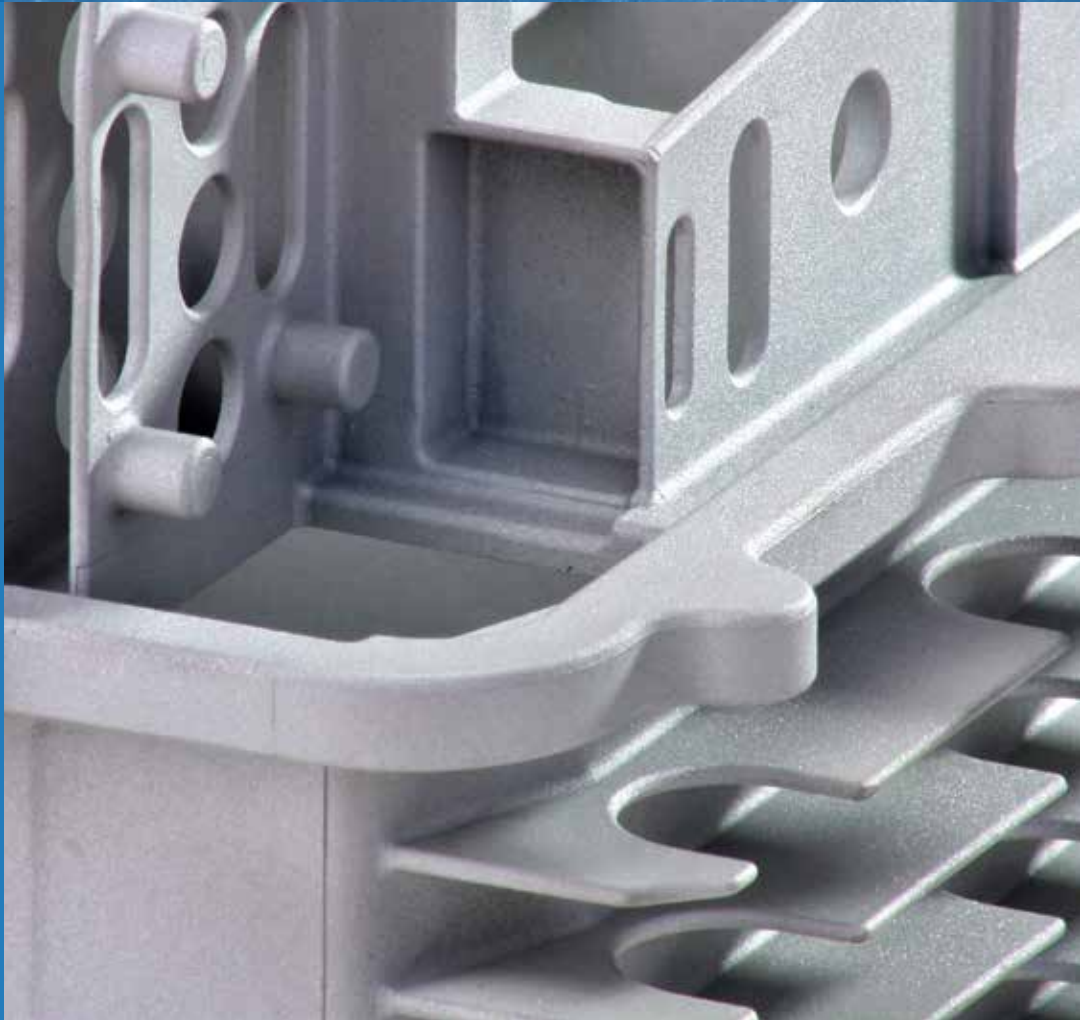


2015



Publication Solutions

Casting Design & Purchasing, pg. 4
Cleaning, Finishing & Quality, pg. 5
Environmental, Health & Safety, pg. 6
Ferrous, pg. 7
Gating & Engineering, pg. 8
Management, HR & Marketing, pg. 9

Metalcasting Basics, pg. 10
Mold, Core & Patternmaking, pg. 13
Nonferrous, pg. 14
Technology, Research & Development, pg. 16

UPCOMING RELEASES

2015 Transactions of the American Foundry Society

Continuing the tradition, the *AFS Transactions* will feature selected papers presented at the 119th Metalcasting Congress, April 21-23, 2015. The *Transactions* will be published in both print and CD. (Publication date: August 2015)

Aluminum Casting Technology, 3rd Edition

A welcome update to the second edition, published in 1993, the updated *Aluminum Casting Technology* will feature the latest information on aluminum casting alloys, melting practices and furnaces, chemical and physical characteristics, design, casting processes, gating and risering, heat treatment, metallography, and cleaning and finishing. (Publication date: 2015)

Mold & Core Test Handbook, 4th Edition

This is an update to the Third Edition, published in 2000. The Fourth Edition updates nearly all of the tests and remains in the same easy to read format.

