Special Issue

Net-Shape Die Casting of Semi-solid Alloys

Message from the Guest Editor

In the last few years a new technology has entered the arena of near net-shape of alloys; Additive Manufacturing (AM). This 3D printing technology shows promise and even though it still proving itself, its potential is tremendous. Nevertheless, as all technologies, AM provides us with one more tool to deliver what customers require in competition with existing near net-shape technologies, such as casting and thixoforming. To date, successful industrial applications of semi-solid processing are using mainly non-ferrous alloys such as aluminum, magnesium and zinc in direct competition with die-casting. On the research side, over the years, ferrous alloys, copper-based alloys, super alloys and composites have all been demonstrated as potential candidates but as yet they have not found their commercial niche. This Special Issue on “Net-Shape Die Casting of Semi-Solid Alloys” intends to bring you up to date with developments in this exciting manufacturing technology, current applications and possible future trends.

Guest Editor

Dr. Plato Kapranos

Department of Materials Science & Engineering, the University of Sheffield, Sir Robert Hadfield Building, Mappin Street, Sheffield, S1 3JD, UK

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Metals
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
metals@mdpi.com

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Metallic materials play a vital role in the economic life of modern societies; contributions are sought on fresh developments that enhance our understanding of the fundamental aspects related to the relationships between processing, properties and microstructure – disciplines in the metallurgical field ranging from processing, mechanical behavior, phase transitions and microstructural evolution, nanostructures, as well as unique metallic properties – inspire general and scholarly interest among the scientific community.

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