



**NSAI**  
Standards

Irish Standard  
I.S. EN 4649:2009

Aerospace series - Handheld fire extinguishers with synthesis gases, for aircraft use - Technical specification and qualification conditions

## I.S. EN 4649:2009

*Incorporating amendments/corrigenda issued since publication:*

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English Version

## Aerospace series - Handheld fire extinguishers with synthesis gases, for aircraft use - Technical specification and qualification conditions

Série aéronautique - Extincteurs portatifs pour aéronefs aux agents gazeux de synthèse - Spécification technique et conditions de qualification

Luft- und Raumfahrt - An Bord Handfeuerlöscher - Lieferbedingungen und Qualifikationsbedingungen

This European Standard was approved by CEN on 5 October 2008.

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## **Foreword**

This document (EN 4649:2009) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by August 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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## **Introduction**

This standard is implemented to define aeronautical requirements regarding the following:

- all handheld fire extinguishers using synthesis gases;
- all aircraft;
- the need to protect persons, equipment and the environment (in particular the provisions concerning implementation of the Montreal protocol).

If the extinguisher uses a synthesis gas under the terms of a waiver to current legislation, all the tests except the extinguishing efficiency tests, shall be run using an authorised equivalent substitute agent.

This standard is intended for fire extinguishers with a maximum operating pressure up to 25 bars.

## 1 Scope

This standard specifies the technical requirements and qualification conditions for handheld fire extinguishers made with metal vessels and using synthesis gases for aircraft use, designed for use in the cockpit, in the passenger cabin and to protect areas accessible to the crew.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 9100, *Aerospace series — Quality management systems — Requirements (based on ISO 9001:2000) and Quality systems — Model for quality assurance in design, development, production, installation and servicing (based on ISO 9001:1994)*

EN 9103, *Aerospace series — Quality management systems — Variation management of key characteristics*

EN 9133, *Aerospace series — Quality management systems — Qualification procedure for aerospace standard parts*

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test at ambient temperature*

EN 10204, *Metallic products — Types of inspection documents*

ISO 3941, *Classification of fires*

ISO 7165, *Fire fighting — Portable fire extinguishers — Performance and construction*

DOT/FAA/AR-01-37, *Development of a minimum performance standard for hand-held fire extinguishers as a replacement for Hamon 1211 on Civilian Transport Category Aircraft*<sup>1</sup>

ED-14D/RTCA/DO-160, *Environmental conditions and test procedures for airborne equipment*<sup>2</sup>

EASA – Part 145, *Maintenance Organisation Approvals*<sup>3</sup>

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **pressure-relief safety device**

device which releases the pressure inside the vessel in the event of over-pressure

### 3.2

#### **handheld fire extinguisher**

extinguisher designed to be carried and used by hand, weighing 20 kg or less

### 3.3

#### **bracket**

element used to hold the extinguisher on board

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3 Published by: European Aviation Safety Agency – Postfach 10 12 53 – D-50452 Koeln, Germany.

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