New to this edition is the chance to purchase the sections individually. More information will be available closer to the time the handbook will be released. (Publication date: Spring 2015)

For information on these or other publications, contact estoreservices@afsinc.org

Note: Member discounts are applied to AFS Special Publications, CMI products and certain publications that AFS co-publishes with other organizations. Items and publications from other publishers are generally not available for discount.

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AFS & The Institute Education & Training Schedule (Tentative)

February 2015

Feb. 4-6	Labor Relations & Human Resources Conference	Ft. Lauderdale, FL
Feb. 18-19	Green Sand Molding 201	Cedar Falls, IA
Feb. 25-26	Casting Defect Analysis	Schaumburg, IL

March 2015

March 10	Aluminum 101	Blacksburg, VA
March 11-12	Aluminum Melting 201	Blacksburg, VA
March 11-12	Iron Melting 201	Schaumburg, IL
March 25-26	Copper Melting 201	Pittsburg, KS

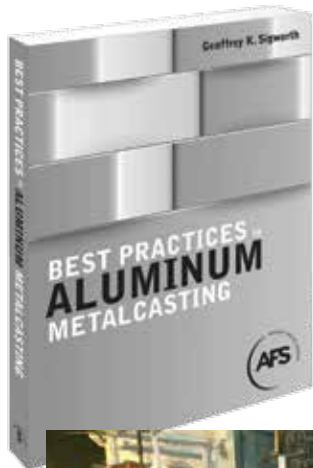
Spring Quarter Classes:

Casting Defect Analysis
Copper Metallurgy 201
A Hands-On Introduction to Metalcasting
Steel 101
Permanent Mold Processes
Casting Supplier Auditing
Coldbox Coremaking 201

The Institute's Million Dollar Pledge

We are responding to **YOUR NEEDS**. We are developing **NEW COURSES**. We have generated **NEW CONTENT**. Our new strategy follows the best practices in adult learning. The Institute offers new opportunities starting with entry level knowledge and skills and building up to the more advanced technology and applications. With our new courses, you'll see a clear delineation of 100, 200, 300 and 400 level content. For more information, contact estoreservices@afsinc.org.

NEW RELEASES



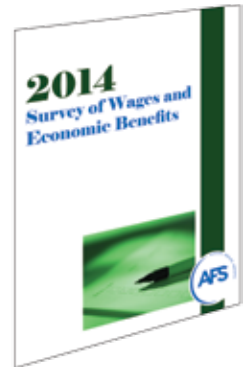
Best Practices in Aluminum Metalcasting

Respected industry expert Geoffrey Sigworth compiled a lifetime of experience into this one book dedicated to the best practices in aluminum metalcasting, from melting and melt treatment to post solidification processing.

More than 60 technical papers are contained within the CD-ROM included with this publication. In addition, Excel®-based calculators are included to assist with sprue calculations, furnace energy models, etc.

NF1400

Corporate: \$150.00 • Personal: \$225.00 • List: \$300.00



2014 AFS Survey of Wages & Economic Benefits

What's the current status of wages and benefits in the metalcasting industry in the U.S. and Canada? Compare responses from 124 U.S. plants and nine Canadian plants representing more than 19,000 employees and filter by foundry size, union status and type of metal poured. Twenty-eight job classifications were used as the basis for the wage portion of the study.

HR1400PR (Print)

Corporate: \$400.00 • Personal: \$550.00 • List: \$700.00

HR1400DL (Download)

Corporate: \$375.00 • Personal: \$525.00 • List: \$675.00



2015 AFS Metalcasting Forecast & Trends

The *AFS Metalcasting Forecast & Trends* is the annual resource for metalcasters and suppliers. The 2015 edition contains forecasts for all metals groups and shipment projections through 2023, export and import forecasts (by demand and shipments), forecast data by major casting consuming markets and international metalcasting data (casting shipments, labor rates, etc.) 32 pages. Available as download only.

MT1500

Corporate \$350.00 • Personal \$525.00 • List \$700.00



Manual de Defectos de Fundición: Aleaciones No-Ferrosas Casting Defects Handbook: Aluminum & Aluminum Alloys and Copper & Copper Base Alloys

The popular *Casting Defects Handbooks*, *Aluminum & Aluminum Alloys*, and *Copper & Copper-Base Alloys*, have each been translated into Spanish and combined into one volume. The common types of casting defects for these nonferrous alloys are presented, with their causes and prevention techniques, many in color. Softcover, 4½ x 7, 264 pages.

