

Burnthrough Topics for future general guidance
3/17/06

Lower lobe cargo doors: lower lobe cargo doors leading into class C cargo compartments, and having a complete liner on the door meeting the requirements of the 'ceiling portion' of appendix F, part III, do not require modification to the insulation.

Passenger doors: If less than 12" is in the lower half, no modification required. If 12" or more, and insulation is mechanically fastened, add barrier material to insulation, but no test for attachment required.

Wing box: The wing box itself does not require improved insulation (assuming it is insulated). Note that the insulation on outer skin in the fuselage above the wing box does require improved burnthrough protection (lower half only).

Fasteners (not already covered in AC 25.856-2): Fasteners that maintain the barrier, and are potentially exposed to the fire do not require test, if they are of a material whose melting point exceeds the fire temperature. Other fasteners should be demonstrated by test. Fasteners that are not exposed to the fire can be aluminum or high temperature plastic. Attachments to the structure need not be tested if the attachment to the structure is not critical in maintaining the barrier.

Installation (attachment) tests: The attachment test is primarily to ensure the *continuity* of the barrier, rather than fire resistance of the material system. Heat flux is not measured in this test, because the ability of the material to resist heat transfer should have been demonstrated in the basic material test. The installation test shows whether the attachment materials and methods will prevent physical fire penetration.

Window line: Some allowance may be possible if the half-way point intersects the passenger windows. That is, adding insulation between closely spaced windows will not contribute to burnthrough protection in some cases. However, the variation in design is too great to generalize this.