U.S. Department
of Transportation
**Federal Aviation
Administration**

Memorandum

Subject: INFORMATION: Seat Cushion Fireblocking System Approval Procedures

Date: OCT 9 1987

From: Manager, Aircraft Certification Division
ASW-100

Reply to
Attn. of:

To: All Branches and MIDO's, Southwest Region

The attached Fireblocking System Approval Procedure establishes the Division's policy as to how engineering approvals of fireblocking systems are to be accomplished.

It is intended that this procedure be freely provided to all persons and organizations seeking guidance on how to obtain engineering approvals of fireblocking systems as required by FAR 25.853(c), Amendment 25-59; FAR 29.853(b), Amendment 23; FAR 121.312(b); and FAR 135.169.

Please give this information wide dissemination within your organization and to other interested parties.

for L. B. Andriesen

Attachment

FIREBLOCKING SYSTEM APPROVAL PROCEDURE

Reference: FAR 25.853(c), Amendment 59; FAR 29.853(b), Amendment 23; AC 25.853-1

1. The objective of this procedure is to describe the steps leading to an initial engineering approval of a fireblocking system of the type described in AC 25.853-1, paragraph 4.

2. Applicant (aircraft owner/operator, modifier, TSO holder, cushion manufacturer, etc.) submits test proposal which includes a test specimen description to Aircraft Certification Office (ACO) (list attached) for approval. This proposal must meet the requirements of FAR 25.853(c), Amendment 59, or FAR 29.853(b), Amendment 23, and must describe the production cushions as they will be installed in the aircraft and the test specimen cushions in sufficient detail to allow the ACO to make a finding that the test specimen configuration satisfactorily represents the production configuration. Successful fireblocking test completion validates the fireblocking system to be used in production cushions. See AC 25.853-1 for specific guidance.

NOTE

The test proposal may include an applicant's test procedure or it may incorporate by reference the procedure of an FAA approved fireblocking test facility.

NOTE

The term "production cushions" as used in this procedure refers to the actual cushion configurations to be approved as part of a new type certificate or supplemental type certificate, TSO seat, or unique product (e.g., one or more aircraft with a variety of types of seats being refurbished to meet the fireblocking requirements).

3. ACO approves test proposal in writing to applicant. The letter will advise the applicant of the requirement for conformity and identify the appropriate Manufacturing District Office (MIDO) to contact for conformity.

4. ACO requests MIDO (through Manufacturing Inspection Branch if required) to conform test specimens.

5. Applicant presents test specimens to MIDO for conformity and MIDO conforms test specimens. Test specimens may have been built by applicant or by someone else on applicant's behalf.

6. Applicant submits test specimens with conformity tags (FAA Form 8130-3) to an FAA approved fireblocking test facility for test.

NOTE

Cushion components must also have successfully completed the self-extinguishing flammability tests required by FAR 25.853 or 29.853 for each lot or batch of components used.

7. Test specimens are tested per FAR 25.853(c), Amendment 59, in accordance with an FAA approved test plan at an FAA approved fireblocking test facility. These tests must be witnessed by the FAA or a Designated Engineering Representative (DER) that has been delegated to witness and approve the results of fireblocking tests. Test results must be approved and submitted to the same ACO that approved the test proposal.

8. The ACO issues a letter of engineering approval (sample attached). Alternatively, when specifically delegated to do so, a DER may grant approval by use of FAA Form 8110-3. Approvals will be specific as to what combination(s) and arrangement of materials are approved and should refer to the production cushion descriptions contained in the test specimen proposal. Approvals should also reflect any limitations in material or modification procedures and a requirement that any production cushions made with the approved fireblocking system be identified as meeting the standards of FAR 25, Appendix F, Part II.

NOTE

A fireblocking system approval is an engineering approval only and is not an authorization to produce/install parts. Persons who want to manufacture cushions for sale must obtain FAA-PMA from the MIDO. Modification of existing cushion installations or installation of new cushions with the approved fireblocking system in aircraft must be approved and the aircraft returned to service under the provisions of FAR 43.

9. Any changes to the production cushion fireblocking system described in the original approved test specimen proposal must be submitted to the ACO for evaluation and approval prior to incorporation of the changes into production cushions. AC 25.853-1 allows some latitude in material substitutions without repeating the fireblocking tests, but the ACO must make the judgment as to whether retest is required.

SAMPLE FIRE-BLOCKING SYSTEM APPROVAL LETTER

(DATE)

(ADDRESS)

(SALUTATION)

As a result of the successful completion of seat cushion flammability tests accomplished by (TEST FACILITY) in accordance with FAA approved test plan (IDENTIFICATION BY NUMBER, COMPANY NAME, REVISION, AND DATE), we hereby issue this letter of engineering approval for the following parts which make up the fire-blocking system described in FAA approved test specimen proposal (IDENTIFICATION BY NUMBER, COMPANY NAME, REVISION, AND DATE):

SEAT BACK:

Dress cover(s): (CHEMICAL COMPOSITION, FABRIC WEIGHT, WEAVE, MANUFACTURER(S), MANUFACTURER'S PART NUMBER, LOT AND/OR BATCH NUMBER, AND CHEMICAL TREATMENT, (IF ANY.))