GM1401 ISBN: 978-0-87433-427-2

Corporate: \$50.00 • Personal: \$75.00 • List: \$100.00



Coatings-Related Casting Defects Wall Chart

This full color wall chart is intended to aid in classifying coating defects in metal castings, suggest potential causes and offer various solutions. It is organized with 12 full color photos of the coating defect or imperfection, complete definition, number of possible causes, and potential solutions. Specific defects or imperfections covered are cratering/fish eyes/bubbles, brush mark, excess coating, scabs/inclusions, orange peel, tear drops, erosion, veining, metal penetration, coating retention, blows, and spalling. Size: 39" x 27".

CH1400

Corporate: \$30.00 • Personal: \$45.00 • List: \$60.00

CASTING DESIGN & PURCHASING



2014 Casting Source Directory, Desk Reference—26th Edition

The metalcasting industry's first and only complete reference book of casting suppliers in North America, the *Casting Source Directory* is updated annually and provides complete information on more than 2,000 metalcasting facilities and diecasters in the U.S., Canada and Mexico.

GE1400 ISSN 1523-4371
Corporate \$109.00 • Personal \$109.00 • List \$149.00



Designing & Purchasing of Metal Castings

This book is a one-stop reference resource on how to design and procure metal castings. Information was gleaned from various sources including consultations with expert design engineers and procurement people. This one-of-a-kind reference will come in handy time and time again. An app provides access to the electronic version, allowing readers to see videos, audiocasts, web references, data tables and other unique features that can only be accessed in an electronic format. 342 pages.

MT1301 ISBN 978-0-87433-404-3
Corporate \$250.00 • Personal \$375.00 • List \$500.00



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MT1500
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There are more than 480 figures, plus 235 tables and 13 chapters. This book is excellent for students, engineers—anyone wanting a complete overview of the process of casting irons. Hardcover, 8 1/2 x 11 in., 420 pages.

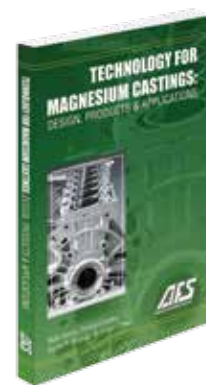
FC0100 ISBN 978-0-87433-260-5
Corporate \$100.00 • Personal \$150.00 • List \$200.00



Cast Iron Fatigue Properties Database for Modern Design Methods (DVD)

The material in *Cast Iron Fatigue Properties Database for Modern Design Methods* was developed from ten studies done by Element Materials Technology. The objective of the program was to develop a detailed and well-documented strain-life database for cast iron. The data is presented first by iron (austempered ductile, compacted graphite, ductile, gray and white) and then by Grade (typically ASTM) under each metal.

RR13DVD ISBN 978-0-87433-412-8
Corporate \$150.00 • Personal \$225.00 • List \$300.00

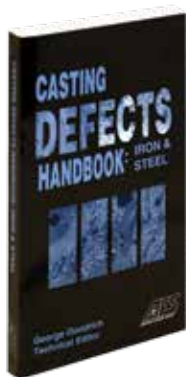


Technology for Magnesium Castings: Design, Products & Applications

In *Technology for Magnesium Castings*, information is provided on melt control, process control, casting and solidification, heat treatment, materials selection and various casting processes such as sand, permanent mold, high pressure die, lost foam, ablation and semi-solid casting. This publication will be of great interest to many individuals involved in the metalcasting industry, especially the casting designer and process engineer. It is also an invaluable tool for students of metallurgy, materials science and metalcasting. Softcover, 6 x 9 in., 314 pages.

NF1100 ISBN 978-0-87433-374-9
Corporate \$75.00 • Personal \$112.50 • List \$150.00

CLEANING, FINISHING & QUALITY

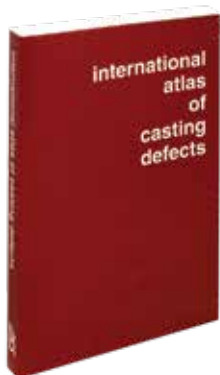


Casting Defects Handbook: Iron & Steel

Technical Editor: George Goodrich

This edition, published in August 2008, combines all of the strengths of the original *Casting Defects Handbook* with the latest industry updates with a focus on ferrous alloys. New techniques have been added: flaskless molding, vertical molding, high density molding with automatic machines, nobake molding, and the growth of electric melting vs. cupola melting. This is *the* guide for in-plant use by quality assurance, inspection and other key personnel. The text is formatted in an easy-to-use outline style supplemented with figures illustrating actual casting defects. Softcover, 4½ x 7 in., 232 pages.

GM0800 ISBN: 978-0-87433-314-5
Corporate \$35.00 • Personal \$52.50 • List \$70.00



International Atlas of Casting Defects

Categorized by an international identification system, *International Atlas of Casting Defects* identifies 111 casting defects with 283 photos and 137 drawings. Defects are classified based on physical appearance, permitting identification either by direct observation or from a description of the defect involving the shape, location and dimensions. Softcover, 6 x 9 in., 340 pages.

