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Use of Vacuum Assisted Resin Transfer Molding for Repair of Composite Materials and Structure

Advanced single-side repair technology for composite sandwich structures eliminates heat damage and enables repairs in restricted-access areas.

Composite sandwich structures are used in a wide variety of applications ranging from maritime structure to spacecraft. Repairs of such structures are often complicated, especially when only one side of the composite structure is damaged or when the area to be repaired is difficult to access. Bonding of the honeycomb structure to the remaining composite side during one-sided repairs often leads to heat damage for surrounding materials.

Researchers at Purdue University have developed an advanced technique for repairing sandwich composite structures. This technology allows for advanced single-side repair without the usual heat damage that arises from bonding the honeycomb structure to the intact composite structure. Additionally, this technology allows for repair completion in areas where both sides of the composite structure do not necessarily have adequate access. Together, these techniques allow for more effective repair of sandwich composite structures.

Advantages:

-Allows repair in areas with poor access

-Repair sandwich composite structures without heat damage

Potential Applications:

-Materials

-Manufacturing

TRL: 6

Intellectual Property:

Technology ID

65773

Category

Materials Science & Nanotechnology/Composites & Hybrid Materials

Chemicals & Advanced Materials/Materials Processing & Manufacturing Technologies

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