

Renovation & Repair Task Group

The task group discussed the basic problems associated with the renovation, refurbishment, or alteration of any cabin interior surface. When an interior alteration takes place (painting, relaminating, etc.), the interior must still remain compliant with the applicable flammability FAR's (vertical Bunsen burner, 100/100, or 65/65/200). In order to show compliance, a test coupon must be constructed to represent the anticipated final interior surface build-up. The difficulty arises when the appropriate substrates are not available to construct a representative test coupon. In many instances, the materials needed to construct a 10-year-old substrate are no longer available, as older resins have been superseded by newer, more fire resistant types. This situation often prevents an operator from performing the necessary cosmetic upgrades to the aircraft interior, or forces them to use a costly "cut-out" section of an existing interior surface to run a compliance test.

The task group also discussed situations where inconsistencies have resulted in the field with regard to the re-certification process of altered materials. In several instances, operators were given permission to install new surface materials without conducting the appropriate flammability tests. As mentioned, when interior surfaces are altered, flammability tests are required using a test coupon representative of the interior surface. It is not permissible to run a flammability test on a substrate other than one representative of the interior being modified. It was discovered that FAA 8110-3 forms were being improperly used to certify individual components (decorative laminate) of an interior system. It is impossible and unlawful to issue heat release rate or other flammability results for individual components such as paint or decorative laminate, since there is no way of determining what substrate they will be used with in an actual aircraft. The FAA Transport Directorate and several Certification Offices became aware of this situation several months ago, and have circulated a memo reiterating the proper method of conducting compliance tests in the event of an alteration.

Action Item: Formulate a brief document (similar to the FAA memo) that summarizes the current method of certifying interior renovations, including the use of "cut-out" samples, and post it on the Fire Safety website. This should help eliminate some of the inconsistencies that have occurred during the recertification of altered interior surfaces.

In light of the difficulties in obtaining the appropriate substrate material for constructing representative test coupons, the task group discussed possible alternatives. Many of these alternative approaches have been discussed in previous Materials Working Group meetings. The suggestions ranged from the use of substitute panels, to surrogate panels, to critical panels. Each proposed method comes with its share of drawbacks, ranging from the high cost to produce these panels to their reduced accuracy. Although it is currently possible to re-certify altered materials using any one of these approaches on a case-by-case basis, the task group requested that a standardized alternate means of compliance (AMOC) be developed.

Action Item: The FAA Tech Center will investigate some of the AMOC methods that were suggested previously to determine if any could be refined and implemented into the Fire Test Handbook.

Many of the discussion items regarding the use of surrogate materials for conducting compliance tests have taken place in the past. A fair amount of research testing on the use of surrogate materials was also previously conducted, but a formal report was never finalized.

Action Item: Complete the Technical Report, “Heat Release and Smoke Testing of Surrogate Materials”

Lastly, the task group agreed that a meeting between government and industry officials intimate with this problem would be very helpful. The intent would be to achieve more participation from the operators, who may not realize the scope and magnitude of the problems associated with the re-certification of altered materials.

Action Item: The FAA Tech Center will arrange a formal meeting with the Transport Airplane Directorate (Seattle), Certification Offices, operators, and material suppliers to discuss the problem and develop solutions.