GM7406 ISBN 978-0-87433-053-3
Corporate \$37.50 • Personal \$56.25 • List \$75.00



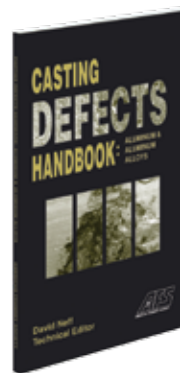
Casting Defects Handbook: Copper & Copper-Base Alloys

Technical Editor: David Neff

Many of the common types of casting defects encountered in the production of copper base alloy castings in both sand and permanent mold processes are presented. These defects are categorized by type with possible causes and, in some cases, prevention techniques.

Casting Defects Handbook: Copper & Copper-Base Alloys provides a comprehensive visual atlas of the more common casting defects encountered by copper base foundry personnel, and provides a tool for quick identification. Softcover, 4½ x 7 in., 90 pages, most illustrations in color.

GM10CU ISBN: 978-0-87433-365-7
Corporate \$30.00 • Personal \$45.00 • List \$60.00



Casting Defects Handbook: Aluminum & Aluminum Alloys

Technical Editor: David Neff

In *Casting Defects Handbook: Aluminum & Aluminum Alloys*, many of the common types of casting defects encountered in the production of aluminum alloy castings are presented. These defects are categorized by production method: sandcasting, permanent mold, high pressure die-casting, low pressure, investment, plaster and lost foam, with possible causes and, in some cases, prevention techniques listed.

The book provides a comprehensive visual atlas of the more common casting defects encountered by foundry personnel and provides a tool for quick identification. It can also be used to address possible causes and to establish corrective actions. Softcover, 4½ x 7, 170 pages.

GM11AL ISBN: 978-0-87433-366-4
Corporate \$30.00 • Personal \$45.00 • List \$60.00

Save on these sets!



Save 20% when you order the book **Casting Defects Handbook: Iron and Steel** and the chart, **Characteristics of Porosity in Cast Iron**, together as a set:



GM08CH05SET
Corporate: \$48.00 • Personal: \$72.00 • List: \$96.00

Buy both the **Copper & Copper-Base Alloys** and **Aluminum & Aluminum Alloys Defects** Handbooks, and save 20% on the set

GMALCUSET
Corporate: \$48.00 • Personal: \$72.00 • List: \$96.00



BONUS



Safety Data Sheets (SDS)

The AFS Safety Data Sheets (SDS) for Casting Alloys have replaced the outdated MSDS (Material Safety Data Sheet) format and were created to comply with OSHA's revised Hazard Communication Standard to meet the Globally Harmonized System (GHS). All are in ANSI's 16-part format and will include updated information as required by the GHS.

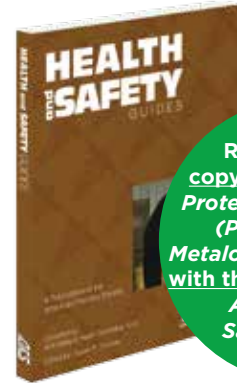
The Safety Data Sheets also meet the requirements of 40 CFR 372.45 [Subpart C "Supplier Notification Requirements" Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA)] that mandates suppliers inform their customers of the presence of toxic chemicals in mixtures and potential reporting obligations with the first shipment of castings every year to each customer.

The Safety Data Sheets will assist metalcasters in continuing to meet their ISO certification, OSHA and GHS, as well as Emergency Planning and Community Right to Know requirements by ensuring that their records are current.

Alloys: Aluminum, Copper, Iron, Magnesium and Steel.

Download only; visit www.afsinc.org to order, or call Customer Service, 800-537-4237.

Corporate \$30.00 • Personal \$45.00 • List \$60.00



Receive a free copy of the *Personal Protection Equipment (PPE) Guide for Metalcasting Operations* with the purchase of the *AFS Health & Safety Guides*.

AFS Health & Safety Guides

This fourth revision of the *AFS Health and Safety Guides* was completed under the direction and guidance of the AFS Health and Safety Committee (10-Q) to provide metalcasters with the updated information necessary to determine, evaluate and control potential health and physical hazards in their facilities. This is a must-have book for every safety managers shelf. Softcover, 8½ x 11, 250 pages.

EC1200 ISBN 978-0-87433-387-9
Corporate \$50.00 • Personal \$75.00 • List \$100.00



Hearing Loss Prevention in Metalcasting

Hearing Loss Prevention in Metalcasting provides metalcasting facilities with updated information and guidance to support programs that address noise exposure issues in the workplace.

