

New Light Weight Materials Based on Metallic Hollow Spheres – Processing, Properties and Applications

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ABSTRACT

Metallic cellular structures based on metallic hollow spheres (MHS) are a new highly porous material. Single metal hollow spheres can be made with very good dimensional control due to the high performance of the manufacturing process. Hollow spheres structures can be realized by resin bonding, soldering and sintering of single spheres. This reveals a wide spectrum of different properties and possible applications. In this contribution we would like to focus on mechanical and acoustic properties. Mechanical tests have been carried out on single MHS and MHS-structures. Sintered MHS-structures were tested in exhaust systems and the results will be presented and discussed. Further applications are introduced and discussed.