arc Furnace Roundup — January, p 158
- AIST 2015 North American Blast Furnace Roundup — March, p 294
- AIST 2015 North American Galvanizing Lines Roundup — February, p 130
- AIST 2015 North American Hot Strip Mill Roundup — November, p 108
- AIST 2015 North American Plate/Steckel Mill Roundup — November, p 128
- AIST 2015 North and South American Continuous Caster Roundup — July, p 108
- AIST 36-Year Life Member: Gregory Dressel — September, p 142
- AIST 36-Year Life Member: Len Beitelman — July, p 162
- AIST 40-Year Life Member: Ed Schuster — March, p 318
- AIST 40-Year Life Member: Frank Vonesh — January, p 210
- AIST 41-Year Life Member: Dennis Radford — November, p 152
- AIST 52-Year Life Member: Kenneth E. Blazek — May, p 360
- AIST Congratulates the 2015 Reliability Achievement Award Winners — January, p 129
- AIST Italy Steel Forum 2014 Review — January, p 202
- AIST Foundation President's Message — October, p 27
- AIST Life Members — January, p 240
- AIST Membership Recognition — January, p 234
- AIST President's Message — January, p 3; March, p 3; August, p 3; September, p 3; November, p 3
- AIST Road Show Visits Steel Dynamics Inc. – Flat Roll Group Columbus — September, p 130
- AISTech 2015 Conference and Exposition Information — May, p 35
- AISTech 2015 Conference and Exposition Preliminary Information — January, p 105; February, p 81; March, p 103; April, p 129
- AISTech 2015 Conference and Exposition Retrospective — August, p 46
- AISTech 2015 Exposition Floor Plan — January, p 112; February, p 110; March, p 156; April, p 204; May, p 114
- AISTech 2016 Call for Papers and Presentations — May, p 109; June, p 129; July, p 93; August, p 181
- AISTech 2016 Exposition Floor Plan — May, p 266; June, p 134; July, p 98; August, p 186; September, p 134; October, p 178; November, p 92; December, p 108
- AISTech 2016 Conference and Exposition Preliminary Information — November, p 91; December, p 103
- AIST-IAS Simposio de Grúas (Crane Symposium) and 20th IAS Steel Conference 2014 — February, p 138
- Automotive Markets: Making a Case for Steel — An Interview With SMDI President Lawrence W. Kavanagh — November, p 87
- Big River Steel and Its New Take on Steelmaking — April, p 14
- Call for Entries: AIST Energy Achievement Award — February, p 166; April, p 247; June, p 142
- Call for Entries: AIST Project Excellence Award — March, p 299; May, p 308
- Call for Entries: AIST Reliability Achievement Award — January, p 128; March, p 266; May, p 263
- Call for Nominations: AIST Board of Directors Awards — June (Special Pull-Out Section); July, p 104; August p 192; September, p 140; October, p 188; November, p 106
- Developments in the North American Iron and Steel Industry — 2014 — April, p 105
- EAF Study Tour — Brazil Trip Report — February, p 151
- Emerging Leaders Alliance 2014 Conference Wrap-Up — January, p 132
- Galvatech 2015 and CHS² 2015 Information — May, p 309; June p 101
- Galvatech 2015 and CHS² 2015 Review — September, p 128
- Galvatech 2015 and CHS² Preliminary Information — January, p 133; February, p 123; March, p 267; April, p 227
- Interview With 2015–2016 AIST President George J. Koenig — June, p 38
- Interview With Bobby Askew — June, p 152
- Interview With Dr. Johannes (Hans) Schade: 2014 AIST Benjamin F. Fairless Award Recipient — January, p 246
- ISA-4: Bhilai, India — The International Steel Academy Review — April, p 222

Iron & Steel Institute of Japan Oxygen Steelmaking Study Tour of North America — December, p 120
 Kenneth Kobus & *City of Steel* — September, p 152
 Markets on the Upswing: 2014 CRU North American Steel Conference Review — January, p 127
 MS&T14 — Materials Science & Technology Conference and Exhibition Review — January, p 95
 MS&T15 Conference and Exhibition Preliminary Information (Including Steel-Related Papers) — August, p 204; September, p 97; October, p 123
 Recent Highlights From Michigan Technological University — April, p 312
 Steel of West Virginia, Inc.: Artisans of Specialty Steel — December, p 91

Technical Articles

[A]

Advanced Chromium-Free Coating for Electrical Steels — K-Y. Peng, February, p 65
 Advantages of Using 3D Virtualization in the Metals Industry — M. Zecchi, E. La Bruna and F. González, September, p 72
 Affirmative Abrasion: Advancements and Innovations in Industrial Braking Systems — C. Koralik, June, p 64
 Application of Sol-Gel-Bonded Pumpables During Short Shutdown, to Replenish and Renew Refractory Linings in Lieu of Conventional Relining — A.J. Dzermejko, March, p 58
 ArcelorMittal USA Blast Furnace Gas Flare Capture Project, *AIST 2014 Project Excellence Award Winner* — J. Seaman, May, p 271

[B]

Blast Furnace Casthouse Refractory Maintenance Optimization — J. Hilberg and D. Walnoha, September, p 77
 BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance — P.G. Lanna, D. Ehrhart, M.V. Garzon, T. Avelar and M. Loeffelholz, April, p 84
 Brief History of Crane Rails, A — T. Berringer, June, p 93; September, p 85

[C]

Case Study: Failure Analysis of a Bulged Blast Furnace Blowpipe — S.J. Street and C. Copeland, March, p 71
 Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop — T. Bause, F. Campana, L. Filippini, A. Foresti, N. Monti and T. Pelz, May, p 290
 Continuous Casting of High-Carbon Alloy Steel Billets With Modulating Stirring at a Later Stage of Solidification — L. Beitelman, C. Curran, D. Domanski, I. Deeks and N. Hopkins, July, p 59

[D]

Dephosphorization Strategies and Modeling in Oxygen Steelmaking — W. Urban, M. Weinberg and J. Cappel, April, p 91
 Design of No-Twist Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels — K. Agarwal, R. Shivpuri and N. Poulain, August, p 143
 Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls — R. Bröcking, A. Meghwal, S. Melzer, S. Verdier, G. Evans, T. Lowbridge, J-F. Vanhumbecq, D. Debrabandere and J. Crahay, November, p 68
 Dry Slag Granulation With Energy Recovery: Pilot Campaign at ROGESA — H. Kappes and D. Michels, May, p 283
 Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis — P. Zangeneh, M. Al-Dojayli, M. Maleki, H. Ghorbani and M. Choy, April, p 73

[E]

Earliest Leak Detection (ELD): A New Concept of Security in Water Leak Detection in Electric Arc Furnaces — T.P. Wandekoken, B.T. Maia and P. Hopperdizel, January, p 88
 Economic Benefits of Producing DRI to Displace Purchased Scrap in the BOF — J. Bolen, S. Ferguson and I. Cameron, May, p 301
 Effect of Low- and Mild-Carbon HSLA Steels on Hot Rolling Parameters Under Precipitation Temperatures — Q. Yu and J. Hebert, November, p 52
 Effect of STF Steel in Beam Mill Vertical Edger Bearings, The — P. Brda, August, p 159
 Effective Use of Condition Monitoring in Tracking Large Gearbox Bearings — K. Foster, September, p 63
 Effects of Thermomechanical Processing on Microstructure and Shear Properties of 22SiMnCrMoB TRIP-Aided Martensitic Steel — T. Hojo, J. Kobayashi, T. Kochi and K. Sugimoto, October, p 102
 Electric Arc Furnace Process Improvement and the Law of Unintended Consequences — Z. Voss, J. Adair, C. Davis and B. Parrish, January, p 43

