

عنوان مقاله:

Tensile Properties of Alkali Treated and Raw Date Palm Fiber Reinforced PP/EPDM Composites

محل انتشار:

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نویسندگان:

M asadzadeh - *Department of Mechanical Engineering, South Tehran Branch, Islamic Azad University, Tehran, Iran*

R Eslami Farsani - *Centre of Excellence for Research in Advanced Materials and Structures, Faculty of Mechanical Engineering, K. N. Toosi University of Technology, Tehran, Iran*

S.M.R Khalili - *Centre of Excellence for Research in Advanced Materials and Structures, Faculty of Mechanical Engineering, K. N. Toosi University of Technology, Tehran, Iran*

خلاصه مقاله:

In this work, the tensile properties of polypropylene (PP)/ ethylene-propylene-diene-monomer (EPDM)/ date palm fiber (DPF) reinforced composites are investigated. Maleic anhydride-grafted-polypropylene (MAPP) is used as a compatibilizer to improve the compatibility of date palm fiber filled PP/EPDM composites. Date palm fibers are alkali treated to improve their suitability for use as reinforcements in composite materials. Both raw and treated DPF at four levels of fiber weight fraction (5, 10, 20 and 30 wt. %) are utilized for composite fabrication. Results indicated that the present of DPF has considerably increased the tensile strength of the PP/EPDM matrix. However treated fiber reinforced specimens showed better tensile properties as compared to the raw composites. Scanning electron microscopy (SEM) of the tensile fracture surfaces of the composites indicated that the MAPP and treatment fibers improved the interfacial interaction between and PP/EPDM matrix. More detailed results and discussion are presented in full length paper

کلمات کلیدی:

Date palm fiber, Polypropylene, EPDM, Tensile properties, natural composites

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