

ETSO-2C515 A1

ED Decision 2020/011/R (applicable from 25.7.2020)

AIRCRAFT HALOCARBON CLEAN AGENT HANDHELD FIRE EXTINGUISHER

1 Applicability

This ETSO provides the requirements which an aircraft halocarbon clean agent handheld fire extinguisher that is designed and manufactured on or after the date of this ETSO must meet in order to be identified with the applicable ETSO marking.

2 Procedures

2.1 General

The applicable procedures are detailed in CS-ETSO, [Subpart A](#).

2.2 Specific

None.

3 Technical Conditions

3.1 Basic

3.1.1 Minimum Performance Standard

The applicable standards are those provided in SAE International's Aerospace Standard AS6271, Halocarbon Clean Agent Hand-Held Fire Extinguisher, issued in January 2013, as amended by [Appendices 1 and 2](#) to this ETSO.

3.1.2 Environmental Standard

Refer to the environmental qualification requirements specified in ANSI/UL 2129.

3.1.3 Software

None.

3.1.4 Airborne Electronic Hardware

None.

3.2 Specific

3.2.1 Failure Condition Classification

A failure of the function defined in paragraph 3.1.1 of this ETSO has been determined to be a minor failure condition.

4 Marking

4.1 General

See CS-ETSO, [Subpart A](#), paragraph 1.2.

4.2 Specific

The fire extinguisher type, as specified in paragraph 3.1 of AS6271, shall be marked on the article.

In addition, the fire extinguisher rating, as specified in ANSI/UL 711, shall be marked on the article.

5 Availability of Referenced Documents

See CS-ETSO, [Subpart A](#), paragraph 3.

[Amdt ETSO/11]

[Amdt ETSO/16]

Appendix 1 to ETSO-2C515 A1 – Halocarbon Clean Agent Handheld Fire Extinguisher

ED Decision 2020/011/R

This Appendix prescribes the minimum performance standards (MPS) for aircraft handheld fire extinguishers. The applicable standard is SAE AS6271 ‘Halocarbon Clean Agent Hand-Held Fire Extinguisher’, issued in January 2013. EASA has revised it as follows:

1. On page 4, replace paragraph 3.2 with the following:
‘Halocarbon clean agents shall be registered according to REACH¹ for use in a fire extinguisher to be sold in the European Union (EU). REACH is the EU Regulation on chemicals and their safe use. REACH applies to substances manufactured or imported into the EU in quantities of 1 ton or more per year (see 2.1.7).’
2. On page 5, replace paragraph 4.1.1 with the following:
‘The fire extinguisher/mounting bracket assembly shall be shown to withstand without failure the highest ultimate inertia force/load, applied to all on-axis (X, Y, Z) orientations, specified in the Certification Specifications (CS) applicable to the specific aircraft type or types on which the fire extinguisher is suitable to be installed. The ultimate inertia forces/loads shall be increased, if necessary, to meet the aircraft manufacturer’s specifications for flight and ground loads accordingly. A fitting factor of 1.33 as specified in C2X.561 shall be included to address wear and tear through frequent removal of the fire extinguisher from its mounting bracket. In addition, the manufacturer shall provide an Interface Control Drawing (ICD) specifying for the fire extinguisher/mounting bracket assembly:
 - the ultimate inertia force/loads shown during qualification,
 - the mounting orientations (X, Y, Z) for installation,
 - the interface loads and the specified means of attachment for installation,
 - the Certification Specification(s) (e.g. CS 25.561) including the amendment for which the assembly is demonstrated to be compliant.’
3. On page 5, add a note to paragraph 5.2.2:
‘Note: If the proposed agent was already proven to pass the seat/toxicity test of the MPS in combination with another fire extinguisher, that test would not need to be repeated for the proposed fire extinguisher/agent combination.’

[Amdt ETSO/16]

¹ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).

Appendix 2 to ETSO-2C515 A1 – Halocarbon Clean Agent Handheld Fire Extinguisher

ED Decision 2020/011/R

This Appendix prescribes the minimum performance standards (MPS) for aircraft handheld fire extinguishers. As referred to in SAE AS6271, the applicable standard is ANSI/UL 2129 'Halocarbon Clean Agent Hand-Held Fire Extinguisher', issued in February 2005. EASA has revised it as follows:

1. On page 9, replace paragraph 6.8 with the following:
'An extinguisher shall operate as intended at temperatures from -40°C to 49°C as required per UL2129. Ground survival temperature of the unit shall be -54°C up to 85°C (refer to EUROCAE ED-14/RTCA document DO-160 revisions defined in CS-ETSO, [Subpart A](#), paragraph 2.1, ground survival temperature).'
2. On page 12, replace the first phrase of paragraph 12.4 with the following:
'The maximum indicated gauge pressure shall be between 150 and 250 % of the indicated charging pressure specified by the manufacturer (at either 20° or 21°C).'
3. On page 12, replace paragraph 12.5 with the following:
'The mark used to indicate the charging pressure at the charging temperature (at either 20°C or at 21°C) as specified by the manufacturer shall be a minimum of 0.6-mm wide and not more than 1.0-mm wide.'
4. On page 12, disregard paragraphs 12.6 and 12.7.

[Amdt ETSO/16]