Chapters include: Proactive Hearing Loss Prevention; Defining Noise Exposure Hazards; Developing a Foundry Hearing Conservation Program; Selecting and Using Hearing Loss Devices Effectively; Determining the Causes of Noise Exposure; Reviewing Foundry Industry Experience Reducing Noise Exposure; Developing a Noise Exposure Control Strategy. Softcover, 8½ x 11, 108 pages

EC1000 ISBN 978-0-87433-352-7
Corporate \$25.00 • Personal \$37.50 • List \$50.00

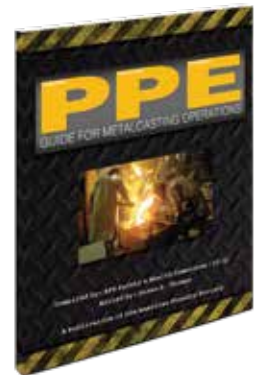


Managing the Foundry Indoor Air Environment

Robert C. Scholz, P.E., C.I.H., RMT, Inc., Principal Author

This manual expands on an emerging theme in the industry—the need to integrate ventilation design in metalcasting facilities. The most notable change associated with integrated design is the concurrent consideration of air supply and exhaust methods. This integrated approach consists of a “bubble approach” to the in-plant environment and plant emissions. Softcover, 8½ x 11 in., 158 pages.

EC0201 ISBN 978-0-87433-259-9
Corporate \$50.00 • Personal \$75.00 • List \$100.00



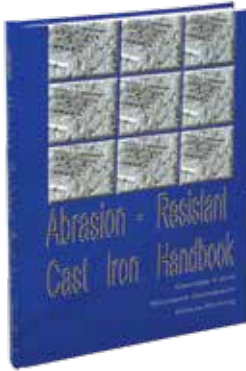
Personal Protection Equipment (PPE) Guide for Metalcasting Operations

Compiled by: AFS Safety and Health Committee (10Q); Edited by: Susan P. Thomas

This updated third edition of the *PPE Guide for Metalcasting Operations* describes the special considerations for the selection and use of personal protective equipment (PPE) and special clothing for work situations that present a risk of exposure to metalcasting hazards. This guide is intended to aid the individual facility's completion of the required job Hazard Assessment for PPE Selection. This 2012 version supersedes all prior versions of the Guide. Softcover, 8½ x 11, 52 pages.

EC1201 ISBN No. 978-0-87433-393-0
Corporate \$12.50 • Personal \$18.75 • List \$25.00

FERROUS

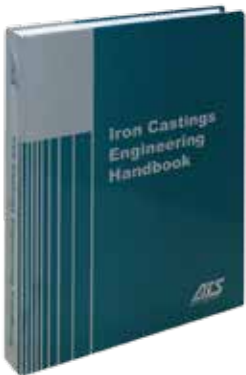


Abrasion-Resistant Cast Iron Handbook

George Laird, Richard Gundlach and Klaus Röhrig

The ultimate desktop reference on white cast iron, it has been derived from many years of experience, a vast amount of research and many in-plant investigations by more than a generation of metallurgists. Topics include Introduction to A-R Cast Irons, Solidification of A-R Cast Irons, Heat Treatment of A-R Cast Irons, Alloying for Hardenability, and more. Many photos, Hardcover, 8 1/2 x 11 in., 222 pages.

FC0001 ISBN 978-0-87433-224-7
Corporate \$75.00 • Personal \$112.50 • List \$150.00

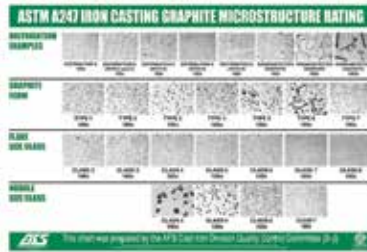


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There are more than 480 figures, plus 235 tables and 13 chapters. This book is necessary for students, engineers—anyone wanting a complete overview of the process of casting irons. Hardcover, 8 1/2 x 11 in., 420 pages.

FC0100 ISBN 978-0-87433-260-5
Corporate \$100.00 • Personal \$150.00 • List \$200.00

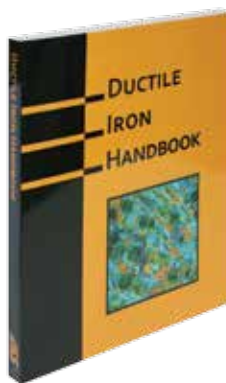


ASTM A 247 Iron Casting Graphite Microstructure Rating Chart

Co-published by ASTM and AFS

This graphite-rating chart supplements ASTM specification A 247, and is used to determine graphite form, size and distribution for both gray and ductile iron, illustrated with actual, high-quality photomicrographs. The chart is broken down into the following four categories: distribution examples, graphite forms, flake size class and nodule size class. Chart measures 23 x 32 in.

