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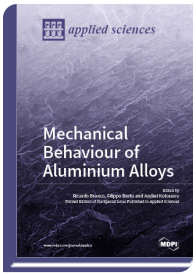
Special Issue Reprint

Mechanical Behaviour of Aluminium Alloys



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Aluminium alloys are the most common non-ferrous materials utilised for a wide range of engineering applications, namely, automotive, aerospace, mould and structural industries, among others. The wide spread of these alloys in the modern word is due to the unique combination of material properties combining lightness, excellent strength, corrosion resistance, toughness, electrical and thermal conductivity, recyclability, and manufacturability. Last but not least, the relatively low cost of aluminium extrusion is important as it makes aluminium alloys very attractive for applications in different key sectors of the world economy.

Despite great interest, extensive previous research, and knowledge accumulated in the past, recent advances in production and processing technologies, combined with the development of new and more ingenious and competitive products, require a profound understanding of the physical and mechanical behaviour of such alloys, specifically in terms of modelling and predictions of the fracture and fatigue life of aluminium alloy components. This Special Issue aims to gather scientific contributions from authors working in different scientific areas, including the improvement and modelling of mechanical properties, alloying design and manufacturing techniques, the characterization of microstructure and chemical composition, and advanced applications.

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