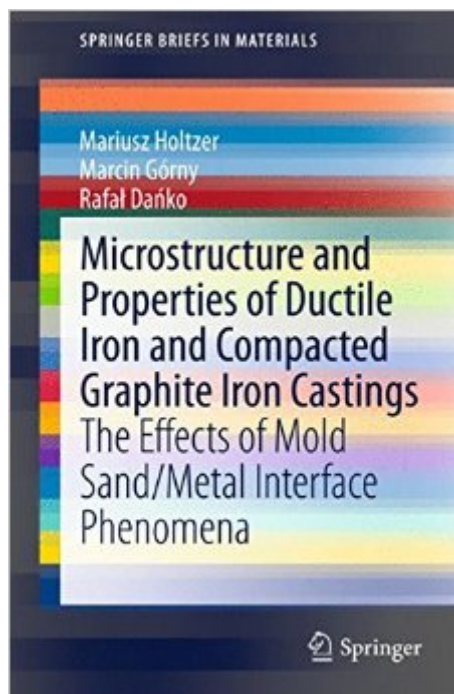


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Microstructure And Properties Of Ductile Iron And Compacted Graphite Iron Castings: The Effects Of Mold Sand/Metal Interface Phenomena (SpringerBriefs In Materials)



Synopsis

This book provides an overview of the surface effects at the interface boundary of metal/sand moulds, and their influence on the surface quality, microstructure and mechanical and anticorrosive properties of high-quality cast iron. It explores utilitarian aspects of the production of high-quality cast iron castings, including thin-walled castings of high-quality cast iron alloys, and examines problems related to the determination of moulding sands and reclaim quality, and their influence on castings. Presenting new material, this book takes into account the influence of metal quality, pouring temperature, solidification time, the quality of moulding sand with the reclaim application, as well the binders of moulding sands, on the formation of the degenerated graphite near surface layers. It also employs the latest research methods, such as a wavelength-dispersive spectrometer (WDS) analysis and thermodynamic calculations, which were carried out on the reactions occurring in the study area. Providing a valuable resource to academics and researchers interested in materials science, metal casting and metallurgy, this book is also intended for metal industry professionals.

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