

Study on Mechanical Properties of the Composite Resin Matrix Fiber Reinforced

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Fiber reinforced polymer Resin matrix composites have the good performance, and it is widely used in various fields to release the impact load. Therefore, the study of stress and strain characteristics is quite useful to in providing the reliable basis for the structural design. The tensile test is one of the important methods to detect the mechanic property of the material, which can be used to observe the deformation behavior of the material. Reinforced materials are often added to improve the mechanical properties of the composites, and characteristics and mechanical properties of composite materials will be obvious anisotropic. Damage behavior of resin matrix composite material with fiber reinforced is complex, and mechanical properties of it are quite difficult to obtain just through the experiments, so the finite element method becomes a useful tool to get the mechanical properties. In this paper, we developed the conventional finite element method to investigate the mechanical properties of composites material. The verification proves that the modified finite element method can get much accurate results.

Keywords: Mechanical property; Composites; Resin based material; Fiber reinforced.

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