[F]

FeSi Residuals and Their Effects on Steel Cleanliness — A. Pitts, B. Tate and L. Nastac, October, p 93
 Frustrum Hood and Fume Treatment Plant (FTP) at Ovako, *AIST 2015 Energy Achievement Award Winner* — M. Cudicio and K. Nygren, May, p 276

[I]

Impact of Argon Injection Through Tundish Upper Nozzle on Mold Fluid Flow at ArcelorMittal Dofasco's No. 1 Continuous Caster — J. Sengupta and S. Chung, July, p 70
 Improving the Reliability of Blast Furnace Blowpipes — C. Copeland and S. Street, September, p 43

Increased Use of Natural Gas in Blast Furnace Ironmaking — M. Jampani and P.C. Pistorius, March, p 37

In-Process Separation of Zinc From Blast Furnace Offgas Solid Wastes — N-Y. Ma and M.W. Andrade, March, p 84

Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, An — W. Richardson, D. Barnes, Z. Kashif, R. Seymour and S. Tymoszuk, January, p 63

Investigation Into Roll Thrust Bearing Damage and Modeling of Roll Thrust Forces for the 4-High Reversing Rougher of a Hot Strip Mill, *AIST Transactions* — Y. Liu, M. Levick, D. Adair and S. Liu, January, p 267

Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster — M. Rembold, O. Chahin, N. Ross, B. Williams and R. O'Malley, July, p 43

Investigation on Work Roll Corrosion and Oxidation Mechanisms in a Hot Strip Mill — S. Flament, G. Walmag and M. Sinnaeve, November, p 77

IRONARC: A Cokeless Ironmaking Process — M. Imris, M. Swartling, B.M. Heegaard and S. Santen, March, p 44

[L]

Life Prediction in Industrial Equipment — N. Walla, G. Cingle III, B. Wu and C. Zhou, June, p 57

[M]

Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II — M. Collur, R. King, F. Jaicks, J. Bulfer, B. Cravens, S. Lewis, N. Mundo, D. White and K. Sudhoff, August, p 129

Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions* — S. Anand, K. Rajasekar, D. Satish, J. Dutta and D. Mazumdar, April, p 329

Mini-Mill Burdening for Maximum Efficiency and Yield? — S.A. Hornby, January, p 50

Model for Strip Profile and Roll Crown During Flat Rolling in Hot and Cold Mills With Special Emphasis on Innovative Work Roll Materials, A — C. Overhagen and P.J. Mauk, February, p 72

Modernization of Mill Power Systems for Better Control and Visualization — B. Clark and T. Burttram, January, p 81

[N]

Near-Roll Dross Particle Interactions in a Galvanizing Bath — A.K. Neghab, A.N. Hrymak and F.E. Goodwin, February, p 41

New Method to Measure Metallurgical Length and Application to Improve Computational Models — B. Petrus, D. Hammon, M. Miller, B. Williams, A. Zewe, Z. Chen, J. Bentsman and B.G. Thomas, December, p 58

New-Generation Optical Flatness Measurement System, A — P. Kierkegaard and L-Å. Classon, December, p 76

Novel Laboratory Lubrication Tests for Cold Rolling Emulsions — J.B.A.F. Smeulders, February, p 56

Numerical Investigation of Slag Entrainment — K. Swartz, L. Hibbeler, B. Joyce and B.G. Thomas, July, p 79

Numerical Test Bench for Supersonic Oxygen Nozzles and Its Application to the BOF Process, A — T. Bhattacharya, L. Zhan and B. Chukwulebe, April, p 51

[O]

On-Line Model of Work Roll Temperature With Variable Cooling Rate Along the Roll Length, An — E. Nikitenko, November, p 45

Optimizing Fe Yield in an All-DRI Fed EAF — R. González, F. Acosta, M. Lowry, D. Kundrat, A. Wyatt and H. Fuchs, October, p 71

Overview of Steel Cleanliness From an Industry Perspective, An, *AIST Transactions* — E.B. Pretorius, H.G. Oltmann and B.T. Schart, March, p 333

[P]

Peritectic Phase Transition of Steel During the Initial Stages of Solidification in the Mold, The — S. Moon, R. Dippenaar and S. Kim, October, p 111

Perspectives From a 50-Year Career in the Steel Industry, *Perspectives* — B.R. Queneau, January, p 101

Practical Applications of a Surface Inspection System at the Hot Mill — R.J. Pavlosky, L. Galey, M.B. Assar and L. Zhang, December, p 83

Predictive Maintenance for Automated and Manual Overhead Bridge Cranes — K-H Förderer, T. Anderson and B. Zimmermann, June, p 84

Preventing Fires in Pickle Lines — M.J. Swahn, R. Heagerty and C. Birchfield, February, p 48

Prevention of Tie-Rod Failures and Battery Top Damage With Thermal Imaging Program — R. Leighton, R. Carlin and M. Shafer, March, p 51

Profit Optimization in the Steel Industry: Profit Hawk™ Application — Y. Krotov and A. Bielat, December, p 67

Pusher Furnace Bottom-Side Tearing at ArcelorMittal Indiana Harbor 84-Inch Hot Strip Mill — L. Gansho, J. Chapko, R. Svenningsen and N. Hake, November, p 61

[R]

Recent Development in Laying Head Technology for High-Speed Rod Rolling Mills — C.D. Lashua and B.V. Kiefer, August, p 152

Reduced Non-Metallic Inclusions in Steel Using Next-Generation Disposable Tundish Lining — W. Porter and K. Ruotanen, July, p 52

Rod Mill Finishing End Modernization at Sterling Steel — K. Reins, S. Spencer and L. Pietra Santa, June, p 77

Role of Consulting Engineers in Transforming a New Technology From an Idea to a Working Process Plant, The, *2015 AIST Howe Memorial Lecture* — Y. Gordon, August, p 46

[S]

Safety First: Ergonomic Interventions for Steel Manufacturing Workers, *2014 Don B. Daily Safety Grant Recipient* — X. Ning, B. Hu, F. Alessa and I. Almuheidib, December, p 36

- Safety First: Interactive Incident Visualization for Steel Industry Safety Training, *2014 Don B. Daily Safety Grant Recipient* — J. Moreland, J.E. Zaraliakos, W. Campbell, S. Nakayama, J. Zhang, N. Arteaga and C.Q. Zhou, November, p 38
- Safety First: Near-Miss Reporting to Enhance Safety in the Steel Industry, *2014 Don B. Daily Safety Grant Recipient* — I. Awolusi and E. Marks, October, p 62
- Seamless Pipe Heat Treatment Line Revamping: Furnace Production Increase and Energy Consumption Optimization — G. Morando, L. Soares, R. Junquiera and A. Donetti, August, p 136
- “Silicon Age” of Steel: How Alloying With Silicon Is Playing a Crucial Role in Modern Steel Developments, *The, 2014 AIST Adolf Martens Memorial Steel Lecture* — David V. Edmonds, October, p 157
- Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions* — P. Kaushik, J. Fehr, M. Wooddell, B. Nester, C. Chappell and T. Bhattacharya, June, p 201
- Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions* — T. Bhattacharya, J. Fehr, M. Wooddell, B. Nester, C. Chappell and P. Kaushik, July, p 193
- Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part III — Fluid Flow and Solidification in the Mold, *AIST Transactions* — T. Bhattacharya and J. Fehr, August, p 283
- Steel’s Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector’s CO₂ Abatement Potential — P. Dahlmann, H.B. Lungen, J-T. Ghenda, M. Wörtler, F. Schuler, N. Voigt and T. Schmidt, April, p 62
- Step Milling as a Tool for Characterizing Defects in Slabs at ArcelorMittal — F. Demmon, R. Gass, H. Yin, October, p 82

