SRI LANKA STANDARD 1595: 2018
(ISO 3676: 2012)
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PACKAGING – COMPLETE, FILLED TRANSPORT PACKAGES AND UNIT LOADS- UNIT LOAD DIMENSIONS

SRI LANKA STANDARDS INSTITUTION

Sri Lanka Standard

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SLS 1595: 2018
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This Standard does not purport to include all the necessary provisions of a contract

Sri Lanka Standard
PACKAGING – COMPLETE, FILLED TRANSPORT PACKAGES AND UNIT LOADS- UNIT LOAD DIMENSIONS

NATIONAL FOREWORD

This Standard was approved by the Sectoral Committee on Paper, Board and Packaging and was authorized for adoption and publication as a Sri Lanka Standard by the Council of the Sri Lanka Standards Institution on 2018-08-10.

The text of the International Standard **ISO 3676: 2012** Packaging- Complete, filled transport packages and unit loads- Unit load dimensions has been accepted for adoption as a Sri Lanka Standard which 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.

This Sri Lanka Standard is identical with **ISO 3676: 2012** Packaging- Complete, filled transport packages and unit loads- Unit load dimensions published by the International Organization for Standardization (ISO).

TERMINOLOGY AND CONVENTIONS

The text of the International Standard has been accepted as suitable for publication, without deviation, as a Sri Lanka Standard. However, certain terminology and conventions are not identical with those used in Sri Lanka Standards. Attention is therefore drawn to the following:

a) Wherever the words “International Standard” appear referring to a particular Standards they should be interpreted as “Sri Lanka Standard”.

b) The comma has been used throughout as a decimal marker. In Sri Lanka Standards it is the current practice to use the full point at the base as the decimal marker.

c) Wherever page numbers are quoted, they are ISO page numbers.

Cross References

International Standard	Corresponding Sri Lanka Standard
ISO 1496-1, Series 1 freight containers — Specification and testing — Part 1: General cargo containers for general purposes	No corresponding Sri Lanka Standard
ISO 21067, Packaging — Vocabulary	SLS 1569 Terms and definitions for packaging Part 1: General terms
EN 284, Swap bodies — Non-stackable swap bodies of class C — Dimensions and general requirements	No corresponding Sri Lanka Standard
EN 452, Swap bodies — Swap bodies of Class A — Dimensions and general requirements	No corresponding Sri Lanka Standard
CEN/TS 13853, Swap bodies for combined transport — Stackable swap bodies type C 745-S16 — Dimensions, design requirements and testing	No corresponding Sri Lanka Standard
CEN/TS 14993, Swap bodies for combined transport — Stackable swap bodies type A 1371 — Dimensions, design requirements and testing	No corresponding Sri Lanka Standard

SLS 1595: 2018

INTERNATIONAL STANDARD

ISO 3676

Second edition
2012-10-15

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

Reference number
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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 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.

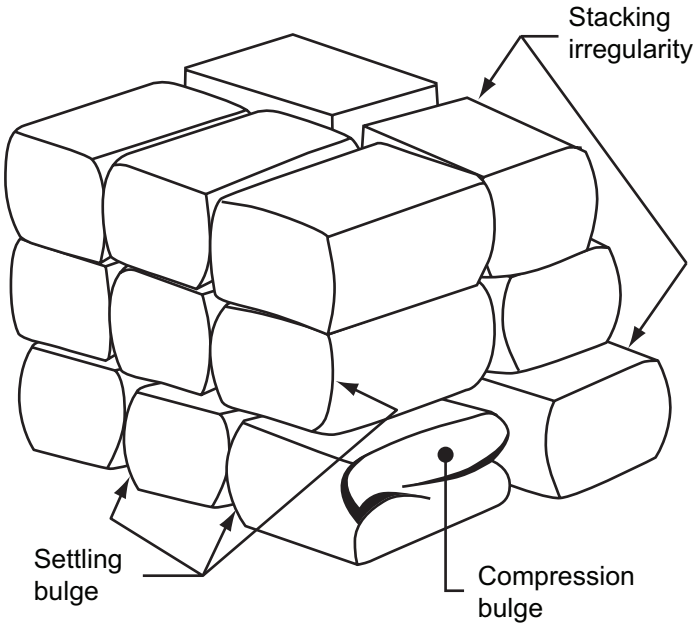

Figure 1 — Dimensional deviations for unit loads

INTERNATIONAL STANDARD **ISO 3676:2012(E)**

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.

