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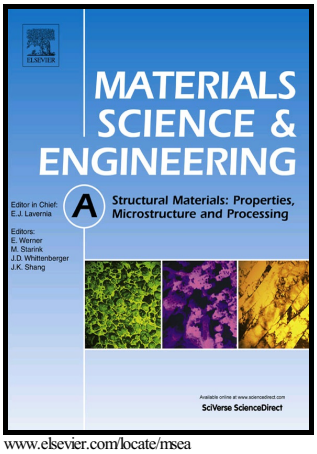

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The enhanced thermal and mechanical properties of graphite foams with a higher crystallinity and apparent density

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Abstract

Graphite powder, which has a highly graphitic structure, is used as filler material in the preparation of graphite foams (GFms) and enhances the foams' thermal–mechanical properties. GFms are prepared using the hydrogel template method with mesophase pitch, polyvinyl alcohol-acrylic acid (PVA-AAc) solution and graphite powder. GFms containing 0.3 w/w% added graphite exhibit as much as an 11.18% increase in crystalline thickness (Lc)