

Performance Enhancement of Reinforced Polymer Matrix Composites

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Technology Summary

Here we disclose a novel method for enhancement of composite performance by improved adhesion between components. Usually, the carbon fiber reinforced composites or other polymeric fiber reinforced composites exhibit both superior stiffness and toughness (that are often mutually exclusive) if the interfacial bonding is unique. In this case, we offer a selectivity of bonding type and control on the composites' performance. Instant invention discloses new methods to create improved adhesion between polymeric or carbon fibers and a thermoplastic matrix. In some embodiments, this method eliminates the need for fiber sizing. In some embodiments the matrix material morphology is altered by controlled interfacial adhesion.

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