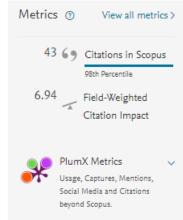
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The main aim of this paper is to develop kenaf-glass (KG) fibres reinforced unsaturated polyester hybrid composite on a source of green composite using sheet moulding compound process. Unsaturated polyester resin (UPE) and KG fibres in mat form were used at a ratio of 70:30 (by volume) with treated and untreated kenaf fibre. The kenaf fibre was treated with 6% sodium hydroxide (NaOH) diluted solution for 3 h using mercerization method. The hybrid composites were tested for flexural, tensile and Izod impact strength using ASTM D790-03, ASTM D618 and ASTM D256-04 standards respectively. The highest flexural, tensile and impact strength were obtained from treated kenaf with 15/15 v/v KG fibres reinforced UPE hybrid composite in this investigation. Scanning electron microscopy fractography showed fibre cracking, debonding and fibre pulled-out as the main fracture mode of composites and kenaftreated 15/15 v/v KG reinforced hybrid composite exhibited better interfacial bonding between the matrix and reinforcement compared to other combinations. © 2013 Elsevier Ltd. All rights reserved.



Cited by 43 documents

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composites Zhafer, S.F., Rozyanty, A.R., Shahnaz, S.B.S. (2017) AIP Conference Proceedings Fabrication and Properties of Biobased Layer-by-Layer Coated Ramie Fabric-Reinforced Unsaturated Polyester Resin Composites Yu, X., Pan, Y., Wang, D. (2017) Industrial and Engineering Chemistry Research View all 43 citing documents

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Afdzaluddin, A., Maleque, M.A., Igbal, M. (2013) Advanced Materials

Synergistic effect on flexural properties of kenaf-glass hybrid