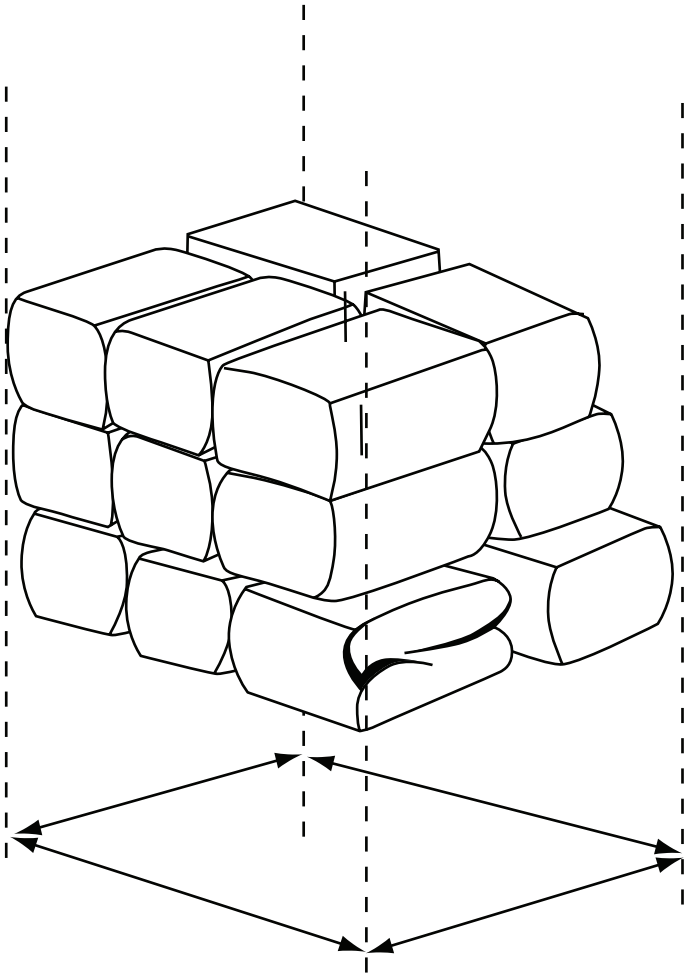

Figure 2 — Plan dimensions

5 Dimensional deviations

5.1 Nominal dimensions

The plan dimensions of the modular unit load outlined in 4.1 and the other two unit loads specified in 4.2, 4.3, and 4.4 are nominal dimensions.

5.2 Maximum dimensions

The permissible maximum dimensions, as the deviation from the nominal dimensions defined in 4.1, 4.2, 4.3, and 4.4, shall be defined considering the width of the road vehicle, freight container, etc.

The permissible maximum dimensions of the unit load shall be based on ISO 1496-1, EN 284, EN 452, CEN/TS 13853 and CEN/TS 14993. See Annex A for an example.

Annex A
(informative)

Example of the way to define the maximum unit load dimensions

A.1 How to define the maximum unit load dimensions

Table A.1 shows how to define the maximum unit load dimensions based on 5.2.

Table A.1 — Example of how to define the maximum unit load dimensions

All units expressed in millimetres

Area using wide type container and road vehicle. For example, the width of container and/or road vehicle is about 2,55 m [a].	Area using ISO series 1 freight container and road vehicle whose width is maximum 2,5 m [b].
Based on EN 284, EN 452, CEN/TS 13853, CEN/TS 14993.	Based on ISO 1894, which was withdrawn and replaced by ISO 1496-1.
1 200 × 1 000 1 200 × 800	1 240 × 1 040 [c] 1 140 × 1 140

[a] The area is assumed to use the containers and road vehicles, in order to put the unit load of 1 200 mm inside in parallel.

[b] The area is assumed to use the ISO series 1 freight containers and road vehicles. The total width of the unit loads, which were put in two lines inside of the series 1 freight container, is 2 280 mm (i.e. work allowance is 50 mm), in order to fit the minimum inside width of 2 330 mm of an ISO series 1 freight container.

[c] It is assumed that 1 240 mm and 1 040 mm are combined and equal to 2 280 mm and loaded inside of the container and road vehicle. It is necessary to set the maximum dimension of 1 200 mm × 1 000 mm when unit loads are transported to areas using wide type containers and road vehicles.

Bibliography

[1] ISO 1894[1)], *General purpose series 1 freight containers — Minimum internal dimensions*

[2] ISO 3394, *Packaging — Completed, filled transport packages and unit loads — Dimensions of rigid rectangular packages*

[3] ISO 6780, *Flat pallets for intercontinental materials handling — Principal dimensions and tolerances*

1) Withdrawn and replaced by ISO 1496-1:1990.

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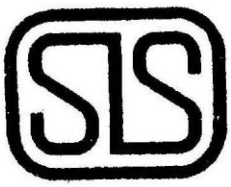
Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*



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SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

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