

New Processing Method and Materials for Thermoplastic Advanced Composite Fabrication

Tom Heyer, Ticono LLC

Benjamin Luedtke, Quickstep Technologies Pty Ltd.

Abstract

Continuous Fiber Reinforced Thermoplastic materials can bring a wide range of benefits to composite designs, however the availability of efficient processing methods has been limited. The use of appropriately selected continuous fiber reinforced thermoplastic prepregs with the Quickstep process can efficiently produce fully consolidated composites with unique properties. This paper describes these materials, including unidirectionally-reinforced POM, polypropylene and TPU, and the characterization of laminates produced via the patented Quickstep liquid heating and cooling process.