[T]

- Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions* — R. Datta, S.K. Thakur, A.K. Bhakat, C. Muthuswamy, D. Chakrabarti and S.S. Mohanty, February, p 213

[U]

- Understanding the Fire-Resistant Hydraulic Fluid Selection Puzzle — J. Schlobohm, September, p 56
- Use of DRI in a Consteel® EAF Process — F. Memoli, J.A.T. Jones, F. Picciolo and N. Palamini, January, p 72
- Using Modern Coke Oven Technology at the New Hyundai Steel Coke Plant — M. Schulz, K-P.P. Leuchtman, J.H. Chung and Y.M. Kang, December, p 45

[X]

- X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process, An: Part I — Experimental Work, *AIST Transactions* — Y. Mohassab, H.Y. Sohn and B. Van Devener, November, p 179
- X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process, An: Part II — Calculation of the Degree of Polymerization, *AIST Transactions* — Y. Mohassab and H.Y. Sohn, December, p 185

Author Index

[A]

- Adair, D.; Liu, Y.; Levick, M.; and Liu, S. — Investigation Into Roll Thrust Bearing Damage and Modeling of Roll Thrust Forces for the 4-High Reversing Rougher of a Hot Strip Mill, *AIST Transactions*, January, p 267
- Adair, J.; Voss, Z.; Davis, C.; and Parrish, B. — Electric Arc Furnace Process Improvement and the Law of Unintended Consequences, January, p 43
- Acosta, F.; González, R.; Lowry, M.; Kundrat, D.; Wyatt, A.; and Fuchs, H. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71
- Agarwal, K.; Shivpuri, R.; and Poulain, N. — Design of No-Twist Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels — August, p 143
- Al-Dojayli, M.; Zangeneh, P.; Maleki, M.; Ghorbani, H.; and Choy, M. — Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis, April, p 73
- Alessa, F.; Ning, X.; Hu, B.; and Almuheidib, I. — Safety First: Ergonomic Interventions for Steel Manufacturing Workers, *2014 Don B. Daily Safety Grant Recipient*, December, p 36
- Almuheidib, I.; Ning, X.; Hu, B.; and Alessa, F. — Safety First: Ergonomic Interventions for Steel Manufacturing Workers, *2014 Don B. Daily Safety Grant Recipient*, December, p 36
- Anand, S.; Rajasekar, K.; Satish, D.; Dutta, J.; and Mazumdar, D. — Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions*, April, p 329
- Andrade, M.W., and Ma, N-Y. — In-Process Separation of Zinc From Blast Furnace Offgas Solid Wastes, March, p 84
- Arteaga, N.; Moreland, J.; Zaraliakos, J.E.; Campbell, W.; Nakayama, S.; Zhang, J.; and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, *2014 Don B. Daily Safety Grant Recipient*, November, p 38
- Assar, M.B.; Pavlosky, R.J.; Galey, L.; and Zhang, L. — Practical Applications of a Surface Inspection System at the Hot Mill, December, p 83

Avelar, T.; Lanna, P.G.; Ehrhart, D.; Garzon, M.V.; and Loeffelholz, M. — BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance, April, p 84

Awolusi, I., and Marks, E. — Safety First: Near-Miss Reporting to Enhance Safety in the Steel Industry, 2014 *Don B. Daily Safety Grant Recipient*, October, p 62

[B]

- Barnes, D.; Richardson, W.; Kashif, Z.; Seymour, R.; and Tymoszyk, S. — An Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, January, p 63
- Bause, T.; Campana, F.; Filippini, L.; Foresti, A.; Monti, N.; and Pelz, T. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Beitelman, L.; Curran, C.; Domanski, D.; Deeks, I.; and Hopkins, N. — Continuous Casting of High-Carbon Alloy Steel Billets With Modulated Stirring at a Later Stage of Solidification, July, p 59
- Bentsman, J.; Petrus, B.; Hammon, D.; Miller, M.; Williams, B.; Zewe, A.; Chen, Z.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Berringer, T. — A Brief History of Crane Rails, June, p 93; September, p 85
- Bhakat, A.K.; Datta, R.; Thakur, S.K.; Muthuswamy, C.; Chakrabarti, D.; and Mohanty, S.S. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213
- Bhattacharya, T., and Fehr, J. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part III — Fluid Flow and Solidification in the Mold, *AIST Transactions*, August, p 283
- Bhattacharya, T.; Fehr, J.; Wooddell, M.; Nester, B.; Chappell, C.; and Kaushik, P. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Bhattacharya, T.; Kaushik, P.; Fehr, J.; Wooddell, M.; Nester, B.; and Chappell, C. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Bhattacharya, T.; Zhan, L.; and Chukwulebe, B. — A Numerical Test Bench for Supersonic Oxygen Nozzles and Its Application to the BOF Process, April, p 51
- Bielat, A., and Krotov, Y. — Profit Optimization in the Steel Industry: Profit Hawk™ Application, December, p 67
- Birchfield, C.; Swahn, M.J.; and Heagerty, R. — Preventing Fires in Pickle Lines, February, p 48
- Bolen, J.; Ferguson, S.; and Cameron, I. — Economic Benefits of Producing DRI to Displace Purchased Scrap in the BOF, May, p 301
- Brda, P. — The Effect of STF Steel in Beam Mill Vertical Edger Bearings, August, p 159
- Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Evans, G.; Lowbridge, T.; Vanhumbecq, J-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Bulfer, J.; Collur, M.; King, R.; Jaicks, F.; Cravens, B.; Lewis, S.; Mundo, N.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Burttram, T., and Clark, B. — Modernization of Mill Power Systems for Better Control and Visualization, January, p 81

[C]

- Cameron, I.; Bolen, J.; and Ferguson, S. — Economic Benefits of Producing DRI to Displace Purchased Scrap in the BOF, May, p 301
- Campana, F.; Bause, T.; Filippini, L.; Foresti, A.; Monti, N.; and Pelz, T. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Campbell, W.; Moreland, J.; Zaraliakos, J.E.; Nakayama, S.; Zhang, J.; Arteaga, N.; and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, 2014 *Don B. Daily Safety Grant Recipient*, November, p 38
- Carlin, R.; Leighton, R.; and Shafer, M. — Prevention of Tie-Rod Failures and Battery Top Damage With Thermal Imaging Program, March, p 51
- Chahin, O.; Rembold, M.; Ross, N.; Williams, B.; and O'Malley, R. — Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster, July, p 43
- Chakrabarti, D.; Datta, R.; Thakur, S.K.; Bhakat, A.K.; Muthuswamy, C.; and Mohanty, S.S. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213
- Chapko, J.; Gansho, L.; Svenningsen, R.; and Hake, N. — Pusher Furnace Bottom-Side Tearing at ArcelorMittal Indiana Harbor 84-Inch Hot Strip Mill — November, p 61
- Chappell, C.; Bhattacharya, T.; Fehr, J.; Wooddell, M.; Nester, B.; and Kaushik, P. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Chappell, C.; Kaushik, P.; Fehr, J.; Wooddell, M.; Nester, B.; and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Chen, Z.; Petrus, B.; Hammon, D.; Miller, M.; Williams, B.; Zewe, A.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Choy, M. Zangeneh, P.; Al-Dojayli, M.; Maleki, M.; and Ghorbani, H. — Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis, April, p 73

