



PROCESSING, STRUCTURE AND PROPERTIES OF LAMINATES MANUFACTURED VIA A RAPID OUT-OF-AUTOCLAVE TECHNIQUE

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This paper outlines the development of resin systems for a fluid-controlled heat transfer (FHT) technique (QuickstepTM) designed for rapid out-of-autoclave processing of polymer composite components. The use of the technique for the processing of an epoxy/carbon fibre aerospace material is also discussed. The high temperature ramp rates achievable using FHT are shown to reduce resin viscosity, facilitating void removal via resin flow. In addition, more complex manipulation of the thermal profile in the early stage of the cycle has significant effects on the mechanical properties of the composite whilst simultaneously reducing the total cycle time relative to autoclave processing.