



Guidelines for Characterization of Repair Materials

John Tomblin, Rachael Andrulonis, Royal Lovingfoss, Jeff Gilchrist
Wichita State University
Wichita, KS

ABSTRACT

In order for new repair material platforms to be safely qualified and certified, the part must be proven to be well-designed for operation, safety and durability. The primary goal of this JAMS program is to develop a qualification framework, specific to the repair material platform, which considers the variability of the process and outlines parameters needed for process control.

The material selected for validation of this framework, based on industry feedback through a survey and discussion with industry members, is Solvay 5320-1 T650 PW with FM300-2 adhesive. A unique test plan focusing on repair specific qualification tests was developed in conjunction with the Industry Steering Committee and the SAE Commercial Aircraft Composite Repair Committee (CACRC). As the material selected has previously been qualified by the National Center for Advanced Material Performance (NCAMP) in a non-repair process, the test plan includes an equivalency portion of non-repair specific tests, as well as a set of repair qualification tests, all utilizing a new repair processing specification. An overview of the methodology selected and the trial tests conducted will be presented. In addition, plans to submit the data and specifications to CMH-17 and SAE International will be discussed.