- Chukwulebe, B.; Bhattacharya, T.; and Zhan, L. — A Numerical Test Bench for Supersonic Oxygen Nozzles and Its Application to the BOF Process, April, p 51
- Chung, J.H.; Schulz, M.; Leuchtmann, K.-P.P.; and Kang, Y.M. — Using Modern Coke Oven Technology at the New Hyundai Steel Coke Plant, December, p 45
- Chung, S., and Sengupta, J. — Impact of Argon Injection Through Tundish Upper Nozzle on Mold Fluid Flow at ArcelorMittal Dofasco's No. 1 Continuous Caster, July, p 70
- Cingle III, G.; Walla, N.; Wu, B.; and Zhou, C.Q. — Life Prediction in Industrial Equipment, June, p 57
- Clark, B., and Burtram, T. — Modernization of Mill Power Systems for Better Control and Visualization, January, p 81
- Classon, L.-Å., and Kierkegaard, P. — A New-Generation Optical Flatness Measurement System, December, p 76
- Collur, M.; King, R.; Jaicks, F.; Bulfer, J.; Cravens, B.; Lewis, S.; Mundo, N.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Copeland, C., and Street, S. — Case Study: Failure Analysis of a Bulged Blast Furnace Blowpipe, March, p 71
- Copeland, C., and Street S. — Improving the Reliability of Blast Furnace Blowpipes, September, p 43
- Crahay, J.; Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Evans, G.; Lowbridge, T.; Vanhumbecck, J.-F.; and Debrabandere, D. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Cudicio, M., and Nygren, K. — Frustrum Hood and Fume Treatment Plant (FTP) at Ovako, *AIST 2015 Energy Achievement Award Winner*, May, p 276
- Curran, C.; Beitelman, L.; Domanski, D.; Deeks, I.; and Hopkins, N. — Continuous Casting of High-Carbon Alloy Steel Billets With Modulated Stirring at a Later Stage of Solidification, July, p 59

[D]

- Dahlmann, P.; Lungen, H.B.; Ghenda, J.-T.; Wörtler, M.; Schuler, F.; Voigt, N.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Datta, R.; Thakur, S.K.; Bhakat, A.K.; Muthuswamy, C.; Chakrabarti, D.; and Mohanty, S.S. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213
- Davis, C.; Voss, Z.; Adair, J.; and Parrish, B. — Electric Arc Furnace Process Improvement and the Law of Unintended Consequences, January, p 43
- Debrabandere, D.; Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Evans, G.; Lowbridge, T.; Vanhumbecck, J.-F.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68

- Deeks, I.; Beitelman, L.; Curran, C.; Domanski, D.; and Hopkins, N. — Continuous Casting of High-Carbon Alloy Steel Billets With Modulated Stirring at a Later Stage of Solidification, July, p 59
- Demmon, F.; Gass, R.; and Yin, H. — Step Milling as a Tool for Characterizing Defects in Slabs at ArcelorMittal, October, p 82
- Dippenaar, R.; Moon, S.; and Kim, S. — The Peritectic Phase Transition of Steel During the Initial Stages of Solidification in the Mold, October, p 111
- Domanski, D.; Beitelman, L.; Curran, C.; Deeks, I.; and Hopkins, N. — Continuous Casting of High-Carbon Alloy Steel Billets With Modulated Stirring at a Later Stage of Solidification, July, p 59
- Donetti, A.; Morando, G.; Soares, L.; and Junquiera, R. — Seamless Pipe Heat Treatment Line Revamping: Furnace Production Increase and Energy Consumption Optimization, August, p 136
- Dutta, J.; Anand, S.; Rajasekar, K.; Satish, D.; and Mazumdar, D. — Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions*, April, p 329
- Dzermejko, A.J. — Application of Sol-Gel-Bonded Pumpables During Short Shutdown, to Replenish and Renew Refractory Linings in Lieu of Conventional Relining, March, p 58

[E]

- Edmonds, D.V. — The "Silicon Age" of Steel: How Alloying With Silicon Is Playing a Crucial Role in Modern Steel Developments, *2014 AIST Adolf Martens Memorial Steel Lecture*, October, p 157
- Ehrhart, D.; Lanna, P.G.; Garzon, M.V.; Avelar, T.; and Loeffelholz, M. — BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance, April, p 84
- Evans, G.; Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Lowbridge, T.; Vanhumbecck, J.-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68

[F]

- Fehr, J., and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part III — Fluid Flow and Solidification in the Mold, *AIST Transactions*, August, p 283
- Fehr, J.; Bhattacharya, T.; Wooddell, M.; Nester, B.; Chappell, C.; and Kaushik, P. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Fehr, J.; Kaushik, P.; Wooddell, M.; Nester, B.; Chappell, C.; and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Ferguson, S.; Bolen, J.; and Cameron, I. — Economic Benefits of Producing DRI to Displace Purchased Scrap in the BOF, May, p 301

- Filippini, L.; Bause, T.; Campana, F.; Foresti, A.; Monti, N.; and Pelz, T. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Flament, S.; Walmag, G.; and Sinnaeve, M. — Investigation on Work Roll Corrosion and Oxidation Mechanisms in a Hot Strip Mill, November, p 77
- Foresti, A.; Bause, T.; Campana, F.; Filippini, L.; Monti, N.; and Pelz, T. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Foster, K. — Effective Use of Condition Monitoring in Tracking Large Gearbox Bearings, September, p 63
- Fuchs, H.; González, R.; Acosta, F.; Lowry, M.; Kundrat, D.; and Wyatt, A. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71

[G]

