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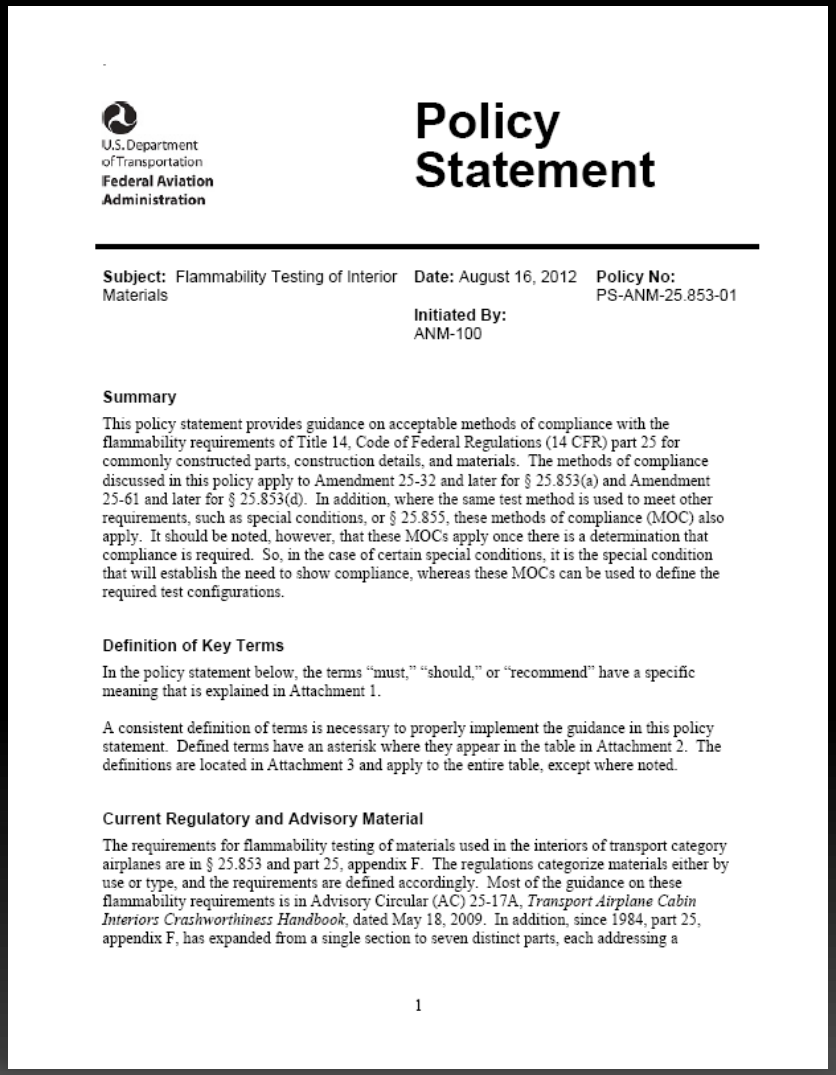
FAA POLICY STATEMENT – FLAMMABILITY TESTING OF INTERIOR MATERIALS – REQUESTED ADDITIONS

October 20, 2015

Current Status

- FSTG published an FAA final report consisting of the group's methodologies, rationale, findings and MOC recommendations. http://www.fire.tc.faa.gov/pdf/tc12-10.pdf
- FAA Policy Statement was released closely based on FSTG's FAA Final Report in August 2012. The most recent revision (R2) was released on July 3, 2013.
  - PS-ANM-25.853-01-R2



U.S. Department of Transportation
Federal Aviation Administration

Policy Statement

Subject: Flammability Testing of Interior Materials | **Date:** August 16, 2012 | **Policy No:** PS-ANM-25.853-01

Initiated By: ANM-100

Summary

This policy statement provides guidance on acceptable methods of compliance with the flammability requirements of Title 14, Code of Federal Regulations (14 CFR) part 25 for commonly constructed parts, construction details, and materials. The methods of compliance discussed in this policy apply to Amendment 25-32 and later for § 25.853(a) and Amendment 25-61 and later for § 25.853(d). In addition, where the same test method is used to meet other requirements, such as special conditions, or § 25.855, these methods of compliance (MOC) also apply. It should be noted, however, that these MOCs apply once there is a determination that compliance is required. So, in the case of certain special conditions, it is the special condition that will establish the need to show compliance, whereas these MOCs can be used to define the required test configurations.

