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Bearing Steel Technologies: 10th Volume, Advances in Steel Technologies for Rolling Bearings

STP 1580

Editor:
John M. Beswick





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Foreword

This compilation of *Selected Technical Papers*, STP1580 on *Bearing Steel Technologies: 10th Volume, Advances in Steel Technologies for Rolling Bearings* contains 31 papers presented at a symposium with the same name held in Toronto, Ontario, CN, May 6–8, 2014. The symposium was sponsored by the ASTM International Committee A01 on Steel, Stainless Steel and Related Alloys and Subcommittee A01.28 on Bearing Steels.

The Symposium Chairman and STP Editor is John M. Beswick, SKF Group Technology Development, Nieuwegein, Netherlands.

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Overview

This book is a compendium of selected technical papers (STP) from the *10th ASTM International Symposium on Bearing Steel Technologies* held in Toronto, Ontario, Canada, May 6–8, 2013. ASTM International has legacy of support to the bearing steel industry, a symposium on the subject being first held in 1946; see the seminal STP 70 and other STP's on the subject between 1974 and 2013 (STP 575, 771, 987, 1195, 1327, 1395, 1419, 1524 and 1548).

The ASTM Bearing Steel symposia are traditionally held in association with the ASTM A01 Committee Week and the A01.28 Subcommittee on Bearing Steel meetings. The remit for the Subcommittee A01.28 on Bearing Steels is to have jurisdiction over the standards for steels commonly used for ball and roller bearings. This subcommittee is responsible for preparing, reviewing and maintaining these standards and assuring that they reflect current technology.

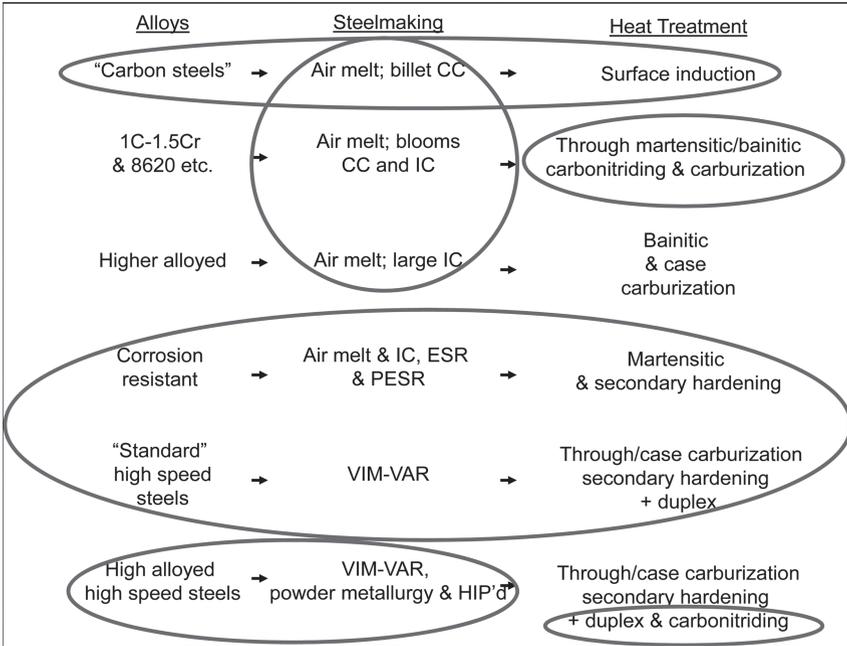
Every bearing steel technologist aspires to participate in the ASTM International Bearing Steel Symposia and the 10th event had 35 presentations under the six section headings:

- Advances in Bearing Steel Steelmaking and Processing
- Steel Cleanliness Knowledge and Relationships with Rolling Bearing Functional Properties
- New Bearing Steels for Improved Functional Properties
- Softening and Hardening Heat Treatment Physical Metallurgy
- Rolling Bearing Metallurgy for Wind Energy Applications
- Developments in Fatigue and Rolling Contact Fatigue Testing

The purpose of STP1580 is to bring together the peer-reviewed papers to support the readers' understanding of the current state-of-the-art in rolling bearing steel technologies. A multitude of topics, within the bearing steel technologies, are covered in STP1580 as indicated in the bearing steel technology landscape figure:

From the symposium presentations, and in editing the book, a unique insight can be gained in rolling bearing steel technologies. This has resulted in some revised ideas on bearing steel steelmaking and industries micro cleanliness specification requirements, rating methods and limits for none re-melt bearing steels.

The ASTM on-line journal publications and this book would be impossible without the timely cooperation of the paper authors and peer reviewers. It is increasingly



Bearing Steel Technology Landscape - Topics Covered in STP 1580

difficult to obtain good quality peer reviews and the STP1580 Reviewers did an exceptional job in maintaining the technical integrity of the publication.

The Symposium Chairman and ASTM International are especially grateful for the support from the following rolling bearing steel industry sponsors:

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The 10th symposium was attended by 129 registered participants which is considerably higher than the industry recession years (respectively 65 and 95 in 2009 and 2011) but lower than, for example, the 2001 and 2005 symposia (respectively 165 and 180 attendees). It is obvious that the subject commands a high interest

level and the next ASTM international bearing steel symposium experience is anticipated in November 2016.

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