CH0900
Corporate \$25.00 • Personal \$37.50 • List \$50.00



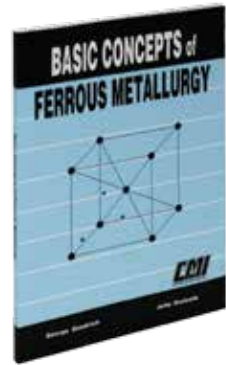
Ductile Iron Handbook

This classic book contains information on production practices, metallurgy and properties from industry experts. Chapters include Theory of Solidification and Graphite Growth in Ductile Iron; Engineering Properties, Specifications and Physical Constants of Specific Ductile Irons; Composition of Ductile Irons; Foundry Practices; Heat Treatment; Casting Defects and more. Softcover, 8 1/2 x 10 in., 277 pages.

FC9200 ISBN 978-0-87433-364-0
Corporate \$60.00 • Personal \$90.00 • List \$120.00

Save 20% when you order both the Ductile Iron Microstructures Rating Chart (CH8201), pg. 11 and the book together.

FC92CH82SET
Corporate \$64.00 • Personal \$96.00 • List \$128.00

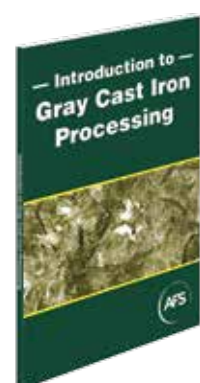


Basic Concepts of Ferrous Metallurgy

George Goodrich & John Svoboda

This book presents and describes basic concepts of metallurgy common to the ferrous metalcasting industry. Ferrous metallurgy students, ferrous operations and personnel who wish to refresh themselves on basic metallurgical principles will find this book invaluable. Chapters include crystallography, solidification and crystallization, phase equilibrium and metallurgical tools. Softcover, 6 x 9 in., 92 pages.

FC0006 ISBN 978-0-87433-334-3
Corporate \$25.00 • Personal \$37.50 • List \$50.00



Introduction to Gray Cast Iron Processing

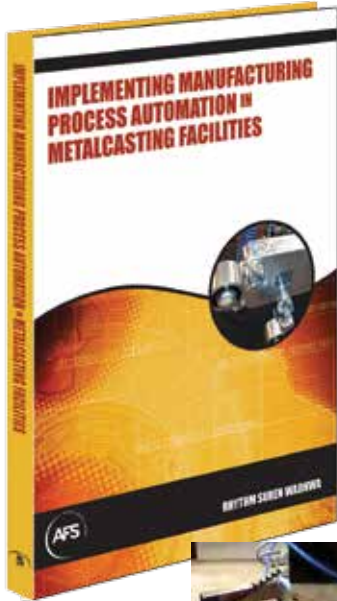
This book is a comprehensive review of gray iron for gray iron foundry employees. Subjects covered include properties of gray cast iron, melting practice, chill testing, thermal analysis, factors influencing mechanical properties, relationship of tensile strength to microstructure and other properties and more. Softcover, 6 x 9 in., 98 pages.

FC0002 ISBN 978-0-87433-223-0
Corporate \$25.00 • Personal \$37.50 • List \$50.00

Save 25% when you buy both this book and Gray Iron Chart (CH0200), pg. 21 as a set.

FC00CH02SET
Corporate \$40.00 • Personal \$60.00 • List \$80.00

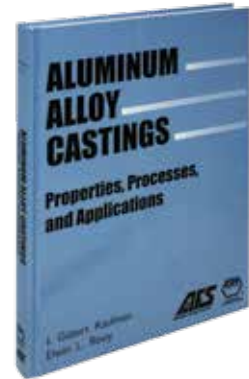
GATING & ENGINEERING



Implementing Manufacturing Process Automation in Metalcasting Facilities

A search for literature on foundry automation led the author, Rhythm S. Wadhwa, PhD, to write this book on automation innovations and the analysis of batch manufacturing and quantitative analysis of foundry system configuration. Implementing Manufacturing Process Automation in Metalcasting Facilities is intended for scientists, practicing manufacturing and automation engineers, foundry managers, and other personnel with knowledge or interest in foundry automation at the manufacturing systems level. Softcover.

GM1400 ISBN 978-0-87433-408-1
Corporate \$60.00 • Personal \$90.00 • List \$120.00

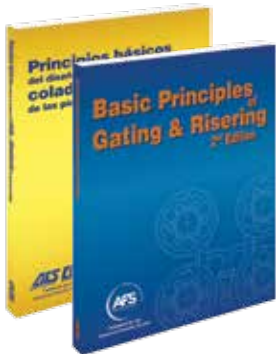


Aluminum Alloy Castings: Properties, Processes and Applications

J. G. Kaufman & E. L. Rooy

This book provides property and performance data for all types of aluminum alloy castings and reviews and describes the factors that contribute to and affect those properties, including composition, microstructure, casting process, heat treatment, and quality assurance. Published by ASM and AFS. Hardcover, 8 1/2 x 11 in., 340 pages.

