



**Consultation paper**  
**Equivalent Safety Finding**

Doc. No. : ESF-D25.856-01  
Issue : 1  
Date : 14 September 2023  
Proposed  Final   
Deadline for comments: 5 OCT 2023

**SUBJECT** : Flame penetration resistance in the lower half of the fuselage  
**REQUIREMENTS incl. Amdt.** : CS 25.856 (b) at Amdt. 27  
**ASSOCIATED IM/MoC** : Yes  / No   
**ADVISORY MATERIAL** :

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**INTRODUCTORY NOTE:**

The following Equivalent Safety Finding (ESF) has been classified as important and as such is subject to public consultation in accordance with EASA Management Board decision 12/2007 dated 11 September 2007, Article 3 (2.) which states:

*"2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."*

**ABBREVIATIONS:**

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**IDENTIFICATION OF ISSUE:**

EASA received an application for type certification of a design introducing (amongst other changes) an installation of new equipments in a section of the lower half of the fuselage preventing the re-installation of thermal/acoustic insulation materials in that specific area. CS 25.856(b) requires thermal/acoustic insulation materials in the lower half of the fuselage and their installation to comply with the flame penetration test of Part VII of Appendix F to CS-25. For the modified section of the lower half of the fuselage, the protection against flame penetration can no longer be established solely through the installation of thermal/acoustic insulation material. It is proposed to ensure the adequate flame penetration resistance in accordance with the requirements of Part VII of Appendix F to CS-25 by design using a combination of other materials and associated design solutions. Therefore, a request for an Equivalent Safety Finding (ESF) to CS 25.856(b) was submitted to EASA for this project.

Considering the above, the following Equivalent Safety Finding is proposed:



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**ESF-D25.856-01**

**Equivalent Safety Finding**

**Flame penetration resistance in the lower half of the fuselage**

**1. APPLICABILITY**

This ESF might be applied to large aeroplanes if for sections of the lower half of the fuselage a design with a combination of other materials than thermal/acoustic insulation materials is used to establish adequate protection against flame penetration.

**1.1 AFFECTED CS**

CS 25.856(b) at Amendment 27

**2. Statement of Equivalent Safety Finding**

In lieu of direct compliance with the CS identified in chapter 1.1, and provided that the below compensating factors are complied with, a combination of other materials than thermal/acoustic insulation materials may be used to establish adequate flame penetration resistance for sections of the lower half of the fuselage.

**3. COMPENSATING FACTORS**

- a) A representative test set-up of the design including all used materials shall pass the flame penetration test of Part VII of Appendix F to CS25. In case that design principals are used that have been accepted by EASA previously, the testing of the materials only might be accepted.
- b) The materials shall be installed in a way that ensures continuity of the lower fuselage flame penetration resistance (refer to standard practises in the EASA AMC 25.856(b) - FAA AC 25.856-2A, §7(b)). This might be demonstrated by the test set-up used for compliance with sub-paragraph a) above.