

## عنوان مقاله:

Creep and Recovery Behaviors of Using Graphene/ Epoxy, MWCNT/Epoxy and Graphene/MWCNT/Epoxy Nanocomposites

## محل انتشار:

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## خلاصه مقاله:

The creep and recovery behaviors of graphene/ epoxy, MWCNT/ epoxy and graphene, MWCNT/ epoxy nanocomposites were investigated by the DMTA testing. No difference was observed in creep behaviors of the neat epoxy and nanocomposites at low stress and ambient temperature. At elevated temperatures (below the glass transition temperature,  $T_g$ ) the creep resistance of all nanocomposites were increased in comparison with that of the neat epoxy. It is observed that MWCNT nanofiller had the most influence on increasing of the creep resistance of epoxy (61%) and decreasing the unrecovered strain (69%). The experiments also showed that the creep resistance of graphene/epoxy and graphene/MWCNT/epoxy nanocomposites was increased by 42 and 40, respectively. The experimental results showed that adding the graphene platelets cannot decrease the creep strain of the epoxy as much as the MWCNT. Finally, rheological models were employed and long term creep and recovery of the nanocomposites were predicted.

## کلمات کلیدی:

Creep, Recovery, Epoxy, Graphene, CNT, Hybrid Nanocomposite

## لینک ثابت مقاله در پایگاه سیویلیکا:

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