- Galey, L.; Pavlosky, R.J.; Assar, M.B.; and Zhang, L. — Practical Applications of a Surface Inspection System at the Hot Mill, December, p 83
- Gansho, L.; Chapko, J.; Svenningsen, R.; and Hake, N. — Pusher Furnace Bottom-Side Tearing at ArcelorMittal Indiana Harbor 84-Inch Hot Strip Mill — November, p 61
- Garzon, M.V.; Lanna, P.G.; Ehrhart, D.; Avelar, T.; and Loeffelholz, M. — BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance, April, p 84
- Gass, R.; Demmon, F.; and Yin, H. — Step Milling as a Tool for Characterizing Defects in Slabs at ArcelorMittal, October, p 82
- Ghenda, J.T.; Dahlmann, P.; Lungen, H.B.; Wörtler, M.; Schuler, F.; Voigt, N.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Ghorbani, H.; Zangeneh, P.; Al-Dojayli, M.; Maleki, M.; and Choy, M. — Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis, April, p 73
- González, F.; La Bruna, E.; and Zecchi, M. — Advantages of Using 3D Virtualization in the Metals Industry, September, p 72
- González, R.; Acosta, F.; Lowry, M.; Kundrat, D.; Wyatt, A.; and Fuchs, H. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71
- Goodwin, F.E.; Neghab, A.K.; and Hrymak, A.N. — Near-Roll Dross Particle Interactions in a Galvanizing Bath, February, p 41
- Gordon, Y. — The Role of Consulting Engineers in Transforming a New Technology From an Idea to a Working Process Plant, *2015 AIST Howe Memorial Lecture*, August, p 46
- Hammon, D.; Petrus, B.; Miller, M.; Williams, B.; Zewe, A.; Chen, Z.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Heagerty, R.; Swahn, M.J.; and Birchfield, C. — Preventing Fires in Pickle Lines, February, p 48
- Hebert, J., and Yu, Q. — Effect of Low- and Mild-Carbon HSLA Steels on Hot Rolling Parameters Under Precipitation Temperatures, November, p 52
- Heegaard, B.M.; Imris, M.; Swarling, M.; and Santen, S. — IRONARC: A Cokeless Ironmaking Process, March, p 44
- Hibbeler, L.; Swartz, K.; Joyce, B.; and Thomas, B. — Numerical Investigation of Slag Entrainment, July, p 79
- Hilberg, J., and Walnoha, D. — Blast Furnace Casthouse Refractory Maintenance Optimization, September, p 77
- Hojo, T.; Kobayashi, J.; Kochi, T.; and Sugimoto K. — Effects of Thermomechanical Processing on Microstructure and Shear Properties of 22SiMnCrMoB TRIP-Aided Martensitic Steel, October, p 102
- Hopkins, N.; Beitelman, L.; Curran, C.; Domanski, D.; and Deeks, I. — Continuous Casting of High-Carbon Alloy Steel Billets With Modulated Stirring at a Later Stage of Solidification, July, p 59
- Hopperdizel, P.; Wandekoken, T.P.; and Maia, B.T. — Earliest Leak Detection (ELD): A New Concept of Security in Water Leak Detection in Electric Arc Furnaces, January, p 88
- Hornby, S.A. — Mini-Mill Burdening for Maximum Efficiency and Yield?, January, p 50
- Hrymak, A.N.; Neghab, A.K.; and Goodwin, F.E. — Near-Roll Dross Particle Interactions in a Galvanizing Bath, February, p 41
- Hu, B.; Ning, X.; Alessa, F.; and Almuhaideb, I. — Safety First: Ergonomic Interventions for Steel Manufacturing Workers, *2014 Don B. Daily Safety Grant Recipient*, December, p 36

[I]

- Imris, M.; Swarling, M.; Heegaard, B.M.; and Santen, S. — IRONARC: A Cokeless Ironmaking Process, March, p 44

[J]

- Jaicks, F.; Collur, M.; King, R.; Bulfer, J.; Cravens, B.; Lewis, S.; Mundo, N.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Jampani, M., and Pistorius, P.C. — Increased Use of Natural Gas in Blast Furnace Ironmaking, March, p 37
- Jones, J.A.T.; Memoli, F.; Picciolo, F.; and Palamini, N. — The Use of DRI in a Consteel® EAF Process, January, p 72
- Joyce, B.; Swartz, K.; Hibbeler, L.; and Thomas, B. — Numerical Investigation of Slag Entrainment, July, p 79
- Junquiera, R.; Morando, G.; Soares, L.; and Donetti, A. — Seamless Pipe Heat Treatment Line Revamping: Furnace Production Increase and Energy Consumption Optimization, August, p 136

[H]

- Hake, N.; Gansho, L.; Chapko, J.; and Svenningsen, R. — Pusher Furnace Bottom-Side Tearing at ArcelorMittal Indiana Harbor 84-Inch Hot Strip Mill — November, p 61

[K]

- Kang, Y.M.; Schulz, M.; Leuchtmann, K.-P.P. and Chung, J.H. — Using Modern Coke Oven Technology at the New Hyundai Steel Coke Plant, December, p 45
- Kappes, H., and Michels, D. — Dry Slag Granulation with Energy Recovery: Pilot Campaign at ROGESA, May, p 283
- Kashif, Z.; Richardson, W.; Barnes, D.; Seymour, R.; and Tymosuk, S. — An Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, January, p 63
- Kaushik, P.; Bhattacharya, T.; Fehr, J.; Wooddell, M.; Nester, B.; and Chappell, C. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Kaushik, P.; Fehr, J.; Wooddell, M.; Nester, B.; Chappell, C.; and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Kiefer, B.V., and Lashua, C.D. — Recent Development in Laying Head Technology for High-Speed Rod Rolling Mills — August, p 152
- Kierkegaard, P., and Classon, L.-Å. — A New-Generation Optical Flatness Measurement System, December, p 76
- Kim, S.; Moon, S.; and Dippenaar, R. — The Peritectic Phase Transition of Steel During the Initial Stages of Solidification in the Mold, October, p 111
- King, R.; Collur, M.; Jaicks, F.; Bulfer, J.; Cravens, B.; Lewis, S.; Mundo, N.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Kobayashi, J.; Hojo, T.; Kochi, T.; and Sugimoto K. — Effects of Thermomechanical Processing on Microstructure and Shear Properties of 22SiMnCrMoB TRIP-Aided Martensitic Steel, October, p 102
- Kochi, T.; Hojo, T.; Kobayashi, J.; and Sugimoto K. — Effects of Thermomechanical Processing on Microstructure and Shear Properties of 22SiMnCrMoB TRIP-Aided Martensitic Steel, October, p 102
- Koralik, C. — Affirmative Abrasion: Advancements and Innovations in Industrial Braking Systems, June, p 64
- Krotov, Y., and Bielat, A. — Profit Optimization in the Steel Industry: Profit Hawk™ Application, December, p 67
- Kundrat, D.; González, R.; Acosta, F.; Lowry, M.; Wyatt, A.; and Fuchs, H. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71

[L]

- La Bruna, E.; Zecchi, M.; and González F. — Advantages of Using 3D Virtualization in the Metals Industry, September, p 72
- Lanna, P.G.; Ehrhart, D.; Garzon, M.V.; Avelar, T.; and Loeffelholz, M. — BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance, April, p 84
- Lashua, C.D., and Kiefer, B.V. — Recent Development in Laying Head Technology for High-Speed Rod Rolling Mills — August, p 152

- Leighton, R.; Carlin, R.; and Shafer, M. — Prevention of Tie-Rod Failures and Battery Top Damage With Thermal Imaging Program, March, p 51
- Leuchtmann, K.-P.P.; Schulz, M.; Chung, J.H.; and Kang, Y.M. — Using Modern Coke Oven Technology at the New Hyundai Steel Coke Plant, December, p 45
- Levick, M.; Liu, Y.; Adair, D.; and Liu, S. — Investigation Into Roll Thrust Bearing Damage and Modeling of Roll Thrust Forces for the 4-High Reversing Rougher of a Hot Strip Mill, *AIST Transactions*, January, p 267
- Lewis, S.; Collur, M.; King, R.; Jaicks, F.; Bulfer, J.; Cravens, B.; Mundo, N.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Liu, S.; Liu, Y.; Levick, M.; and Adair, D. — Investigation Into Roll Thrust Bearing Damage and Modeling of Roll Thrust Forces for the 4-High Reversing Rougher of a Hot Strip Mill, *AIST Transactions*, January, p 267
- Liu, Y.; Levick, M.; Adair, D.; and Liu, S. — Investigation Into Roll Thrust Bearing Damage and Modeling of Roll Thrust Forces for the 4-High Reversing Rougher of a Hot Strip Mill, *AIST Transactions*, January, p 267
- Loeffelholz, M.; Lanna, P.G.; Ehrhart, D.; Garzon, M.V.; and Avelar, T. — BOF Refractory Linings: Balancing Brick Life and Gunning/Hot Repairs to Maximize Performance, April, p 84
- Lowbridge, T.; Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Evans, G.; Vanhumbeeck, J.-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Lowry, M.; González, R.; Acosta, F.; Kundrat, D.; Wyatt, A.; and Fuchs, H. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71
- Lüngen, H.B.; Dahlmann, P.; Ghenda, J.-T.; Wörtler, M.; Schuler, F.; Voigt, N.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62

