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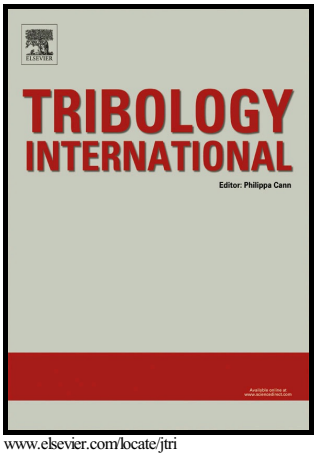

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Tribological behaviour and adhesion of carbon nanotubes grafted on carbon fibres

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Abstract

Carbon nanotubes (CNTs) grafted on fibres are widely used to reinforce composites and improve the fibre/matrix interface. This study concerned the tribological and adhesion properties of CNTs grafted on carbon fibres by the flame method. Reciprocating friction and adhesion tests were performed to examine the resistance of the CNTs on the fibres in different grafting conditions (various catalysts). Friction results show that under a normal load higher than 1 N, CNTs are totally removed after 2000 cycles of friction with catalyst n.2 while they are still present on the surface with catalyst n.1. Adhesion tests show that CNTs are quite resistant to the tack test, and that the CNTs/CFs interfaces seem instantaneously more resistant with the use of catalyst n.2.

Keywords: friction, wear, adhesion, carbon nanotubes (not in the list)

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