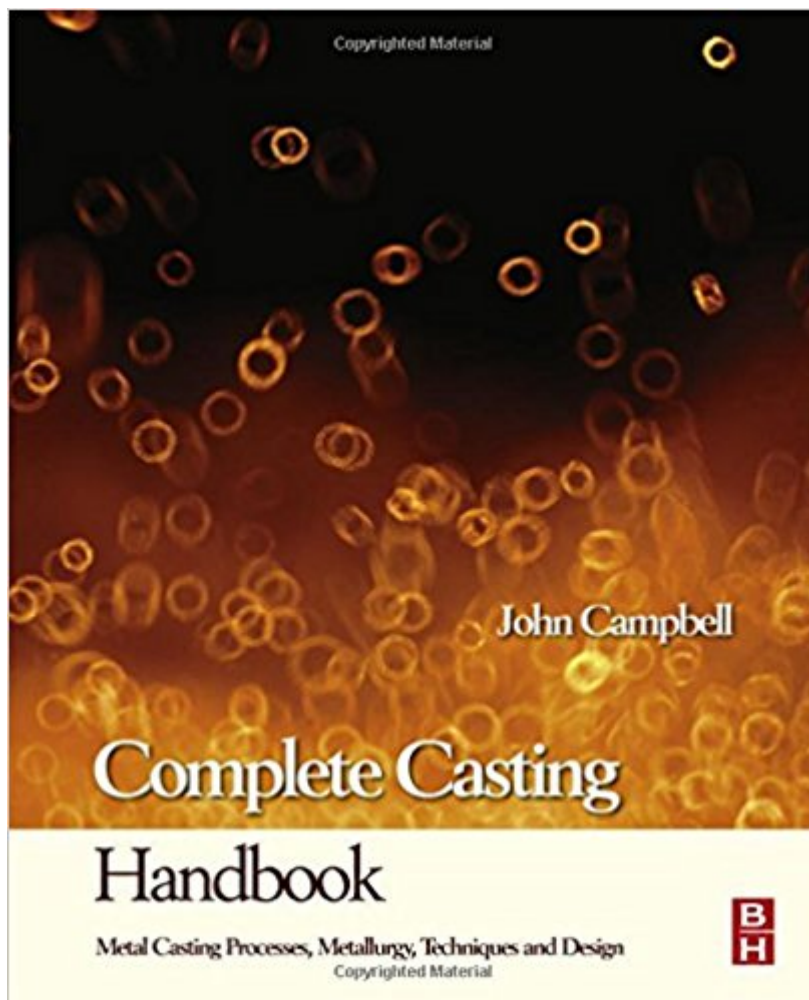




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# Complete Casting Handbook: Metal Casting Processes, Techniques And Design



## Synopsis

Complete Casting Handbook is the result of a long-awaited update, consolidation and expansion of expert John Campbell's market-leading casting books into one essential resource for metallurgists and foundry professionals who design, specify or manufacture metal castings. The first single-volume guide to cover modern principles and processes in such breadth and depth whilst retaining a clear, practical focus, it includes:

- A logical, two-part structure, breaking the contents down into casting metallurgy and casting manufacture
- Established, must-have information, such as Campbell's 10 Rules for successful casting manufacture
- New chapters on filling system design, melting, molding, and controlled solidification techniques, plus extended coverage of a new approach to casting metallurgy

Providing in-depth casting knowledge and process know-how, from the noteworthy career of an industry-leading authority, Complete Casting Handbook delivers the expert advice needed to help you make successful and profitable castings.

Long-awaited update, consolidation and expansion of expert John Campbell's market-leading casting books into one essential handbook

Separated into two parts, casting metallurgy and casting manufacture, with extended coverage of casting alloys and new chapters on filling system design, melting, moulding and controlled solidification techniques to compliment the renowned Campbell's 10 Rules

Delivers the expert advice that engineers need to make successful and profitable casting decisions

## Book Information

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## Customer Reviews

"In this, his latest book, Prof Campbell expands and develops many of the topics that he has previously considered and includes the more conventional casting technology subjects in one complete reference guide. Throughout the book, the emphasis is on casting quality, or the minimisation of defects, and John's passion for his subject shines through. He takes careful note of the basic science, the physics and maths of how liquids flow, cool and solidify, but does not get blind with science. Indeed his many years of practical problem solving with foundries means that he recognises the many constraints faced by the methods engineer. Given that during the casting process there are so many ways in which the metal quality can be compromised, his aim throughout is for foundries to be able to produce castings of consistent quality at lowest cost. Above all he wants to encourage a considered approach to the design of the running system and to the metal supply system. The ideal book for metallurgists and foundry engineers who design, specify or manufacture metal castings and a must have reference guide for every foundry." --Foundry

Complete Casting Handbook is the result of a long-awaited update, consolidation and expansion of expert John Campbell's market-leading casting books into one essential resource for metallurgists and foundry professionals who design, specify or manufacture metal castings. The first single-volume guide to cover modern principles and processes in such breadth and depth whilst retaining a clear, practical focus, it includes: A logical, two-part structure, breaking the contents down into casting metallurgy and casting manufacture Established, must-have information, such as Campbell's 10 Rules for successful casting manufacture New chapters on filling system design, melting, molding, and controlled solidification techniques, plus extended coverage of a new approach to casting metallurgy Providing in-depth casting knowledge and process know-how, from the noteworthy career of an industry-leading authority, Complete Casting Handbook delivers the expert advice needed to help you make successful and profitable castings.

I'm a metallurgist at a sand casting foundry. I've seen the problems with the conventional system of casting. Although we haven't adopted Campbell's methods wholesale, they make a lot of sense from a theoretical physical metallurgy perspective. The creation of entrainment defects does occur from the interaction of metal and air(oxygen). These oxides have a higher melting temperature than metal and are seen in the end result of the casting process. Quality inspection show tears (though these are often a result of thermal stresses, they still need an origin), slag and sand inclusions that a

properly designed filling system should be able to avoid. The text focuses primarily on aluminium alloys. Although it often lacks exact specifics, it is overall a very thorough general guide on the theory of the latest research in the field and with some essential recommendations for improvement.

Brilliant indepth research work Very helpfull in achieving perfection

My son wanted this book for Christmas so I was happy that I was able to find it. Thank you.

I found this is a book that any metallurgist should have. By reading this book you can understand Complete Casting Handbook: Metal Casting Processes, Techniques and Design – Everything about casting a sound part including designing of sprue, runner, gates and feeder.

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