Foam(s): (CHEMICAL COMPOSITION, DENSITY, MANUFACTURER, MANUFACTURER(S) PART NUMBER, LOT AND/OR BATCH NUMBER, AND CHEMICAL TREATMENT (IF ANY.))

Blocking Layer(s): (FABRIC WEIGHT, CHEMICAL COMPOSITION, MANUFACTURER, MANUFACTURER'S PART NUMBER, LOT AND/OR BATCH NUMBER, AND CHEMICAL TREATMENT, IF ANY.))

Sewing: (TYPE, THREAD SIZE, MANUFACTURER, MANUFACTURER'S PART NUMBER, TYPE OF STITCH, STITCH FREQUENCY, SEAM ALLOWANCE.)

Adhesive(s): (CHEMICAL COMPOSITION, MANUFACTURER, MANUFACTURER'S PART NUMBER.)

SEAT BOTTOM: (Same information as above.)

The validity of this approval for incorporation of the above approved fire-blocking system in cushions that will be installed in certificated aircraft is contingent on the following:

1. The cushions must be fabricated in the same manner as the "production" cushion material arrangements shown in FAA approved test specimen proposal (IDENTIFICATION BY NUMBER, COMPANY, REVISION, AND DATE).

2. The cushion components will not be treated with soil inhibitors or other chemicals unless these chemicals were included as part of the fire-blocking system tests.

3. All cushions must be identified as having met the standards of FAR 25, Appendix F, Part II.

4. This fire-blocking system approval is an engineering approval only,

and is not an authorization to produce/install parts. Persons who want to manufacture cushions for sale must obtain FAA-PMA from the Manufacturing Inspection District Office. Modification of existing cushion installations or installations of new cushions with the approved fireblocking system in aircraft must be approved and the aircraft returned to service under the provisions of FAR 43.

5. Applicants must have evidence that materials used in the production cushions conform to materials used in the approved fire-blocking system test specimen and that these materials have successfully completed the self extinguishing flammability tests required by FAR 25.853 or 29.853 for each lot or batch of components used.

6. Any change in the fire-blocking system including changes to dress covers requires re-evaluation and approval by the ACO.

Sincerely,

(SIGNATURE AND TITLE OF AIRCRAFT CERTIFICATION OFFICE MANAGER)

AIRCRAFT CERTIFICATION OFFICES (ACO's)

1. Boston Aircraft Certification Office
   12 New England Executive Park
   Burlington, MA 01803 (617) 273-7118
   for MA, CT, RI, VT, NH, ME

2. New York Aircraft Certification Office
   181 South Franklin Ave., Room 202
   Valley Stream, NY 11581 (516) 791-6680
   for NY, PA, NJ, MD, VA, WV, DE

3. Atlanta Aircraft Certification Office
   Suite 210, 1669 Phoenix Parkway
   Atlanta, GA 30349 (404) 991-6121
   for KY, TN, SC, NC, GA, FL, AL, MS

4. Chicago Aircraft Certification Office
   2300 East Devon Ave., Room 232
   Des Plaines, IL 60018 (312) 694-7357
   for IL, MI, OH, IN, WI, MN, ND, SD

5. Wichita Aircraft Certification Office
   1801 Airport Road, Room 100
   Mid-Continent Airport
   Wichita, KS 67209 (316) 946-4400
   for KS, MO, IA, NB

6. Seattle Aircraft Certification Office
   17900 Pacific Highway S. C-68966
   Seattle, WA 98168 (206) 431-1900
   for WA, OR, ID

7. Anchorage Aircraft Certification Office
   Federal Building, Box 14
   701 C. Street
   Anchorage, AL 99513 (907) 271-5927
   for AL

8. Denver Aircraft Certification Office
   10455 East 25th Ave.
   Aurora, CO 80010 (303) 340-5575
   for MT, CO, UT, WY

9. Los Angeles Aircraft Certification Office
   4344 Donald Douglas Dr.
   Long Beach, CA 90808 (213) 514-6330
   for CA, NV, AZ, HI Large Transports

10. Western Aircraft Certification Office
P. O. Box 92207, Worldway Postal Center
Hawthorne, CA 90009-2007 (213) 536-1351
for CA, NV, AZ, HI - All other

11. Airplane Certification Branch
Fort Worth, TX 76193-0150 (817) 624-5150
for TX, NM, OK, AR, LA Airplanes manufactured in those states by Mooney, Fairchild, Swearingen plus those modified by Dee Howard Corporation

12. Helicopter Certification Branch
Fort Worth, TX 76193-0170 (817) 624-5170
for TX , NM, OK, AR, LA Rotorcraft

13. Special Programs Branch
Fort Worth, TX 76193-0190 (817) 624-5190
for TX, NM, OK, AR, LA Airplanes except those listed under Airplane Certification Branch