

Revision Table

Revision	Reason for Revision	Section	DCRN Number	Date
NC	New Document	All	128354	3/21/15
A	Added ITC requirements	3, 6	129288	12/01/15
B	Clarify lot based sampling requirements, added test labs	All	131239	1/22/18
C	Added reference to test specimen preparation	5.5	131529	4/25/18
D	Update header, footer, and definition	4	141035	4/24/21

1.0 Purpose

The purpose of this procedure is to provide requirements for ongoing verification of nonmetallic material flammability acceptance (14 CFR 25.853 and other customer requirements). This document does not provide requirements for initial flammability certification.

Revisions to this document require Collins certification engineering approval.

Revisions to this document require supply base notification.

2.0 Scope

This instruction applies to materials, components, and other products and services that are purchased or received from customers and suppliers for incorporation into products sold by Collins where 14 CFR 25.853(a), (c), (d), and/or ABD0031 requirements are applicable per the drawing or specification.

3.0 Reference Documents

- ABD0031 – Airbus Directive – Fireworthiness Requirements Pressurized Section of Fuselage.
- 1.10.36 – Burn Testing and Acceptance of Leather

4.0 Definition:

Non-metallic: Materials that are not metallic in composition, including but not limited to, plastic, resins, leather, foam, thread, fabric, and adhesives.

Acceptance Test: Testing performed to accept material. When testing continuous production material or material produced in large batches / rolls / bags, the acceptance test represents FUTURE production unless otherwise defined below. Mid-lot or end-of-lot testing does not necessarily represent the acceptance or rejection of previously tested product (i.e. a mid-lot failure does not cause rejection of prior material if there are previous acceptable test results).

5.0 Procedure

5.1 Lot acceptance testing to the requirements of 14 CFR 25.853(a) is acceptable for showing lot acceptance to the requirements 14 CFR 25.853(c) and (d), and ABD0031.

When a drawing or specification identifies 14 CFR 25.853(a), (c), (d), and/or ABD0031 requirements, only flammability testing per 14 CFR 25.853(a) is required on an ongoing lot basis as indicated in Section 5.7.

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5.2 Manufacturer test results certifying a commercially available material to 14 CFR 25.853(a) are considered acceptable only when indicated in Section 5.7.

If the manufacturer of the material does not or cannot provide this certification, Collins and Collins suppliers' are responsible for the required testing. Testing must be performed by a Collins approved facility listed in Section 5.8.

5.3 The Burn Test Certificate(s), including test reports and test data sheets, shall be sent with the shipment / lot.

The supplier shall also maintain the Burn Test Certification at the supplier site showing acceptance that the material lot is in compliance with FAR 25.853 (a). The Burn Test Certification shall be available on request.

Shipments of materials (e.g. fabric or leather) from a supplier to an approved Collins sub-tier supplier must be accompanied by any burn testing documentation. It is the responsibility of the sub-tier supplier to keep records of all burn testing results.

5.4 The testing requirements for meeting 14 CFR 25.853(a) shall be per the drawing requirement (for example, 12 second versus 60 second). A 60 second burn test is acceptable to meet a 12 second burn test, as it is a more stringent requirement.

5.5 Drawings listing a Collins Material Document containing specific flammability testing requirements shall take precedence over this document.

5.6 Test specimens shall be prepared per the applicable chapter of DOT/FAA/AR-00/12 Aircraft Materials Fire Test Handbook (latest update) which can be found at <https://www.fire.tc.faa.gov/handbook>. For foams and thermoplastics a test specimen thickness less than the minimum typical cross-section thickness of the fabricated part is acceptable.

5.7 Lot acceptance testing is not applicable to parts identified as "small parts" on the drawing.

5.8 Lot acceptance test requirements:

Material	Test Requirement	Test Plan (Material Acceptance)
COTS (Commercial Off the Shelf) Parts	(1) Drawing identifies a flammability lot test requirement (2) No flammability lot test requirement identified on drawing	(1) Perform testing per drawing requirements (2) Only a Certificate of Conformance from manufacturer is required
Leather	Testing required per COLLINS procedure 1.10.36	Per COLLINS procedure 1.10.36. If requirements in this document conflict with 1.10.36, 1.10.36 takes precedence.
Fabric/Ultraleather	Testing required for each lot of Fabric or Ultraleather material to 14 CFR 25.853(a) requirements defined on drawing	Certified acceptable by fabric/ultraleather manufacturer to 14 CFR 25.853(a) drawing requirements. OR Tested by approved lab listed in Section 5.8.

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Foam	Testing required for each lot of foam material to 14 CFR 25.853(a) requirements defined on drawing	Certified acceptable by foam manufacturer to 14 CFR 25.853(a) drawing requirements. OR Tested by approved lab listed in Section 5.8.
Thread	No testing required – Considered a “Small Part”	N/A
Adhesive	(1) Drawing identifies a flammability lot test requirement (2) No flammability lot test requirement identified on drawing	(1) Perform testing per drawing requirements (2) Only a Certificate of Conformance from manufacturer is required
Injection molded parts	Testing required for each lot of Raw Material to 14 CFR 25.853(a) requirements defined on drawing	Certified acceptable by raw material manufacturer to 14 CFR 25.853(a) drawing requirements. OR Tested by approved lab listed Section 5.8.
Thermal formed parts	Testing required for each lot of Raw Material to 14 CFR 25.853(a) requirements defined on drawing	Certified acceptable by raw material manufacturer to 14 CFR 25.853(a) drawing requirements. OR Tested by approved lab listed in Section 5.8.

5.8 Approved testing facilities:

Goodrich/Collins Company DER for Flammability
 Mark Mikesell – 719-380-6290 or Marc.Mikesell@collins.com
 1275 N. Newport Rd. Colorado Springs CO 80916

Accufleet Testing Services DER for Flammability
 Shawn King – 218-999-8800 or shawn.king@accufleet.com
 1959 S. Starpoint Dr. Houston TX 77032

Skandia, Inc. DER for Flammability
 Jane Biberstein or jane.biberstein@skandiainc.com
 5000 North Highway 251
 Davis Junction, IL 61020

Starr Aircraft Products, Inc.
 Eric Lunde 903-893-1106 or elunde@starraircraft.com
 5236 North Hwy 1417
 Sherman, TX 75092