[M]

- Ma, N.-Y., and Andrade, M.W. — In-Process Separation of Zinc From Blast Furnace Offgas Solid Wastes, March, p 84
- Maia, B.T.; Wandekoken, T.P.; and Hopperdizel, P. — Earliest Leak Detection (ELD): A New Concept of Security in Water Leak Detection in Electric Arc Furnaces, January, p 88
- Maleki, M.; Zangeneh, P.; Al-Dojayli, M.; Ghorbani, H.; and Choy, M. — Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis, April, p 73
- Marks, E., and Awolusi, I. — Safety First: Near-Miss Reporting to Enhance Safety in the Steel Industry, 2014 *Don B. Daily Safety Grant Recipient*, October, p 62
- Mauk, P.J., and Overhagen, C. — A Model for Strip Profile and Roll Crown During Flat Rolling in Hot and Cold Mills With Special Emphasis on Innovative Work Roll Materials, February, p 72

- Mazumdar, D.; Anand, S.; Rajasekar, K.; Satish, D.; and Dutta, J. — Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions*, April, p 329
- Meghwal, A.; Bröcking, R.; Melzer, S.; Verdier, S.; Evans, G.; Lowbridge, T.; Vanhumbeek, J-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Melzer, S.; Bröcking, R.; Meghwal, A.; Verdier, S.; Evans, G.; Lowbridge, T.; Vanhumbeek, J-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Memoli, F.; Jones, J.A.T.; Picciolo, F.; and Palamini, N. — The Use of DRI in a Consteel® EAF Process, January, p 72
- Michels, D., and Kappes, H. — Dry Slag Granulation with Energy Recovery: Pilot Campaign at ROGESA, May, p 283
- Miller, M.; Petrus, B.; Hammon, D.; Williams, B.; Zewe, A.; Chen, Z.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Mohanty, S.S.; Datta, R.; Thakur, S.K.; Bhakat, A.K.; Muthuswamy, C.; and Chakrabarti, D. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213
- Mohassab, Y.; Sohn, H.Y.; and Van Devener, B. — An X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process: Part I — Experimental Work, *AIST Transactions*, November, p 179
- Mohassab, Y., and Sohn, H.Y. — An X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process: Part II— Calculation of the Degree of Polymerization, *AIST Transactions*, December, p 185
- Monti, N.; Bause, T.; Campana, F.; Filippini, L.; Foresti, A.; and Pelz, T. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Moon, S.; Dippenaar, R.; and Kim, S. — The Peritectic Phase Transition of Steel During the Initial Stages of Solidification in the Mold, October, p 111
- Morando, G.; Soares, L.; Junquiera, R.; and Donetti, A. — Seamless Pipe Heat Treatment Line Revamping: Furnace Production Increase and Energy Consumption Optimization, August, p 136
- Moreland, J.; Zaraliakos, J.E.; Campbell, W.; Nakayama, S.; Zhang, J.; Arteaga, N.; and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, *2014 Don B. Daily Safety Grant Recipient*, November, p 38
- Mundo, N.; Collur, M.; King, R.; Jaicks, F.; Bulfer, J.; Cravens, B.; Lewis, S.; White, D.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Muthuswamy, C.; Datta, R.; Thakur, S.K.; Bhakat, A.K.; Chakrabarti, D.; and Mohanty, S.S. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213

[N]

- Nakayama, S.; Moreland, J.; Zaraliakos, J.E.; Campbell, W.; Zhang, J.; Arteaga, N.; and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, *2014 Don B. Daily Safety Grant Recipient*, November, p 38
- Nastac, L.; Pitts, A.; and Tate, B. — FeSi Residuals and Their Effects on Steel Cleanliness, October, p 93
- Neghab, A.K.; Hrymak, A.N.; and Goodwin, F.E. — Near-Roll Dross Particle Interactions in a Galvanizing Bath, February, p 41
- Nester, B.; Bhattacharya, T.; Fehr, J.; Wooddell, M.; Chappell, C.; and Kaushik, P. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Nester, B.; Kaushik, P.; Fehr, J.; Wooddell, M.; Chappell, C.; and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Nikitenko, E. — An On-Line Model of Work Roll Temperature With Variable Cooling Rate Along the Roll Length, November, p 45
- Ning, X.; Hu, B.; Alessa, F.; and Almuheidib, I. — Safety First: Ergonomic Interventions for Steel Manufacturing Workers, *2014 Don B. Daily Safety Grant Recipient*, December, p 36
- Nygren, K., and Cudicio, M. — Frustrum Hood and Fume Treatment Plant (FTP) at Ovako, *AIST 2015 Energy Achievement Award Winner*, May, p 276

[O]

- O'Malley, R.; Rembold, M.; Chahin, O.; Ross, N.; and Williams, B. — Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster, July, p 43
- Oltmann, H.G.; Pretorius, E.B.; and Schart, B.T. — An Overview of Steel Cleanliness From an Industry Perspective, *AIST Transactions*, March, p 333
- Overhagen, C., and Mauk, P.J. — A Model for Strip Profile and Roll Crown During Flat Rolling in Hot and Cold Mills With Special Emphasis on Innovative Work Roll Materials, February, p 72

[P]

- Palamini, N.; Memoli, F.; Jones, J.A.T.; and Picciolo, F. — The Use of DRI in a Consteel® EAF Process, January, p 72
- Parrish, B.; Voss, Z.; Adair, J.; and Davis, C. — Electric Arc Furnace Process Improvement and the Law of Unintended Consequences, January, p 43
- Pavlosky, R.J.; Galey, L.; Assar, M.B.; and Zhang, L. — Practical Applications of a Surface Inspection System at the Hot Mill, December, p 83

- Pelz, T.; Bause, T.; Campana, F.; Filippini, L.; Foresti, A.; and Monti, N. — Cogeneration With ORC at Elbe-Stahlwerke Feralpi EAF Shop, May, p 290
- Peng, K-Y. — Advanced Chromium-Free Coating for Electrical Steels, February, p 65
- Petrus, B.; Hammon, D.; Miller, M.; Williams, B.; Zewe, A.; Chen, Z.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Picciolo, F.; Memoli, F.; Jones, J.A.T.; and Palamini, N. — The Use of DRI in a Consteel® EAF Process, January, p 72
- Pietra Santa, L.; Reins, K.; and Spencer, S. — Rod Mill Finishing End Modernization at Sterling Steel, June, p 77
- Pistorius, P.C., and Jampani, M. — Increased Use of Natural Gas in Blast Furnace Ironmaking, March, p 37
- Pitts, A.; Tate, B.; and Nastac, L. — FeSi Residuals and Their Effects on Steel Cleanliness, October, p 93
- Porter, W., and Ruotanen, K. — Reduced Non-Metallic Inclusions in Steel Using Next-Generation Disposable Tundish Lining, July, p 52
- Poulain, N.; Agarwal, K.; and Shivpuri, R. — Design of No-Twist Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels — August, p 143
- Pretorius, E.B.; Oltmann, H.G.; and Schart, B.T. — An Overview of Steel Cleanliness From an Industry Perspective, *AIST Transactions*, March, p 333

