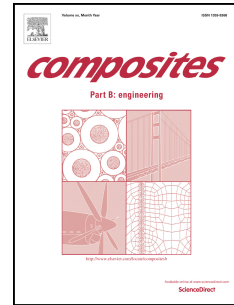


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1 Enhancement of Interfacial Adhesion Based on 2 Nanostructured Alumina/Aluminum Laminates

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11 ABSTRACT

12 Adhesive methods can enhance the dynamic impact resistance of composite armor
13 systems. We employed nanostructured interfacial adhesion to improve the bonding
14 strength of alumina/aluminum laminates. ZnO nanowires and anodized aluminum oxide
15 nanoholes were fabricated on alumina and aluminum surfaces, respectively, to increase
16 the surface area and roughness of adhered surfaces. These substrates were bonded to
17 form an alumina/aluminum laminated armor. Effects of nanostructured interfacial
18 adhesion were evaluated by performing drop-weight impact tests. Permanent
19

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