



materials



Special Issue Reprint

Advances in Hard-to-Cut Materials

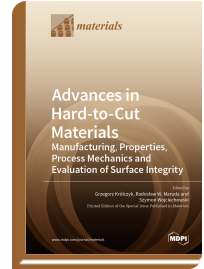
www.mdpi.com/books/reprint/2088

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ISBN 978-3-03928-354-5 (Softback)

ISBN 978-3-03928-355-2 (PDF)

The rapid growth of modern industry has resulted in a growing demand for construction materials with excellent operational properties. However, the improved features of these materials can significantly hinder their manufacture and, therefore, they can be defined as hard-to-cut. The main difficulties during the manufacturing/processing of hard-to-cut materials are attributed especially to their high hardness and abrasion resistance, high strength at room or elevated temperatures, increased thermal conductivity, as well as resistance to oxidation and corrosion. Nowadays, the group of hard-to-cut materials is extensive and still expanding, which is attributed to the development of a novel manufacturing techniques (e.g., additive technologies). Currently, the group of hard-to-cut materials mainly includes hardened and stainless steels, titanium, cobalt and nickel alloys, composites, ceramics, as well as the hard clads fabricated by additive techniques. This Special Issue, “Advances in Hard-to-Cut Materials: Manufacturing, Properties, Process Mechanics and Evaluation of Surface Integrity”, provides the collection of research papers regarding the various problems correlated with hard-to-cut materials. The analysis of these studies reveals the primary directions regarding the developments in manufacturing methods, characterization, and optimization of hard-to-cut materials.



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