INTERNATIONAL STANDARD

ISO 3676

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Packaging — Complete, filled transport packages and unit loads — Unit load dimensions

Emballages — Emballages d'expédition complets et pleins et charges unitaires — Dimensions d'unité de charge

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Foreword

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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 3676 was prepared by Technical Committee ISO/TC 122, *Packaging*.

This second edition cancels and replaces the first edition (ISO 3676:1983), which has been technically revised.

Introduction

A single overall system based on a common module is unlikely to cover all packaged goods in the world, because of substantial differences in the sizes, shapes, and densities of the products, great variety in handling devices, regional government legislation, etc.

However, the application of such a system is a long-term policy goal, assuming that this does not lead to the exclusion of commodity dimensions and goods which are compatible with the modular system.

A standardized unit-load dimension is intended to prevent inadvertent over-sizing, and thus jamming against internal walls, or under-sizing, and thus wasting cargo vehicle space and/or rendering the load susceptible to transit damage.

Determining acceptable deviations in dimensions of unit loads is a complex matter, since the dimensions of the transport package, and thus the load itself, tend to change during filling, handling, warehousing, and transport. See Figure 1.

One factor affecting the measurement of the unit load is load bulge (filling, compression, and settling bulge). Factors influencing the load bulge are transport package materials, nature of contents, length of time in storage, moisture and temperature conditions, and transit conditions.

Another cause of unit load enlargement is stacking irregularity (unitizing inefficiency, out-of-line stacking, and out-of-square stacking) which occurs frequently and particularly in manual formation of the transport package layers in a unit load.

Such factors, which tend to change the plan dimensions of the unit load, cannot always be avoided but they are to be controlled by providing a dimensional deviation for the standardized unit loads.

When choosing transport package materials and when adding subsequent layers of transport packages to complete the unit load, it is to be ensured that the resulting overall length and width dimensions do not exceed the referenced plan dimensions of the unit load, at any stage of the distribution chain.

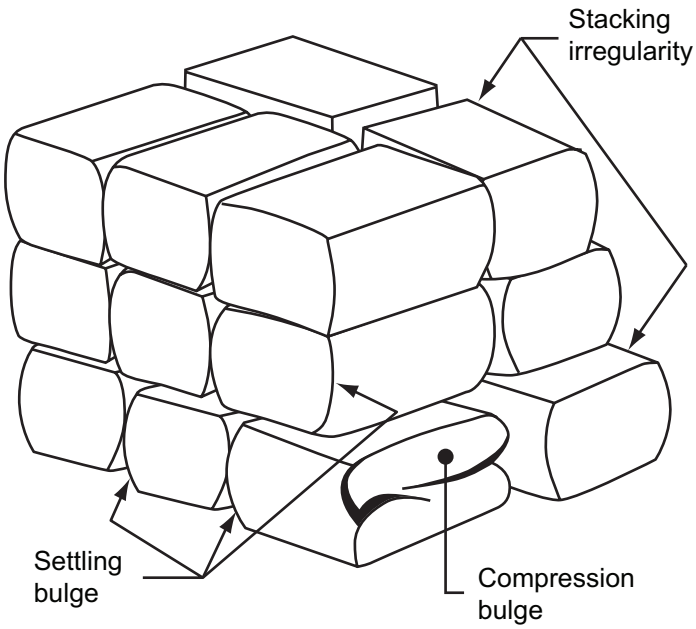

Figure 1 — Dimensional deviations for unit loads

Packaging — Complete, filled transport packages and unit loads — Unit load dimensions

1 Scope

This International Standard is based on the concept of a modular system and specifies the plan dimensions for unit loads suitable for the distribution of goods, which comprises all activities for the movement of products from their origin to their destination.

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

ISO 21067, *Packaging — Vocabulary*

EN 284, *Swap bodies — Non-stackable swap bodies of class C — Dimensions and general requirements*

EN 452, *Swap bodies — Swap bodies of Class A — Dimensions and general requirements*

CEN/TS 13853, *Swap bodies for combined transport — Stackable swap bodies type C 745-S16 — Dimensions, design requirements and testing*

CEN/TS 14993, *Swap bodies for combined transport — Stackable swap bodies type A 1371 — Dimensions, design requirements and testing*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21067 and the following apply.

3.1
distribution of goods
movement of products from their point of origin to their destination and consisting of the following basic elements: packaging, unit loads, material-handling systems, storage facilities and means of transportation

3.2
system
entity consisting of interdependent components

3.3
modular system
system consisting of components which are related to the module

3.4
plan dimensions
dimensions of the rectangle defined on a horizontal surface by the four vertical planes intersecting at right angles which enclose a unit load free-standing on that surface

NOTE See Figure 2.

3.5
module
reference measurement to which the dimensions of the components of the distribution system can be related arithmetically

3.6
unit load
items or packages held together by one or more means and shaped or fitted for handling, transporting, stacking and storing as a unit

NOTE The term is also used to describe a single large item suitable for the same purpose.

4 Plan dimensions

4.1 Dimensions: 1 200 mm × 1 000 mm

The plan dimensions of the preferred modular unit load shall be 1 200 mm × 1 000 mm. This unit load is derived from the basic 600 mm × 400 mm module, and as such it is an element of the modular distribution system.

4.2 Dimensions: 1 200 mm × 800 mm

This International Standard also recognizes the plan dimensions of 1 200 mm × 800 mm for a unit load.

4.3 Dimensions: 1 100 mm × 1 100 mm

This International Standard also recognizes the plan dimensions of 1 100 mm × 1 100 mm for square unit loads.

4.4 Dimensions: 1 219 mm × 1 016 mm

The International Standard also recognizes the plan dimensions of 1 219 mm × 1 016 mm for a unit load.