

MCC Develops Highly Heat-Resistant and High-Strength Carbon Fiber Prepreg

Mitsubishi Chemical Corporation

Mitsubishi Chemical Corporation (MCC; Head office: Chiyoda-ku, Tokyo; President: Masayuki Waga) has developed a cyanate ester carbon fiber prepreg* that provides both high heat resistance and excellent strength.

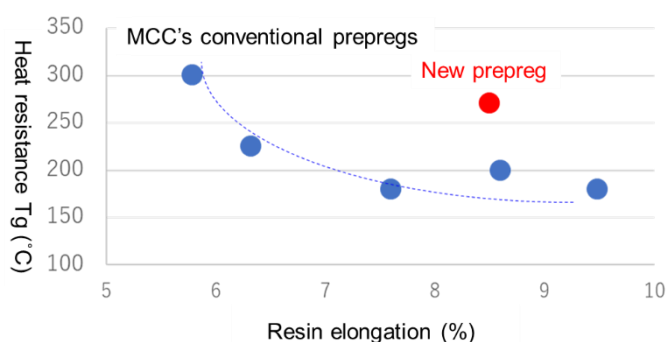
Against a backdrop of tighter environmental regulations, needs for lighter aircraft and automobile bodies are growing in the mobility sector. Observers are thus anticipating increased use of carbon fiber reinforced plastics (CFRPs), which are both light and strong. Components related to automobile engines and so on also require high heat-resistance and high-strength, but there has generally been a tradeoff in conventional CFRPs between heat resistance on one side and strength and processability on the other. Component manufacturers are thus constantly competing to develop items that deliver an optimal balance of these key factors.

MCC's prepreg achieves excellent results on both sides of the traditional tradeoff by using a cyanate ester-based resin developed by combining raw materials and catalysts technologies, an area where the company has forged a solid track record. Based on these technologies, the prepreg not only withstands temperatures of up to 250°C but also provides the flexibility and toughness that carbon fiber offers. The prepreg can also be cured in the same molds as traditional epoxy resin-based CFRP, giving it better storage stability than conventional cyanate-ester resins and delivering excellent processability for customer applications. With the prepreg already in use as a CFRP component around racing engines, MCC is aiming to expand the new product's marketing scope from applications in the automotive sector to uses in industrial applications, such as robots in high-temperature environments, as well as aircraft applications, space applications, and more.

MCC is currently developing multiple new products to meet increasingly diverse, sophisticated customer needs. Moving ahead, the company will continue to propel its various businesses forward by providing optimal solutions in a timely fashion.

*A sheet form of carbon fiber intermediate material impregnated with resin

Reference: The new prepreg vs. MCC's conventional prepreps



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