

A REVIEW ON MODIFICATIONS AND HYBRIDIZATION IN SYNTACTIC FOAM

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ABSTRACT

Syntactic foams are the materials synthesized by using pre-fabricated hollow microspheres which are commonly made of glass, ceramic, polymer or metal and bounded with a polymer. Syntactic foam has unique properties of high strength at low density thus these become widely used in subsea buoyancy applications. For several applications like marine, automotive and aerospace, syntactic foams are used as energy absorption sandwich core. The current study is focused to take a look of the work done in the area of characterization of Syntactic Foam composite materials and various modifications in synthetic foam. This study is attempt to take overview of different constituent materials used to make polymer composites, failure mechanism and manufacturing process of Syntactic Foam composite material. The behavior of such hybrid syntactic foam under tensile loading, compression loading, flexural loading and impact loading are the main areas of interest of researchers. This paper reviews work related to syntactic foam fabricated by using following two types of micro balloons that are hollow glass microspheres and fly ash cenospheres.

KEYWORD: Syntactic Foam, Polymer Matrix, Glass Microballoons & Fly Ash Cenosphere

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