Self-Healing of CFRP Composite T-joints

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ABSTRACT

The effect of the incorporation of self-healing functionality in CFRP composite T-joints has been investigated. Effective self-healing of plain composites using vascular systems and thermoplastic inserts has been demonstrated previously. This work aims to apply these strategies to more complex and industrially relevant composite structures. Three different strategies were examined; vascular networks within the deltoid region, vascular networks within the overlaminate region and thermoplastic EMAA inserts placed adjacent to the deltoid. Specimens were loaded under quasi-static and fatigue conditions until damage was incurred, before being healed and re-tested to determine the extent of material recovery.