Thixoinfiltration: a new approach to produce cellular and other low density metallic materials

http://www.firstlight.cn 2010-06-12

In the last two decades, cellular metallic materials have been increasingly produced and utilized in different sectors such as building and architecture, mechanical and chemical industries, for biomedical purposes among others, due to their unique combination of properties: low density, high impact absorption, damping properties, sound and thermal insulation, etc [1-3]. Such properties intend to fulfil growing demands by the society for

environmental friendly materials and processing techniques, besides increasing requirements of quality and performance of engineering artefacts [4-6]. Cellular metals can be classified,

according to the Rio summit in 1992, as an ecomaterial category 4– Materials for society and human health, sub-category III.b - Materials for reducing human health impact [7]. In particular as human implants, cellular metallic materials can represent a new approach to the usual plastic formed Ti implants [8].

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