Thermoplastic Resin

Subjects: Polymer Science

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A Thermoplastic Resin is a polymer that softens reversibly on heating and solidifies on cooling, so it can be melted, reshaped and reprocessed without chemical cure [1]. A new liquid thermoplastic resin reinforced with jute fibres forms a bio-composite whose temperature- and frequency-dependent behaviour has been analysed [1]. Press and injection hybrid moulding of carbon fibre-reinforced thermoplastic parts depends on the injection material and the resin layer [2]. Adding thermoplastic resin and composite to epoxy resin toughens the thermoset, lifting mechanical and thermal properties [3]. Introducing single-walled carbon nanotubes into thermoplastic acrylic resin improves the electrical and mechanical properties of carbon fibre laminates [4]. Thermoplastic polyurethane blended with eugenol-based phenoxy resin gains self-healing behaviour through exchange reactions [5].

reprocessable polymer | fiber reinforcement | epoxy toughening | carbon fiber | acrylic resin | self-healing

References

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