International Standard

ISO 1161

# Series 1 freight containers — Corner and intermediate fittings — Specifications

*Conteneurs de la série 1 — Pièces de coin et pièces de fixation intermédiaires — Spécifications*

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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 document 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).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 1, *General purpose containers*.

This sixth edition cancels and replaces the fifth edition (ISO 1161:2016), which has been technically revised.

The main changes are as follows:

— removed all imperial measures;

— added 4.2.1;

— revised design load values for top, bottom and intermediate fittings in 6.1.1 to 6.1.7 in accordance with the updated Gross Mass R = 36 000 kg;

— renamed Clause 9;

— rewrote wording of 9.1 in accordance with new title of Clause 9;

— revised test values in 9.3.1 to 9.3.12 in accordance with revised design load from 6.1.1 to 6.1.7;

— rewrote drawings of top, bottom and intermediate fittings with the dimensions in Figures 2, 3 and 4;

— revised values in drawings in Annex A, “Testing methodology” according to updated values in 9.3.1 to 9.3.12.

— added a new Annex C.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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# Introduction

This document on corner fittings represents the collaborative efforts of technical and operational experts from all sectors of the transportation industry. Figure 1 shows the fittings for the top and bottom corners of series 1 freight containers, which provide compatibility in interchange between transportation modes. Care has been taken to limit consideration only to the details of fittings which are vital to this function.

This document specifies the size and configuration of corner and intermediate fitting apertures. The faces of the corner and intermediate fittings having apertures for the engagement of handling and securing devices have specified thickness and tolerances as shown in Figures 2 to 4. The minimum thickness of the blank walls is specified, even though they are not involved in the engagement of the handling and securing devices; they can be thicker than the minimum provided that their inner surfaces do not protrude into the corner fitting cavity reserved for the engaging device.

The purpose of this document is to define some details of design vital to container interchange in automatic, semi-automatic and conventional systems.

The strength and testing requirements specified in this document do not take any account of the stresses, which can result from the practice of end-to-end coupling of containers.

NOTE The requirements of this document do not preclude the provision of additional facilities for lifting either from the top or at the base of the freight container.

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# Series 1 freight containers — Corner and intermediate fittings — Specifications

## 1 Scope

This document establishes the basic dimensions and the functional and strength requirements of corner and intermediate cast fittings for series 1 freight containers, i.e. containers which conform to ISO 668 and ISO 1496 (all parts), with the exception of air mode containers (see ISO 8323).

Recognizing that there are containers which have ratings and dimensions different from ISO Series 1 containers referred to in ISO 668, which can be fitted with corner fitting of the same design as those described in this document, or of another design, special arrangements for certification of any fittings for such containers can be required.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 1496-1, *Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes*

ISO 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

ISO 3874, *Series 1 freight containers — Handling and securing*

## 3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

## 4 Dimensional requirements

### 4.1 General

The dimensions and tolerances of the corner fittings shall conform to Figures 2, 3 and 4. A general view of container fittings is shown in Figure 1.

Each series 1 container shall have two right-hand top corner fittings (on the right as the observer faces either end of the container) and two left-hand top corner fittings, which are the mirror image of the right-hand fittings.

The bottom corner fittings shall have a similar configuration except in respect of the end (i.e. front or rear faces aperture.

45 ft containers shall have intermediate fitting in the 40 ft position (see Figure 1). The dimensions and tolerances of the intermediate fittings shall conform to Figure 3 and Figure 4.

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