



Thermal Management Using Polymers and Polymer Composites and Their Applications

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Message from the Guest Editor

Efficient thermal management means an energy efficient system, it widely applied, like aerospace, automobiles, electric packaging, etc. Materials for such systems should help in effective dissipation of heat, improve performance and reliability for any application they are being employed.

These objectives can be greatly achieved by employing efficient thermal management materials. Polymer based composite using fillers like ceramic, carbon and metallic for thermal conduction applications with low phonon scattering at the matrix-filler interface can result in highly enhanced thermal performance. Not only polymer composites but exploring the fundamental properties of heat conduction in polymer chains and engineering those properties can provide a new avenue for the design and development of heat dissipation materials using neat polymers itself without need of fillers. Overall, thermal management using polymers and its composites can provide a wide spectrum of approaches to achieve a desired thermal performance.





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