Improving the mechanical properties of epoxy adhesives using graphene nanoplatelets

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Abstract Text

Graphene and other carbon nanomaterials (CNM) due to its unique structure and excellent physical and chemical properties, has been used to increase the mechanical properties of the polymer resins (Young's modulus, tensile strength, etc.) [1-3]. Graphene nanoplatelets (GNP's) have attracted great interest in recent times due to a lower cost compared to carbon nanotubes and much lower than graphene. Several studies in which graphene nanoplatelets have been incorporated into epoxy resins have concluded that the addition of these produces an increase in modulus of elasticity, tensile strength and fatigue behavior [4-5]. The main problem with the use of CNM in the polymer matrix is its poor dispersion, which makes complex dispersion systems necessary, not always available. This study aims to investigate the effect of GNP´s on the mechanical properties of epoxy adhesives.

References

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