Definition of Key Terms

In the policy statement below, the terms "must," "should," or "recommend" have a specific meaning that is explained in Attachment 1.

A consistent definition of terms is necessary to properly implement the guidance in this policy statement. Defined terms have an asterisk where they appear in the table in Attachment 2. The definitions are located in Attachment 3 and apply to the entire table, except where noted.

Current Regulatory and Advisory Material

The requirements for flammability testing of materials used in the interiors of transport category airplanes are in § 25.853 and part 25, appendix F. The regulations categorize materials either by use or type, and the requirements are defined accordingly. Most of the guidance on these flammability requirements is in Advisory Circular (AC) 25-17A, *Transport Airplane Cabin Interiors Crashworthiness Handbook*, dated May 18, 2009. In addition, since 1984, part 25, appendix F, has expanded from a single section to seven distinct parts, each addressing a

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Questions of Interpretation

- Since its release, there have been questions regarding the interpretation of the policy.
- Revision 1 of the Policy clarified a number of those issues.
- Revision 2 clarified certain information on synthetic leather.
- A presentation given at the Triennial in Philadelphia in 2013 provided some additional clarifications.
- There has since been requests for additional MOCs, wider applicability and further clarifications.

Policy Statement Clarifications

- The following pages contain questions and requests received from industry regarding the Policy Statement.
- The questions are in the general order of the Policy Statement reference numbers.

Other Rule Applicability

- 45 Degree Bunsen Burner Requirements
- 60 Degree wire (color, gauge)
- Oil Burner (color of Tedlar, paint)
- (Check what is already in current ACs)

Clarifications – PS 3 Thickness Ranges – Core versus Panel Thickness

- Clarify that the thickness ranges may be based on either the nominal core thickness or the nominal panel thickness. The comparison must be consistent, core thickness compared to core thickness, or panel thickness compared to panel thickness (not including decorative thickness).

Clarifications – PS 3 Thickness Ranges – Sliding Thickness Range

- Add a sliding range for panels to PS3 and add mm.

Clarifications – PS 7 Paint Color as applied to Powder Coatings

- Ad d powder coating to PS 7.

Clarification of PS 9 Color of Thermoplastics - Multi-Thickness Parts

- Define how PS9, Thermoplastic, Elastomers and decorative non-textile floor coverings color, can be used where the part varies in thickness. One approach is to test the thinnest nominal thickness of the part or extrusion, or for sheet, test the stock thickness.
- Clarify PS9 can be used in stack-ups

Definition – PS 9 Color of Thermoplastics, .. – Integrally Colored

- Integrally Colored is defined by the color of the material being the same throughout the material (given some variance due to fillers and process effects). For example, thermoplastics tend to be integrally colored or pigmented, while decorative laminates tend to be printed on a single surface.

PS 10 Face as a Separate Entity – FASE

- Change wording to ≥ ¼".
- Allow use of test data from a ¼" panel or less for the individual faces of a panel > ¼"
- Provide more examples on the application of FASE

Clarifications – PS 13 Synthetic Leather/Suede

- Allow applicability for 60 second vertical burn compliance.

Clarifications – PS 14 Metal

14	Aluminum/steel/ titanium parts (excluding powder coating)	Unfinished metal parts do not require testing. unless they contain more than 10% magnesium. Finished metal parts do not require testing provided: 1) standard paint/finishes are used, and 2) the parts do not contain more than 10%magnesium. Standard paint/finishes are defined as inorganic finishes (e.g., anodize, alodine), epoxy primers and topcoats, urethane topcoats, and corrosion inhibiting dry films. See item 15 below, for powder coatings.	The test requirement is decided based on size criteria. (See footnote 1.)

- Add additional metals to PS14 or say all metals excluding Mg (as noted in other MOCs) and those in row one of the periodic table.
- Clarify non-bonded bare, plated or inorganic coated metal (anodize, conversion coatings) do not need to be tested for OSU and Smoke. Organic coatings on metals (paint, primer, corrosion inhibiter, etc) must be tested for Heat Release and Smoke if over the size criteria.

