

<b>EASA</b>	<b>CERTIFICATION MEMORANDUM</b>
	<p><b>EASA CM No.: EASA CM - CS – 004 Issue: 01</b></p> <p><b>Issue Date: 16<sup>th</sup> of October 2013</b></p> <p><b>Issued by: Cabin Safety section</b></p> <p><b>Approved by: Head of Certification Experts Department</b></p> <p><b>Regulatory Requirement(s): CS 25.853(a) and (d), 25.855, CS-25 Appendix F Parts I , IV and V, at Amendment 12</b></p>

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## **Subject**

### **Flammability Testing of Interior Materials**

**Log of Issues**

<b>Issue</b>	<b>Issue date</b>	<b>Change description</b>
01	16.10.2013	First issue.

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# 1. INTRODUCTION

## 1.1. PURPOSE AND SCOPE

The purpose of **this** Certification Memorandum is to provide specific guidance about methods of compliance with the flammability requirements of JAR/CS-25 for commonly constructed parts, construction details, and materials. The methods of compliance addressed in this Certification Memorandum apply to the following paragraphs in CS-25 at Amendment 12: 25.853(a) and (d), Appendix F Parts I, IV and V; or the equivalent paragraphs in JAR/CS-25 at previous Changes/Amendments.

The same methods of compliance can also be used where CS-25 Appendix F test methods are used to meet other requirements, such as CS 25.855, CS 29.853 (a) and (b), CS 29.855 (a)(2), CS-ETSO or applicable Special Conditions. They may also be applied to meet CS 23.853(d)(3), 23.855(c) and CS-23 Appendix F requirements.

Finally, the methods of compliance addressed in this Certification Memorandum may be beneficial, but it need not be routinely applied, to show that materials are at least flame resistant as per the guidance given in FAA AC 23-2A (ref. CS 23.853(a), 23.855(b), 27.853(a) and 27.855(a)(1)).

## 1.2. REFERENCES

It is intended that the following reference materials be used in conjunction with this Certification Memorandum:

Reference	Title	Code	Issue	Date
AMC 25.853	CS-25 - Book 2 - Acceptable Means of Compliance – AMC-Subpart D - Compartment interiors	CS-25	12	13/07/2012
FAA AC 25-17A	Transport Airplane Cabin Interiors Crashworthiness Handbook	N/A	N/A	18/05/2009
FAA AC 23-2A	Flammability Tests	N/A	N/A	11/05/2007
FAA PS-ANM-25.853-01-R2	Flammability Testing of Interior Materials	N/A	N/A	03/07/2013

## 1.3. ABBREVIATIONS

The following abbreviations are used in this Certification Memorandum:

Abbreviation	Meaning
<b>AC</b>	<b>A</b> dvisory <b>C</b> ircular
<b>AMC</b>	<b>A</b> cceptable <b>M</b> eans of <b>C</b> ompliance
<b>CS</b>	<b>C</b> ertification <b>S</b> pecification
<b>EASA</b>	<b>E</b> uropean <b>A</b> viation <b>S</b> afety <b>A</b> gency
<b>ETSO</b>	<b>E</b> uropean <b>T</b> echnical <b>S</b> tandard <b>O</b> der

<b>Abbreviation</b>	<b>Meaning</b>
<b>FAA</b>	<b>Federal Aviation Administration</b>
<b>JAR</b>	<b>Joint Aviation Requirement</b>

## 1.4. DEFINITIONS

The following definitions are used in this Certification Memorandum:

<b>Definition</b>	<b>Meaning</b>
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## 2. BACKGROUND

The requirements for flammability testing of materials used in the interiors of Large Aeroplanes are specified in CS 25.853 and CS-25 Appendix F. AMC 25.853 makes reference to the relevant sections of FAA Advisory Circular (AC) 25-17A, Transport Airplane Cabin Interiors Crashworthiness Handbook, dated May 18, 2009.

The available guidance material included in CS-25 and in FAA AC 25-17A is not detailed enough to cover the wide range of materials and installations that currently occur in the design of the cabin interior of Large Aeroplanes. Through the years, design organizations have based their means of compliance with flammability requirements on the guidance material they have accumulated in case-by-case discussions with Aviation Authorities. This approach has led to standardization issues. There is no indication that this lack of standardization has caused significant safety issues, but the potential is there if the guidance continues to lack sufficient details and is open to interpretation.

Therefore, to provide a more standardized set of acceptable methods of compliance with CS 25.853(a) and (d), Aviation Authorities have started an exercise together with a working group composed by representatives of the main companies active in the civil aviation market, to review a listing of common design details and establish acceptable criteria to be followed when developing test plans and reports to show compliance with CS 25.853.

The outcome of this exercise is reflected in the content of FAA PS-ANM-25.853-01-R2, dated 3<sup>rd</sup> July 2013. EASA has been highly involved in the development of the above-mentioned FAA Policy Statement.

## 3. EASA CERTIFICATION POLICY

### 3.1. EASA POLICY

EASA is in full agreement with the content of FAA PS-ANM-25.853-01- R2. Therefore, EASA strongly recommends that design organizations develop their compliance documentation (certification plans, test plans, test reports) following the guidelines provided by FAA PS-ANM-25.853-01-R2, wherever applicable.

EASA would like to highlight that the new guidelines are based on the review of data supplied by the aviation industry and does not introduce any additional requirement or test method. Whenever possible, it provides similarity criteria that may contribute to reducing the number of tests to be performed to certify installation of parts.

It must be noted that the new guidance clarifies that certain installations are in general not exempted from testing. For example, compliance with CS 25.853 for bonded items (placards, hook and loop, etc.) and bonded joints (ditch and pot, cut and fold, etc.) should be substantiated following the guidelines of FAA PS-ANM-25.853-01-R2.

Finally, an important aspect of the standardization exercise was the development of a consistent set of definitions of terms. This should help minimizing the potential for confusion and should reduce the variability in regulatory interpretations.

### **3.2. WHO THIS CERTIFICATION MEMORANDUM AFFECTS**

This Certification Memorandum affects all organisations involved in the development of design changes that include in their certification basis the following in CS-25 at Amendment 12: 25.853(a) and (d), Appendix F Parts I, IV and V; or the equivalent in JAR/CS-25 at previous Changes/Amendments.

In addition, it applies where CS-25 Appendix F test methods are used to meet other requirements, such as CS 25.855, CS 29.853(a) and (b), CS 29.855(a)(2), CS-ETSO or applicable Special Conditions.

The Certification Memorandum may also be applied to design changes that include in their certification basis CS 23.853(d)(3) and/or 23.855(c).

Finally, this Certification Memorandum may be beneficial, but it needs not be routinely applied, whenever materials are required to be at least flame resistant (ref. CS 23.853(a), 23.855(b), 27.853(a) and 27.855(a)(1)) as per the guidance given in FAA AC 23-2A.

## **4. REMARKS**

1. Suggestions for amendment(s) to this EASA Certification Memorandum should be referred to the Certification Policy and Planning Department, Certification Directorate, EASA. E-mail [CM@easa.europa.eu](mailto:CM@easa.europa.eu) or fax +49 (0)221 89990 4459.

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