[Q]

- Queneau, B.R. — Perspectives From a 50-Year Career in the Steel Industry, *Perspectives*, January, p 101

[R]

- Rajasekar, K.; Anand, S.; Satish, D.; Dutta, J.; and Mazumdar, D. — Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions*, April, p 329
- Reins, K.; Spencer, S.; and Pietra Santa, L. — Rod Mill Finishing End Modernization at Sterling Steel, June, p 77
- Rembold, M.; Chahin, O.; Ross, N.; Williams, B.; and O'Malley, R. — Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster, July, p 43
- Richardson, W.; Barnes, D.; Kashif, Z.; Seymour, R.; and Tymozuk, S. — An Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, January, p 63
- Ross, N.; Rembold, M.; Chahin, O.; Williams, B.; and O'Malley, R. — Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster, July, p 43
- Ruotanen, K., and Porter, W. — Reduced Non-Metallic Inclusions in Steel Using Next-Generation Disposable Tundish Lining, July, p 52

[S]

- Santen, S.; Imris, M.; Swartling, M.; and Heegaard, B.M. — IRONARC: A Cokeless Ironmaking Process, March, p 44
- Satish, D.; Anand, S.; Rajasekar, K.; Dutta, J.; and Mazumdar, D. — Metallurgical Performance of Different Slab Casting Tundish Designs: Modeling and Industrial-Scale Trials, *AIST Transactions*, April, p 329
- Schart, B.T.; Pretorius, E.B.; and Oltmann, H.G. — An Overview of Steel Cleanliness From an Industry Perspective, *AIST Transactions*, March, p 333
- Schlobohm, J. — Understanding the Fire-Resistant Hydraulic Fluid Selection Puzzle, September, p 56
- Schmidt, T.; Dahlmann, P.; Lungen, H.B.; Ghenda, J-T.; Wörtler, M.; Schuler, F.; and Voigt, N. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Schuler, F.; Dahlmann, P.; Lungen, H.B.; Ghenda, J-T.; Wörtler, M.; Voigt, N.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Schulz, M.; Leuchtman, K-P.P.; Chung, J.H.; and Kang, Y.M. — Using Modern Coke Oven Technology at the New Hyundai Steel Coke Plant, December, p 45
- Seaman, J. — ArcelorMittal USA Blast Furnace Gas Flare Capture Project, *AIST 2014 Project Excellence Award Winner*, May, p 271
- Sengupta, J., and Chung, S. — Impact of Argon Injection Through Tundish Upper Nozzle on Mold Fluid Flow at ArcelorMittal Dofasco's No. 1 Continuous Caster, July, p 70
- Seymour, R.; Richardson, W.; Barnes, D.; Kashif, Z.; and Tymozuk, S. — An Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, January, p 63
- Shafer, M.; Leighton, R.; and Carlin, R. — Prevention of Tie-Rod Failures and Battery Top Damage With Thermal Imaging Program, March, p 51
- Shivpuri, R.; Agarwal, K.; and Poulain, N. — Design of No-Twist Mill Parameters for Minimized Geometric Variation in the Hot Bar Rolling of Steels — August, p 143
- Sinnaeve, M.; Flament, S.; and Walmag, G. — Investigation on Work Roll Corrosion and Oxidation Mechanisms in a Hot Strip Mill, November, p 77
- Smeulders, J.B.A.F. — Novel Laboratory Lubrication Tests for Cold Rolling Emulsions, February, p 56
- Sohn, H.Y., and Mohassab, Y. — An X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process: Part II — Calculation of the Degree of Polymerization, *AIST Transactions*, December, p 185
- Sohn, H.Y.; Mohassab, Y.; and Van Devenner, B. — An X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process: Part I — Experimental Work, *AIST Transactions*, November, p 179

- Soares, L.; Morando, G.; Junquiera, R.; and Donetti, A. — Seamless Pipe Heat Treatment Line Revamping: Furnace Production Increase and Energy Consumption Optimization, August, p 136
- Spencer, S.; Reins, K.; and Pietra Santa, L. — Rod Mill Finishing End Modernization at Sterling Steel, June, p 77
- Street, S., and Copeland, C. — Case Study: Failure Analysis of a Bulged Blast Furnace Blowpipe, March, p 71
- Street, S., and Copeland, C. — Improving the Reliability of Blast Furnace Blowpipes, September, p 43
- Sudhoff, K.; Collur, M.; King, R.; Jaicks, F.; Bulfer, J.; Cravens, B.; Lewis, S.; Mundo, N.; and White, D. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Sugimoto, K.; Hojo, T.; Kobayashi, J.; and Kochi, T. — Effects of Thermomechanical Processing on Microstructure and Shear Properties of 22SiMnCrMoB TRIP-Aided Martensitic Steel, October, p 102
- Svenningsen, R.; Gansho, L.; Chapko, J.; and Hake, N. — Pusher Furnace Bottom-Side Tearing at ArcelorMittal Indiana Harbor 84-Inch Hot Strip Mill — November, p 61
- Swahn, M.J.; Heagerty, R.; and Birchfield, C. — Preventing Fires in Pickle Lines, February, p 48
- Swartling, M.; Imris, M.; Heegaard, B.M.; and Santen, S. — IRONARC: A Cokeless Ironmaking Process, March, p 44
- Swartz, K.; Hibbeler, L.; Joyce, B.; and Thomas, B.G. — Numerical Investigation of Slag Entrainment, July, p 79

[T]

- Tate, B.; Pitts, A.; and Nastac, L. — FeSi Residuals and Their Effects on Steel Cleanliness, October, p 93
- Thakur, S.K.; Datta, R.; Bhakat, A.K.; Muthuswamy, C.; Chakrabarti, D.; and Mohanty, S.S. — Thermomechanical Controlled Processing of High-Strength Microalloyed Steel for Line Pipe Applications, *AIST Transactions*, February, p 213
- Thomas, B.G.; Petrus, B.; Hammon, D.; Miller, M.; Williams, B.; Zewe, A.; Chen, Z.; and Bentsman, J. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Thomas, B.G.; Swartz, K.; Hibbeler, L.; and Joyce, B. — Numerical Investigation of Slag Entrainment, July, p 79
- Tymoszuk, S.; Richardson, W.; Barnes, D.; Kashif, Z.; and Seymour, R. — An Integrated Approach to Radioactive Source Detection at Steel Mills and Scrap Yards, January, p 63

[V]

- Van Devener, B.; Mohassab, Y.; and Sohn, H.Y. — An X-Ray Photoelectron Spectroscopy (XPS) Study of the Effect of Water Vapor on Slag Chemistry and Structure Related to a Novel Flash Ironmaking Process: Part I — Experimental Work, *AIST Transactions*, November, p 179
- Vanhumbecck, J-F.; Bröcking, R.; Meghwal, A.; Melzer, S.; Verdier, S.; Evans, G.; Lowbridge, T.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Verdier, S.; Bröcking, R.; Meghwal, A.; Melzer, S.; Evans, G.; Lowbridge, T.; Vanhumbecck, J-F.; Debrabandere, D.; and Crahay, J. — Development of Electrical Discharge Coating (EDC) as Chrome-Free Alternative for Increasing Campaign Length of Temper Mill Work Rolls, November, p 68
- Voigt, N.; Dahlmann, P.; Lungen, H.B.; Ghenda, J-T.; Wörtler, M.; Schuler, F.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Voss, Z.; Adair, J.; Davis, C.; and Parrish, B. — Electric Arc Furnace Process Improvement and the Law of Unintended Consequences, January, p 43

