

CHMI-24-01: Joining Carbon Fiber Thermoplastics to Dissimilar Materials

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This project explores innovative methods for joining carbon fiber reinforced thermoplastics (CFRTPs) to other materials such as metals, thermosets, and dissimilar thermoplastic composites. These advanced thermoplastics offer advantages like recyclability, high strength, and compatibility with automated manufacturing. However, their low surface energy and/or lack of surface functionality makes bonding to dissimilar materials challenging. The CHMI team is investigating surface treatment techniques to improve adhesion and joint performance. The goal is to develop reliable, efficient joining methods that support broader adoption of CFRTPs in industries like aerospace, where lightweight and sustainable materials are increasingly important.