Clarifications – PS 16 Embedded Metal Detail

- Add metal bonded only to the surface of a panel can use PS16 for showing compliance.

PS19 Windows

- Clarify what is a window, i.e., dust cover in sidewall is a window.

PS20 Circuit Boards

- Clarify to allow any copper tracing on test sample to certify any other board of the same construction.

Clarifications – PS 21 Bonded Details - Carpets

- Clarify that floor carpet and adhesive coated carpet (peel-and-stick) be tested alone (with release liner removed can be substantiated using of PS 21, options 1, 2, 3 or 4. Adhesive coated carpet squares (peel-and-stick) may be tested per options 3 on a worse case laminate or per option 4.
- Note – Not applicable to vertically (except stair risers) mounted textiles.

Clarifications – PS 21 Bonded Details – Detail Definition

- Clarify the definition of a bonded detail. Definition in PS currently only allows items bonded to "panels". Clarify as a surface larger than the detail being bonded.
- For two equal parts, test the bonded construction.
- Are there other MOCs that can be applied to parts of equal size, or can PS21 be used as well?

Clarifications – PS 21 Bonded Details – Multiple Details

- Clarify that PS 21 be used when bonding 2 or more details to a panel. For example, a decal bonded to a metal plate bonded to a panel on a galley door.

Clarifications – PS 21 Bonded Details – Test Requirement

- Clarify that the test needs to match bonded detail requirement for all options (F1, F2, F3)

Clarifications – PS 21 Bonded Details – Plaque Thickness

- Clarify that double sided tapes may be tested at their thickness rather than plied up to ¼" per PS 21, option 1 (which was intended for paste type adhesives).
- Develop data to show any (?) thickness plaque can be used less than ¼".

Clarifications – PS 21 Bonded Details – Single Sided Tapes

- Clarify single sided tapes treated as bonded details and certified using PS21 option 3 or 4.

Clarifications – PS 21 Bonded Details – Thin laminate

- Clarify that as the thin laminate in Option 3 was envisioned as a 2 ply fiberglass laminate (nominal 0.010" per ply), is it acceptable to use a 2 ply laminate that is slightly over 0.02" because of slight variances in the manufacturing process.

Clarifications – PS21 Intimate Contact of Materials

- Develop data to show PS21 be used to substantiate materials to 25.853(a) which are in intimate contact by testing materials separately. Would require update to AC25-17A.

Clarifications – PS 21 Bonded Details – Bonded Metal

- Clarify that in bonded details where a metal part varies in thickness testing the thinnest nominal cross section of the metal would be appropriate (thinnest has the least heat sink).

Clarifications – PS 21 Bonded Details – Heat Release/Smoke

- Clarify dimensions as ≤, i.e., one inch or less

PS23 Edge Potting/Foam
PS24 Bonded Joints

- Decoratives over adhesive bonded joints and edge potting and ditch and pot do not require certification (Shown by compliance of decorative on the general panel)

Clarifications – PS 24 Bonded Joints – Multi-Ditch & Pot

- Clarify that PS 24 may be used to show compliance for multi-ditch and pot panels.

PS26 Fillet Seals (Sealing)

- Fay Surface seal – No requirement between metals
- Show that fay surface seal between composites and metal require no compliance showing.

Clarifications – PS 27 Backside Decorative Treatment

- Clarify that Test Plan/Report must note the panel construction (all layers, including the backside decor) and the construction of the part for which the data is being used to show compliance.

Clarifications – PS 27 Backside Decorative Treatment

- Clarify PS27 is applicable to ¼" or less panels for vertical burn compliance.

Clarifications – PS 27 Back side Decorative – Powder Coat

- Clarify for Policy Statement MOC 27, powder coating is considered a paint.

New MOCs

- Foam density
- Varying density and composite plies (seat shells)
- Seat HRSC issues
- UL 94 Vo = 12 Second VB
- Mechanically fastened panels in OSU area, does lower panel need to be included?

Industry Specs and the “Same”

- Clarify how to deal with Industry Specs and the “Same” definition.

Other Items to Work On

- Develop an industry and FAA standard for reporting of MOCs in compliance reports.
- Defining process for developing future MOCs (Issue Papers)

Framework for New team

- Zodiac volunteered to resurrect SharePoint
- Dividing MOCs/ideas between current and future regulations