
Preface

The annual global production of ferrous materials has risen by more than 60 % in the last ten years to a total of about 1300 million tons. This exceeds the sum of all other metallic materials by more than one order of magnitude. The importance of ferrous materials is based on their variety of different properties that can be customised by alloying and processing. These relationships are discussed for steel and cast iron conjointly. Part A discusses the fundamental principles in the Chapters *Constitution*, *Microstructure*, *Heat treatment* and *Properties*. The much larger Part B discusses processing and applications of European standard materials as well as recent developments. It deals with *unalloyed and high-strength materials*, *materials for surface layer treatment* and for *tools*, as well as *chemically resistant*, *creep-resistant* and *functional materials*.

This book is intended for engineers working with ferrous materials who wish to deepen their understanding or who are looking for advice. The necessary practical relevance arises from the authors' first-hand knowledge gained during many years of industrial experience. Students are also avid readers of the three German editions. Harmonisation of European standards has enabled publication of an English edition.

We extend our thanks to Ms Gillian Scheibelein B.Sc. for translating the German text and to SCHMOLZ + BICKENBACH for financial support of this task. We thank Dr.-Ing. Markus Karlsohn from the Chair of Materials Technology for editing and preparing the printable L^AT_EX version. Our appreciation also goes to further contributors: Dipl.-Ing. Stephan Huth, Dipl.-Ing. André Oppenkowski, Dipl.-Ing. Tanja Macher and cand. ing. Marius Weber.

Bochum, Spring 2008

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<http://www.springer.com/978-3-540-71847-5>

Ferrous Materials

Steel and Cast Iron

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2008, XII, 418 p. 185 illus., Hardcover

ISBN: 978-3-540-71847-5