

Preface

The past few years have seen increasing interest in porous metallic materials, especially in foams made of aluminium or aluminium alloys. The stimulus for this lies in recent process developments which promise materials with better quality and lower cost. Moreover, the environment for the application of new materials has greatly changed. Nowadays higher demands for passenger safety in automobiles or for easy materials recycling make metal foams attractive where, a few years ago, the same materials would have been ruled out for technical or economical reasons.

A number of companies in Europe, Japan, and North America now produce aluminium foams in commercial quantities. Many companies are evaluating their possible structural and functional applications. Universities and research institutes have initiated major characterisation programmes, and design issues are being addressed.

Metal foam research work is now sponsored on a large scale by governments. Presently there are two European projects (BRITE-EuRam), a Multidisciplinary University Research Initiative (MURI) in the USA, and various national projects which are focusing on the evaluation and further development of production processes, characterisation of properties and the investigation of possible applications.

The conference „MetFoam '99“ held in Bremen in June 1999 provided a forum for researchers active on the field of porous metallic materials as well as for industrial materials engineers and product designers seeking new materials to solve specific problems. MetFoam'99 focused on the advances of production and manufacturing technologies for metal foams, on the understanding of the fundamental relationships between their structure and their properties, and on the exploration of potential applications.

With about 150 participants from 18 different countries the conference was a very successful event. The 65 papers in the present book represent the current knowledge of most of the researchers who currently work in this fast growing research area. The editors wish to provide a valuable reference manual for these researchers for their future work.

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