Advances in Bearing Steel Steelmaking and Processing

On the Effect of Consumable Electrode Remelt Processes on Steel Cleanliness — Peter Glaus and R. Scott Hyde

Thermodynamic Calculations Versus Instrumental Analysis of Slag-Steel Equilibria in an ASEA-SKF Ladle Furnace — Kamrooz Riyahi Malayeri, Patrik Ölund and Ulf Sjöblom

Steelmaking Technologies and with Focus on Micro Inclusion Development for 700 kt tons Production of State-of the Art 1C-1.5Cr Bearing Steel — Qian Gang, Li Guozhong, Xu Xiaohong and Hans-Ake Munther

The Effect of Microsegregation in Bearing Steels and the Relationship with Properties — Peter F. F. Walker, Aidan Kerrigan, Nina Cardinal, Matthew Green and Pedro E.J. Rivera-Diaz-del-Castillo

Steel Cleanliness Knowledge and Relationships with Rolling Bearing Functional Properties

Influence of Sulfur Inclusion Content on Rolling Contact Fatigue Life — Markus Dinkel and Werner Trojahn

Microscope Inclusion Rating Standards and Fatigue Initiation Propensity — Thore B Lund and Susanne Stude

Non Metallic Inclusion Density in Bearing Steel Characterized by Ultrasonic Testing — F. Midroit, F. Merch and Matilda Meheux-Millot

Characterization of Non-metallic Inclusions in Bearing Steels by means of Focused Ion Beam — Aldara Naveira Suarez

Crack Initiation and Propagation Behavior Around the Defect in Steel Under Rolling Contact Fatigue — Takeshi Fujimatsu, Toshifusa Nakamizo, Morihiko Nakasaki and Norimasa Tsunekage

Improvement of the Rolling Contact Fatigue Resistance in Bearing Steels by Adjusting the Composition of Oxide Inclusions — Masaki Shimamoto, Tomoko Sugimura, Sei Kimura, Akihiro Owaki, Masaki Kaizuka and Yosuke Shindo

New Bearing Steels for Improved Functional Properties

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Novel High-carbon High Vanadium PM Steel for High Load Rolling Bearing Applications — Mohamed Y. Sherif

Advantages and Shortcomings of Retained Austenite in Bearing Steels: a Review — Christine Sidoroff, Michel Perez, Pierre Dierickx and Daniel Girodin

High Integrity Powder Metallurgy for Demanding Bearing Applications — Fredrik Sandberg, Johanna Olofsson, Delphine Rébois and Stefan Sundin
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Accelerated Carbide Spheroidisation of 100CrMnSi6-4 Bearing Steel by Hot Rolling — Jaromir Dlouhy, Daniela Hauserova and Zbysek Novy

Microstructure and Properties of Hardened 100CrMnSi6-4 Bearing Steel after Accelerated Carbide Spheroidisation and Long-Duration Annealing — Daniela Hauserova, Jaromir Dlouhy and Zbysek Novy

Kinetics of Bainite Formation in 100Cr16 and Similar High Carbon Steel Grades — Thomas Sourmail, V. Smanio and Gilles Auclair

Austempering Effects on the Rolling Contact Fatigue Characteristics of Bearing Steels — Seon Ho Lee and Hee Jae Kang

Low Temperature Plasma Nitriding of Pyrowear 675 — Hitesh K Trivedi and Ray Monahan


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Material Qualification of Main Bearings for Large Wind Energy Turbines — Marco Burtchen, Uwe Maschelski and Bernd Lüneburg

Developments in Fatigue and Rolling Contact Fatigue Testing

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Understanding Microstructural Transitions Occurring Under Rolling Contact Fatigue — Pedro E.J. Rivera-Diaz-del-Castillo


Measurement of Residual Stresses in Ball Bearings by Synchrotron Radiation — Reinder H. Vegter, Thomas Buslaps, Yuri Kadin and Hans A. Verschoor