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Interfacial damping properties of polymeric composites: Effect of interfacial strength YAPING HUANG, Nanyang Institute of Technology — Experimental studies on interfacial properties of polymeric composites, such as glass transition temperature, showed that the interfacial strength was critical. Numerical studies could also predict interfacial properties based on interfacial strength. In this study, interfacial damping properties and interfacial strength of fiber based polymeric composites were measured by dynamic mechanical tests and micro-bond tests, respectively, with the objective of quantitative analysis. Properties of polymers, varying from polar to non-polar, from amorphous to semi-crystalline, from low molecular weight to high molecular weight, were investigated. The results showed supportive predictions about interfacial damping properties of fiber based polymeric composites.

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