[W]

- Walla, N.; Cingle III, G.; Wu, B.; and Zhou, C.Q. — Life Prediction in Industrial Equipment, June, p 57
- Walmag, G.; Flament, S.; and Sinnaeve, M. — Investigation on Work Roll Corrosion and Oxidation Mechanisms in a Hot Strip Mill, November, p 77
- Walnoha, D., and Hilberg, J. — Blast Furnace Casthouse Refractory Maintenance Optimization, September, p 77
- Wandekoken, T.P.; Maia, B.T.; and Hopperdizel, P. — Earliest Leak Detection (ELD): A New Concept of Security in Water Leak Detection in Electric Arc Furnaces, January, p 88
- White, D.; Collur, M.; King, R.; Jaicks, F.; Bulfer, J.; Cravens, B.; Lewis, S.; Mundo, N.; and Sudhoff, K. — Meltshop Yield and Heat Size Improvements at ArcelorMittal Indiana Harbor Long Carbon: Part II, August, p 129
- Williams, B.; Petrus, B.; Hammon, D.; Miller, M.; Zewe, A.; Chen, Z.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58
- Williams, B.; Rembold, M.; Chahin, O.; Ross, N.; and O'Malley, R. — Investigation of Stopper Rod Tip Wear on a Thin-Slab Caster, July, p 43
- Wooddell, M.; Bhattacharya, T.; Fehr, J.; Nester, B.; Chappell, C.; and Kaushik, P. — Source and Transport Mechanisms of Exogenous Inclusions in Vacuum-Poured Ingots: Part II — Fluid Flow in Pony Ladle (Tundish), *AIST Transactions*, July, p 193
- Wooddell, M.; Kaushik, P.; Fehr, J.; Nester, B.; Chapell, C.; and Bhattacharya, T. — Source and Transport Mechanism of Exogenous Inclusions in Vacuum-Poured Ingots: Part I — Identification of Sources, *AIST Transactions*, June, p 201
- Wörtler, M.; Dahlmann, P.; Lungen, H.B.; Ghenda, J-T.; Schuler, F.; Voigt, N.; and Schmidt, T. — Steel's Contribution to a Low-Carbon Europe 2050: Technical and Economic Analysis of the Steel Sector's CO₂ Abatement Potential, April, p 62
- Wu, B.; Walla, N.; Cingle III, G.; and Zhou, C.Q. — Life Prediction in Industrial Equipment, June, p 57

Wyatt, A.; González, R.; Acosta, F.; Lowry, M.; Kundrat, D.; and Fuchs, H. — Optimizing Fe Yield in an All-DRI Fed EAF, October, p 71

[Y]

Yin, H.; Gass, R.; and Demmon, F. — Step Milling as a Tool for Characterizing Defects in Slabs at ArcelorMittal, October, p 82

Yu, Q., and Hebert, J. — Effect of Low- and Mild-Carbon HSLA Steels on Hot Rolling Parameters Under Precipitation Temperatures, November, p 52

[Z]

Zangeneh, P.; Al-Dojayli, M.; Maleki, M.; Ghorbani, H.; and Choy, M. — Dynamic Load Characterization of Basic Oxygen Furnaces Using Random Vibration Analysis, April, p 73

Zaraliakos, J.E.; Moreland, J.; Campbell, W.; Nakayama, S.; Zhang, J.; Arteaga, N. and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, 2014 Don B. Daily Safety Grant Recipient, November, p 38

Zecchi, M.; La Bruna, E.; and González F. — Advantages of Using 3D Virtualization in the Metals Industry, September, p 72

Zewe, A.; Petrus, B.; Hammon, D.; Miller, M.; Williams, B.; Chen, Z.; Bentsman, J.; and Thomas, B.G. — New Method to Measure Metallurgical Length and Application to Improve Computational Models, December, p 58



Zhan, L.; Bhattacharya, T.; and Chukwulebe, B. — A Numerical Test Bench for Supersonic Oxygen Nozzles and Its Application to the BOF Process, April, p 51

Zhang, J.; Moreland, J.; Zaraliakos, J.E.; Campbell, W.; Nakayama, S.; Arteaga, N. and Zhou, C.Q. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, 2014 Don B. Daily Safety Grant Recipient, November, p 38

Zhang, L.; Pavlosky, R.J.; Galey, L.; and Assar, M.B. — Practical Applications of a Surface Inspection System at the Hot Mill, December, p 83

Zhou, C.Q.; Moreland, J.; Zaraliakos, J.E.; Campbell, W.; Nakayama, S.; Zhang, J.; and Arteaga, N. — Safety First: Interactive Incident Visualization for Steel Industry Safety Training, 2014 Don B. Daily Safety Grant Recipient, November, p 38

Zhou, C.Q.; Walla, N.; Cingle III, G.; and Wu, B. — Life Prediction in Industrial Equipment, June, p 57 ♦

Promote Your Products
with a FREE company listing in AIST's Online Buyer's Guide – an online database enabling steel industry professionals to find essential products and services.

Participation is easy – visit buyersguide.aist.org today!

♦ buyersguide.aist.org

Statement of Ownership, Management and Circulation (Required by 39 U.S.C. 3685)

1. Title of publication: <i>Iron & Steel Technology</i>	15. Extent and nature of circulation	Average No. Copies of Single Issue Published Nearest to Filing Date	Actual No. Copies
2. Publication No.: 1547 – 0423	Each Issue During Preceding 12 months		
3. Date of filing: September 15, 2015			
4. Frequency of issue: Monthly			
5. No. of issues published annually: 12			
6. Annual subscription price: U.S., Canada and Mexico—US\$170.00 All other countries—US\$215.00	A. Total No. of copies printed (net press run)	12,033	15,490
7. Location of known office of publication: 186 Thorn Hill Road, Warrendale, PA 15086	B. Paid circulation Mail subscriptions	11,638	15,101
8. Location of the headquarters of general business offices of the publisher: 186 Thorn Hill Road, Warrendale, PA 15086	C. Total paid distribution	11,638	15,101
9. Names and addresses of publisher, editor and managing editor: publisher, Ronald E. Ashburn; editor, Karen D. Hickey; managing editor, Amanda Blyth, 186 Thorn Hill Road, Warrendale, PA 15086	D. Non-requested distribution by mail, carrier or other means. Samples, complimentary and other free copies	395	389
10. Owner: Association for Iron & Steel Technology, 186 Thorn Hill Road, Warrendale, PA 15086	E. Total non-requested distribution	395	389
11. Known bondholders, mortgagees and other security holders owning or holding 1% or more of total amount of bonds, mortgages or other securities: None	F. Total distribution	12,033	15,490
12. For completion by non-profit organizations authorized to mail at special rates (Section 423.12 DMM only): The purpose, function and non-profit status of this organization and the exempt status for federal income tax purposes have not changed during preceding 12 months.	G. Copies not distributed Office use, leftover, unaccounted, spoiled after printing	100	100
	H. Total net press	12,133	15,590
	I. Percent paid and/or requested circulation	96.7%	97.5%

I certify that the statements made above are correct and complete.

Karen D. Hickey, editor