



Processing, Manufacturing and Machining of Advanced Alloy Materials: Latest Advances and Prospects

Guest Editors:

Dr. Ireneusz Zagórski

Department of Production
Engineering, Lublin University of
Technology, 20-618 Lublin,
Poland

Dr. Agnieszka Skoczylas

Department of Production
Engineering, Lublin University of
Technology, 20-618 Lublin,
Poland

Prof. Dr. Witold Habrat

Faculty of Mechanical
Engineering and Aeronautics,
Rzeszow University of
Technology, 12 Powstancow
Warszawy Str., 35-959 Rzeszow,
Poland

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Message from the Guest Editors

Advanced Alloy Materials include both titanium, nickel and chromium alloys, as well as light alloys, including aluminum and magnesium alloys. Each material group finds different applications in various industries. For example, titanium or nickel alloys are used for components such as aircraft engine elements. On the other hand, light alloys (e.g., magnesium alloys) characterized by insignificant weight and considerable strength, find increasingly wider applications as weight-saving elements. In the case of magnesium alloys, properties such as excellent electromagnetic shielding, advantageous casting properties, good machinability, the ability to damp vibrations, recyclability and accessibility are considered beneficial.

Problems occurring in the manufacturing and machining of various groups of materials may have various causes. For example, the problems occurring in the milling of magnesium alloys can be classified depending on the type of machining (i.e., dry, wet or with oil). In dry machining, the critical machinability indicator is the temperature in the cutting zone. However, magnesium alloys have proven to be suitable for both rough, finish and precision machining.





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Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo

Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

Message from the Editor-in-Chief

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MDPI, St. Alban-Anlage 66
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