

*FAA Certification of Printed Wiring Assemblies*

James M. Peterson, Boeing Commercial Airplanes, Seattle, WA

A regulatory requirement on printed wiring assemblies (PWAs) is that they show compliance to the 12-second vertical Bunsen burner test in 14 CFR, Part 25, §25.853. PWAs are fabricated from laminates typically defined by one of the “slash sheet” (specification) from IPC 4101, electrical components, and a conformal coating defined by IPC-CC-830. Some laminates and conformal coatings are required to meet UL94 V0 for qualification and quality control. There are generally no flammability requirements imposed by IPC on finished PWAs.

Finished PWAs must, however, meet 12-sec vertical for FAA certification. PWAs fabricated from laminates and conformal coatings which must meet UL94 V0 have been found to meet 12-sec vertical with high margin. Certification data generated on PWAs fabricated from specific IPC 4101 “slash sheets” and IPC-CC-830 conformal coatings can be submitted to the FAA to certify PWAs of the same composition but of different thicknesses, on the basis of similarity. Provided the FAA accepts this means of compliance, it is unnecessary to generate certification data on each PWA.