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## **Manufacturing of unidirectional glass/epoxy prepreg with microencapsulated liquid healing agents**

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### **Abstract**

Unidirectional glass/epoxy prepreg with embedded microcapsules containing a liquid healing agent was developed for the fabrication of laminated self-healing fiber-reinforced polymer matrix composites (PMCs). Microcapsules containing a liquid healing agent were distributed throughout a prepreg fabric using a custom designed prepregger. The microcapsules of ca. 2.5  $\mu\text{m}$  in diameter resided in the fiber interstitial spaces and remained intact during prepregging and subsequent hot-pressing of laminated composites. The prepreg fabric displayed uniform distribution of microcapsules within the fiber yarns and throughout the fabric. Laminated composites produced with the prepreg attained 0.56 fiber volume fraction with 0.063 microcapsule volume fraction distributed uniformly throughout the composite. Embedded

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