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(57) Abstract :
ABSTRACT: Title: Material Selection and Manufacture of Automotive Roof Panel Using CFRP Hybrid Composite The present disclosure proposes a carbon fiber reinforced polymer (CFRP) composite (100) with carbon fiber powder for fabricating an automotive roof panel (101) to reduce weight of the roof panel and provide bending stiffness and impact strength. The CFRP composite (100) for the automotive roof panel (101) comprises an epoxy resin (102), a modifier (104), a curing agent (106) and one or more carbon fibers (108). The lightweight automotive roof panel (101) is developed in place of heavy-weight roof panels by using polymer-based composites instead of conventional materials. The proposed carbon-fiber-reinforced polymer composite (100) for fabricating the automotive roof panel (101) uses industrial wastes to reduce the manufacturing cost, material cost, disposal problems and mainly environmental pollution issues raised by industrial wastes.

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