Injection Moulded of Lightweight Kenaf Fibre Thermoplastic Elastomer Composite for Automotive Components

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OBJECTIVE
To use renewable raw materials in car production

NOVELTY
New material: TPNR Blend Reinforced with Kenaf Fibre, PP/EPDM Blend Reinforced with Kenaf Fibre
Process: Compatibilizer agent, maleic anhydride polypropylene (MAPP)
Parameter: 1) Kenaf fibre loading 0-20 by vol%
2) 500 µm kenaf fibre size
3) MAPP 5 vol%

RESULTS
Effectiveness: Improved impact strength up to 60% by using TPNR
Improved impact strength up to 90% by using PP/EPDM

Commercial potentialities: Automotive industries

Sustainable development: TPE properties lying between rubber and plastic, make it different class of polymeric material. Both polymer blends can be processed using existing thermoplastic machinery at comparable prices. Use of natural fibre provide weight reduction and less harm to processing equipments.

PUBLICATIONS
1. H. Anuar, A. Zuraida. 2010. Accepted manuscript in Composites Part B. [IF=1.704].