



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:

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.