

## **Toughening of acrylic adhesives with carbon nanomaterials**

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Nowadays a widespread application of adhesives in many industrial fields is due to numerous advantages of bonded joints. However, researchers are still looking at how nanotechnology could be used to improve their performance and an intensive research is continuously conducted towards improving the properties of adhesives by using nanomaterials. Among them, carbon nanomaterials have attracted great interest in recent times due to their unique properties [1-3]. Several studies in which carbon nanomaterials have been incorporated into adhesives have concluded that the addition of them produces remarkable improvements in mechanical, electrical and thermal properties [4-6]. Silane-functionalized graphene and graphene nanoplatelets have been used in this work to reinforce an acrylic adhesive with the aim of improving toughness. To investigate their effect on the fracture properties, impact test and SENB test on bulk samples and double cantilever beam test and shear impact test on adhesive joints were done.

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