



EUROPEAN AVIATION SAFETY AGENCY  
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE  
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

# Composite Wing Fire Withstanding

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# Composite Wing Fire Withstanding

- Purpose of Certification Memoranda
  - The purpose of the Certification Memo is to provide specific guidance for the integral fuel tanks within wing structure primarily made of composite material, regarding the ability of the tank structure to sustain fire.
- Background
  - On the latest large transport aeroplanes, the wing, including the fuel tanks, is constructed primarily from composite material, which differs from traditional metallic construction as envisioned and applied by current airworthiness standards.
  - The existing CS requirements are not considered explicit enough regarding post-crash fire safety and performance standards for the wing fuel tanks constructed using composite materials. This document clarifies the EASA requirements in this respect.



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## ➤ EASA Policy

- Applicants are required to show that the use of composite materials for the fuel tank structure does not reduce the level of safety relative to existing experience with metallic structure. This could be achieved by showing that:
  - - from a fire withstanding capability, the composite wing is at least equivalent to a similar wing manufactured of light alloy.
  - or
  - - the composite wing and the fuel tank design, including all access panels, can endure an external fuel fed fire for at least five minutes.



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## ➤ EASA Policy

- The assessment shall be performed evaluating all relevant parameters, including fuel loading.
- Considerations to be taken into account include fuel tank flammability, burn through resistance, fuel retaining capability of the wing, wing structural strength retention properties and auto-ignition threats.



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## ➤ Status

- The proposed CM has been published for public consultation on the 29<sup>th</sup> of March 2011.
- By the closing date, 11<sup>th</sup> of May 2011, EASA received 12 comments from 6 National Aviation Authorities, professional organisations and private companies.
- Under Rulemaking review since 6 oct 2011;
- Rulemaking Target Date for agreement to public release (EASA website): 20 oct 2011
- Release expected soon.



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