



INTERNATIONAL JOURNAL OF REFRACTORY METALS AND HARD MATERIALS

AUTHOR INFORMATION PACK

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DESCRIPTION

The International Journal of Refractory Metals and Hard Materials (IJRMHM) publishes original research articles concerned with all aspects of refractory metals and hard materials. Refractory metals are defined as metals with melting points higher than 1800 °C. These are tungsten, molybdenum, chromium, tantalum, niobium, hafnium, and rhenium, as well as many compounds and alloys based thereupon. Hard materials that are included in the scope of this journal are defined as materials with hardness values higher than 1000 kg/mm², primarily intended for applications as manufacturing tools or wear resistant components in mechanical systems. Thus they encompass carbides, nitrides and borides of metals, and related compounds. A special focus of this journal is put on the family of hardmetals, which is also known as cemented tungsten carbide, and cermets which are based on titanium carbide and carbonitrides with or without a metal binder. Ceramics and superhard materials including diamond and cubic boron nitride may also be accepted provided the subject material is presented as hard materials as defined above.

The journal seeks contributions that investigate novel alloy design concepts; studies of the relationships between chemical composition, microstructure, and properties; novel methods of characterization and testing, novel methods of synthesis and processing, especially those that result in improved or novel microstructures, leading in turn to improved properties and novel applications. Articles focus on methods and processes that reduce material and energy consumption, hence the cost of these materials will also be considered.

The process technologies may include but are not limited to powder synthesis and production technologies (chemical methods, physical methods such as mechanical ball milling); powder compaction and shaping technologies including die compaction, powder injection molding, and 3D printing; and sintering and consolidation processes such as vacuum sintering, hot isostatic pressing, field assisted sintering, and other advanced hot consolidation techniques. However, manuscripts that focus on processes without a clear explanation on how the process can lead to improved microstructure and properties, or reduction of energy consumption and costs are likely discouraged.

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IJRMHM aims to bridge the gap between pure research and the more practical aspects of production and properties. In that IJRMHM will continue to provide a medium linking together material scientists, engineers, designers and manufacturers working in this field.

AUDIENCE

Those companies involved in the manufacture and processing of refractory metals and hard materials, research institutes and universities carrying out research work in these fields.

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