

Parameters Controlling the Performance of Thermoplastic Composite: Component and Process

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Thermoplastic composites have attracted great attention from industries for lightweight and high strength solution, especially in transportation applications (e.g. automotive, aerospace), because of their ability to form high strength/high impact parts with lightweight benefit. Moreover, the key turns are also from their capabilities to be molded fast so increasing part productivity, their high recyclability, applicable for hybrid structure composing different materials in one part (e.g. steel, aluminum, composite). To maximize the performance of composite structure as designed, understanding the influence of components and process to form composite are important. Therefore, the case studies on influences of type, morphology and aspect ratio of reinforced materials, the interfacial bonding/interaction between reinforced materials and polymer matrix, properties of polymer resin, and process to form high quality composite will be highlighted.

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