
**Series 1 freight containers —
Specification and testing —**

**Part 2:
Thermal containers**

*Conteneurs de la série 1 — Spécifications et essais —
Partie 2: Conteneurs à caractéristiques thermiques*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 1496-2 was prepared by Technical Committee ISO/TC 104, *Freight containers*, Subcommittee SC 2, *Specific purpose containers*.

This fifth edition cancels and replaces the fourth edition (1996) which has been technically revised. It also incorporates the Amendment ISO 1496-2:1996/Amd. 1:2006 and the Technical Corrigendum ISO 1496-2:1996/Cor. 1:1997. The main changes are:

- ISO 1496-2:1996/Amd. 1:2006 has been incorporated;
- 1EE and 1EEE containers have been added to Table 1;
- ventilation control and humidity control have been added as 7.9.9 and 7.9.10;
- a new test, 8.17 Test No. 15 b) Functional test of a thermal container at high ambient temperatures while being cooled by a mechanical refrigeration unit (MRU), has been added and the following tests have been renumbered;
- in 8.14.3, the air leakage rate requirement has been revised to not exceed 5 m³/h;
- clarification has been given in 8.16.1.1, 8.16.2.1, 8.12.1 and in a note to 9.4;
- the requirements given in Table 4 have been corrected.

The opportunity was also taken for an editorial revision to update the style.

ISO 1496 consists of the following parts, under the general title *Series 1 freight containers — Specification and testing*:

- *Part 1: General cargo containers for general purposes*
- *Part 2: Thermal containers*
- *Part 3: Tank containers for liquids, gases and pressurized dry bulk*
- *Part 4: Non-pressurized containers for dry bulk*
- *Part 5: Platform and platform-based containers*

Introduction

The following grouping of container types is used for specification purposes in ISO 1496:

Part 1		
General purpose		00 to 09
Specific purpose		
closed, vented/ventilated		10 to 19
open top		50 to 59
Part 2		
Thermal		30 to 49
Part 3		
Tank		70 to 79
Bulk, pressurized		85 to 89
Part 4		
Bulk, non-pressurized (box type)		20 to 24
Bulk, non-pressurized (hopper type)		80 to 84
Part 5		
Platform (container)		60
Platform-based, with incomplete superstructure and fixed ends		61 and 62
Platform-based, with incomplete superstructure and folding ends		63 and 64
Platform-based, with complete superstructure		65 to 69

NOTE Container groupings for parts 1 and 3 to 5 inclusive are described in detail in the relevant parts of ISO 1496.

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Series 1 freight containers — Specification and testing —

Part 2: Thermal containers

1 Scope

This part of ISO 1496 gives the basic specifications and testing requirements for ISO series 1 thermal containers for international exchange and for conveyance of goods by road, rail and sea, including interchange between these forms of transport.

NOTE For the convenience of users of this part of ISO 1496, the conversion of values expressed in SI units to values expressed in non-SI units is given in Annex N.

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.

ISO 668:1995, *Series 1 freight containers — Classification, dimensions and ratings*

ISO 830:1981, *Freight containers — Vocabulary*

ISO 1161:1984, *Series 1 freight containers — Corner fittings — Specification*

ISO 6346:1995, *Freight containers — Coding, identification and marking*

ISO 10368:2006, *Freight thermal containers — Remote condition monitoring*

IEC 60947-1, *Low-voltage switchgear and controlgear — Part 1: General rules*

3 Terms and definitions

For the purposes of this document, the general terms and definitions given in ISO 830 and the following apply.

3.1

thermal container

freight container having insulating walls, doors, floor and roof designed to retard the rate of heat transmission between the inside and the outside of the container

3.2

insulated container

thermal container having no devices for cooling and/or heating, either permanently installed or attached