Changcai Cui et al., J Material Sci Eng 2018, Volume 7
DOI: 10.4172/2169-0022-C2-095

Review of ultrasonic additive manufactured metal composite materials

Changcai Cui and **Yin Wang**
Huaqiao University, P.R. China

Ultrasonic additive manufacturing is a new rapid prototyping process for creating metal composite materials. Since ultrasonic additive manufacturing is capable of bounding many different metal materials at near room temperature within several micro seconds, it is possible to produce composite materials with superior performances very fast with protecting gas system. Because of absence of phase change during bounding of two metal foils, the shape processed won't deform much like procedure with phase change. In this work, a review of researches on metal composite materials produced by ultrasonic additive manufacturing is presented. Firstly, the principle of ultrasonic addictive manufacturing is introduced along with controlling factors provided by this equipment. Then the application fields for metal composite materials are summarized and the performances required for these new materials are discussed. Thirdly, an investigation of material testing systems for metal composite materials is conducted and limitations of these methods are analyzed. Finally, further application possibilities of metal composite materials are discussed and some problems for further research are also presented

Biography

Changcai Cui has completed her PhD from Harbin Institute of Technology (HIT). She is the Head of the department of precison measurement technology and instrumentation of Huaqiao University. She has published more than 70 papers in journals and confererences and has been a corresponding reviewer of some journals.

cuichc@hqu.edu.cn

Notes: