

## Flammability of Banana Fibre Reinforced Epoxy/Sodium Bromate Blend: Investigation of Variation in Mechanical Properties

**Authors :** S. Badrinarayanan, R. Vimal, H. Sivaraman, P. Deepak, R. Vignesh Kumar, A. Ponshanmugakumar

**Abstract :** In the present study, the flammability properties of banana fibre reinforced epoxy/ sodium bromate blended composites are studied. Two sets of composite material were prepared, one formed by blending sodium bromate with epoxy matrix and other with neat epoxy matrix. Epoxy resin was blended with various weight fractions of sodium bromate, 4%, 8% and 12%. The composite made with plain epoxy matrix was used as the standard reference material. The mechanical tests, heat deflection tests and flammability tests were carried out on all the composite samples. Flammability test shows the improved flammability properties of the sodium bromated banana-epoxy composite. The modification in flammability properties of the composites by the addition of sodium bromate results in the reduced mechanical properties. The fractured surfaces under various mechanical testing were analysed using morphological analysis done using scanning electron microscope.

**Keywords :** banana fibres, epoxy resin, sodium bromate, flammability test, heat deflection

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