

Properties Modification of Fiber Metal Laminates by Nanofillers

Authors : R. Eslami-Farsani, S. M. S. Mousavi Bafrouyi

Abstract : During past decades, increasing demand of modified Fiber Metal Laminates (FMLs) has stimulated a strong trend towards the development of these structures. FMLs contain several thin layers of metal bonded with composite materials. Characteristics of FMLs such as low specific mass, high bearing strength, impact resistance, corrosion resistance and high fatigue life are attractive. Nowadays, increasing development can be observed to promote the properties of polymer-based composites by nanofillers. By dispersing strong, nanofillers in polymer matrix, modified composites can be developed and tailored to individual applications. On the other hand, the synergic effects of nanoparticles such as graphene and carbon nanotube can significantly improve the mechanical, electrical and thermal properties of nanocomposites. In present paper, the modifying of FMLs by nanofillers and the dispersing of nanoparticles in the polymers matrix are discussed. The evaluations have revealed that this approach is acceptable. Finally, a prospect is presented. This paper will lead to further work on these modified FML species.

Keywords : fiber metal laminate, nanofiller, polymer matrix, property modification

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