NF0405 ISBN 978-0-87170-803-8
Corporate \$179.00 • Personal \$179.00 • List \$249.00



Basic Principles of Gating & Riser Design

The second edition of the *Basic Principles of Gating & Riser Design* is designed for beginner and intermediate students in both basic and applied science of foundry practice. It focuses on those aspects of the scientific element with regard to metal flow and solidification. It emphasizes principles and use rather than theory and offers functional explanations rather than formal rules. The formal aspects of principles are included where appropriate (in discussing fluid flow and heat transfer) with more emphasis on the development of sound design considerations. This book is also available in Spanish.

TE0800 ISBN 978-0-87433-315-2 (English)
TE1000 ISBN 978-0-87433-384-8 (Spanish)
Corporate \$50.00 • Personal \$75.00 • List \$100.00



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FC0100 ISBN 978-0-87433-260-5
Corporate \$100.00 • Personal \$150.00 • List \$200.00



Microstructure Development During Metalcasting

John E. Gruzleski

This book is aimed specifically at engineers and technologists working in the metalcasting industry. The book can also be used by metallurgical or foundry engineering students. It concentrates on the processes of solidification in order to provide the reader expanded knowledge of what occurs when a casting freezes. The book can be used by people in either the ferrous or non-ferrous industries. Hardcover, 8 1/2 x 11 in., 244 pages.

GM2001 ISBN: 978-0-87433-204-9
Corporate \$65.00 • Personal \$97.50 • List \$130.00



Industry Job Descriptions—Updated for 2014

Job descriptions establish the foundation for all that gets accomplished in your organization. The AFS Industry Job Descriptions have been revised and expanded, now containing nearly 300 metalcasting-specific sample job descriptions, offering a wide variety of industry-specific positions. This compilation includes hard copies of the job descriptions, as well as a CD-ROM that contains all the documents in MS Office Word format, which allows you to tailor each description to fit your organization's needs. Job

titles are listed in alphabetical order and by department, making it easy to find what you need. 720 pages.

HR1300 ISBN 978-0-87433-413-5
Corporate: \$499.00 • Personal: \$749.00 • List: \$999.00



App Feature Included

Designing & Purchasing of Metal Castings

This book is a one-stop reference resource on how to design and procure metal castings. Information was gleaned from various sources including consultations with expert design engineers and procurement people. This one-of-a-kind reference will come in handy time and time again. An app provides access to the electronic version, allowing readers to see videos, audiocasts, web references, data tables and other unique features that can only be accessed in an electronic format. 342 pages.

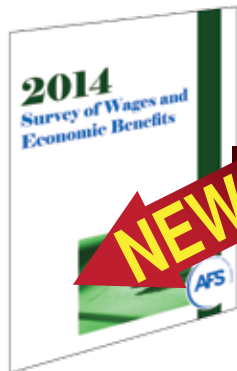
MT1301 ISBN 978-0-87433-404-3
Corporate \$250.00 • Personal \$375.00 • List \$500.00



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MT1500
Corporate \$350.00 • Personal \$525.00 • List \$700.00



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Twenty-eight job classifications were used as the basis for the wage portion of the study.

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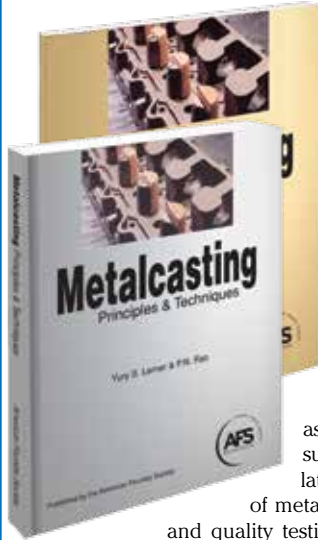
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METALCASTING BASICS



Metalcasting Principles & Techniques

Yury Lerner, PhD, and P.N. Rao, PhD

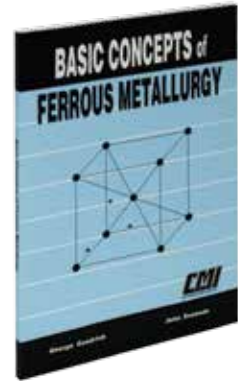
Dr. Yury Lerner, Professor Emeritus of Technology, and Dr. P.N. Rao, Professor of Technology, at the University of Northern Iowa, pooled their many years of teaching and present *Metalcasting Principles & Techniques*, a textbook geared for junior college and college level students. The book is also recommended as an instructional tool for metalcasting facilities to train new employees, for suppliers to learn more about metalcasting and for libraries as reference material. The material contained in this textbook summarizes known basics and complements them with the latest developments in all areas of metalcasting technique, technology and quality testing. A Lab and Safety Manual was developed to complement the textbook.



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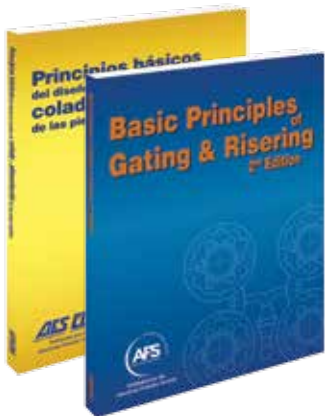
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George Goodrich & John Svoboda

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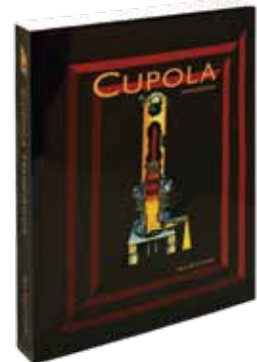
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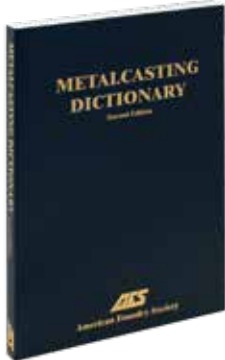
METALCASTING BASICS



Designing & Purchasing of Metal Castings

This book is a one-stop reference resource on how to design and procure metal castings. Information was gleaned from various sources including consultations with expert design engineers and procurement people. This one-of-a-kind reference will come in handy time and time again. An app provides access to the electronic version, allowing readers to see videos, audiocasts, web references, data tables and other unique features that can only be accessed in an electronic format. 342 pages.

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Susan Thomas-Sadowski, Editor

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Fred Sonnenberg, PhD, Technical Editor

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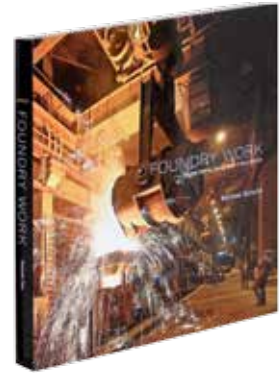
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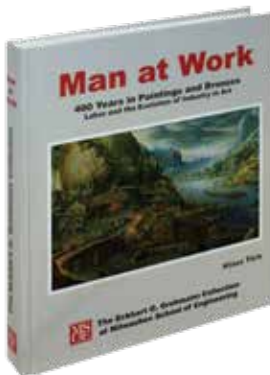
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Man at Work

Prof. Klaus Turk

This hardcover book beautifully details the art collection of Eckhart G. Grohmann, president of Aluminum Casting & Engineering Co., Milwaukee, Wisconsin. With chapters such as "Preindustrial Metalworking Scenes" and "Mining and Metals in the Industrial Age" (containing depictions of metalcasting facilities, forge shops and rolling mills), this book is a great gift for anyone in the metalcasting industry. Published by MSOE Press, Milwaukee. Hardcover, 9 x 11 in., 432 pages.

OS0301 ISBN 0-9128044-0-4

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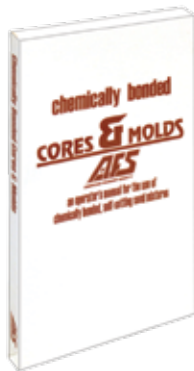
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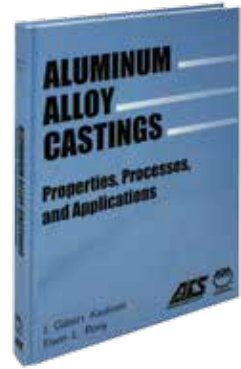
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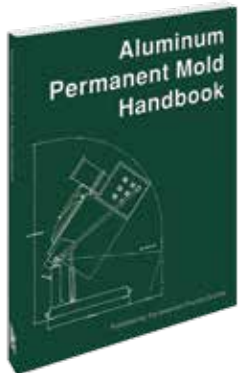
Aluminum Alloy Castings: Properties, Processes and Applications

J. G. Kaufman & E. L. Rooy

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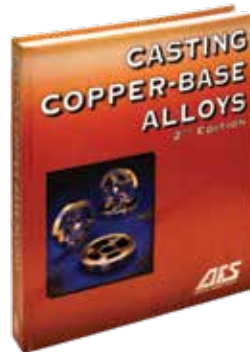


Aluminum Permanent Mold Handbook

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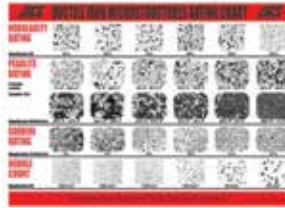
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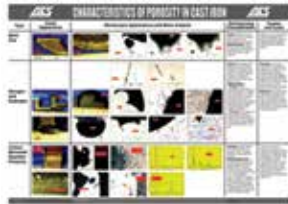
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