

Information available for use in proposing methods of compliance with § 25.856(b)

Cases where improved insulation “would not contribute to fire penetration resistance” (ref. § 25.856(b)):

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 inside the door.

Passenger doors: If less than 12” of the door is in the lower half, no modification to the insulation is required. If 12” or more, and insulation is mechanically fastened, add barrier material to insulation, but no test for attachment required. If the insulation is not mechanically fastened,

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).

Method of Attachment:

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.

Airplane Geometry:

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 airplane design is too great to generalize this.