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Material Science and Engineering Technology - Decision on Manuscript ID mawe.202100374.R1 [email ref: DL-RW-1-a]

Jörg Ellermeier <onbehalfof@manuscriptcentral.com> Mon, Jun 27, 2022 at 3:45 PM
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27-Jun-2022

Dear Dr. Ahmad,

it is a pleasure to accept your manuscript entitled "A new method of reinforcing graphene nanoplatelets in glass/epoxy composites" in its current form for publication in Material Science and Engineering Technology.

Please note although the manuscript is accepted the files will now be checked to ensure that everything is ready for publication, and you may be contacted if final versions of files for publication are required.

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Thank you for your fine contribution.

We look forward to your continued contributions to the Journal.

Sincerely,
Dr. Jörg Ellermeier
Editor, Material Science and Engineering Technology
joerg.ellermeier@tu-darmstadt.de

Reviewer(s)' Comments to Author:

Reviewer: 2

Precise explanatory statement for your decree which allows to comprehend evaluation / Möglichst detaillierte Begründung Ihres Urteils, die es den Autoren erlaubt, es nachzuvollziehen
Accepted. well done.

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Materialwissenschaft
und Werkstofftechnik
Materials Science and Engineering Technology

A new method of reinforcing graphene nanoplatelets in glass/epoxy composites

Journal:	*Material Science and Engineering Technology*
Manuscript ID	mawe.202100374.R1
Wiley - Manuscript type:	Research Article
Date Submitted by the Author:	n/a
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Keywords:	glass fiber, graphene nanoplatelets, nanomaterials, sonification, mechanical properties
Schlüsselwörter:	��, σ_f, ε_f, E_B, τ
Abstract:	This research aims to develop a method for the amalgamation of graphene nanoplatelets in glass/epoxy composites. The poor interface bonding between the fiber and matrix is critical and hinders the full performance of the composites. Glass fabric and epoxy were used as reinforcement and matrix in the composite, respectively. Graphene nanoplatelets were utilized as an additional nano-materials filler for the composites. Glass/graphene/epoxy and glass/epoxy composites were fabricated via vacuum infusion molding. The new method of applying graphene nanoplatelets as secondary reinforcement in the composite was developed based on proper functionalization in the sonication process. The physical, tensile, flexural, and short beam interlaminar properties of fabricated composites were examined to analyze the method's effectiveness. The results showed that density decreased by around 5%; however, thickness increased by around 34% after introducing graphene nanoplatelets into the composites. The tensile strength and modulus of the composites declined by approximately 19%, on the other hand, flexural strength and modulus increased by around 63.3% and 8.3%, respectively, after the addition of graphene nanoplatelets into the composites. Moreover, the interlaminar shear strength of the composite was enhanced by approximately 50%.