
**Air cargo — Fire resistant containers
— Design, performance and testing
requirements**

*Fret aérien — Conteneurs résistant au feu — Exigences de conception,
performances et essais*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#).

The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 9, *Air cargo and ground equipment*.

[Annex A](#) and [Annex B](#) are normative.

Introduction

Fatal accidents have emphasized the risk to transport aircraft of uncontrolled fires occurring within cargo, and evidence that the use of fire protecting devices can improve flight safety.

This International Standard specifies the design and performance criteria and testing methods for fire resistant containers intended to be used in order to provide enhanced protection against cargo fires in civil transport aircraft cargo compartments.

Throughout this International Standard, the minimum essential criteria are identified by use of the key word “shall”. Recommended criteria are identified by use of the key word “should” and, while not mandatory, are considered to be of primary importance in providing fire resistant containers meeting the applicable regulatory requirements and ensuring effective protection against fires. Deviation from recommended criteria should only occur after careful consideration, extensive testing, and thorough service evaluation have shown alternate methods to be satisfactory.

The requirements of this International Standard are expressed in the applicable SI units, with approximate inch-pound unit conversion between brackets for convenience in those countries using that system. Where it is deemed necessary to use exact values, the SI unit ones are to be used.

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Air cargo — Fire resistant containers — Design, performance and testing requirements

1 Scope

This International Standard specifies the minimum design and performance criteria and testing methods of passive fire resistant containers (FRCs) for carriage on aircraft main deck, to be used on either of the following:

- a) in those cargo compartments of civil transport aircraft where they constitute one means of complying with applicable airworthiness regulations;
- b) on a voluntary basis, when deemed appropriate by operators to improve fire protection in aircraft cargo compartments where airworthiness regulations do not currently mandate their use.

The fire resistant containers (FRCs) specified by this International Standard are intended to be used to contain and restrain unitized cargo for loading into either of the following aircraft main deck cargo compartments:

- a) Class B aircraft cargo compartments according to CS-25, CCAR-25, JAS Part 3 or 14CFR Part 25 25.857 (b), in accordance a) or b) above;
- b) Class E aircraft cargo compartments according to CS-25, CCAR-25, JAS Part 3 or 14CFR Part 25 25.857 (e), in accordance with b) above;
- c) Class F aircraft cargo compartments according to CS-25 § 25.857(f) and AMC to CS-25.855 and 25.857, or 14CFR Part 25 § 25.857(f) and FAA Advisory Circular AC25.857-X, in accordance with a) above.

NOTE 1 Though nothing formally prevents a fire resistant container (FRC) from being carried in a lower deck Class C aircraft cargo compartment, it is not intended for this use since its fire containment capability would be redundant with that of the aircraft's fire detection and suppression system, which it could hamper. Consult current regulatory guidance materials and aircraft type's Weight and Balance Manual whenever available.

Containers are specified in this International Standard only insofar as their flammability requirements and fire resistance performance are concerned. They are not otherwise specified in this International Standard, but still require meeting the applicable general standards.

NOTE 2 See [Clause 2](#) and [4.1](#) and [4.2](#) for applicable containers airworthiness approval and general design standards.

This International Standard does not cover requirements for fire detection or suppression devices. The specified fire resistant containers (FRCs) are passive devices capable of containing a fire for the specified duration by themselves.

NOTE 3 Nothing, however, prevents additional use of self-contained fire detection or suppression devices within fire resistant containers (FRCs), but such devices are not specified herein (see [4.5.5](#)).

This International Standard does not cover requirements for other types of fire resistant containers not specified therein.

The use of fire resistant containers meeting the requirements of this International Standard is not alone sufficient to ensure flight safety: this International Standard is based on the assumption that the approved fire resistant containers will be built up, installed, and checked prior to aircraft loading in accordance with appropriate operating instructions, by competent, suitably trained, personnel as defined for example in ISO 9001:2008, 6.2.2 (see [9.3](#)).