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Transport packaging — Small load container systems —

Part 1: Common requirements and test methods

Emballage de transport — Systèmes de transport de petites charges —

Partie 1: Exigences communes et méthodes d'essai

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 122, *Packaging*.

A list of all parts in the ISO 19709 series can be found on the ISO website.

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Introduction

The exchange of goods between national and international partners is increasingly dependent upon "just-in-time" shipments, total quality requirements and across-the-border delivery organizations.

In order to rationalize the flow of products, it is necessary to use a restricted number of harmonized, standard, durable and reusable containers, which are coordinated in modular fashion with the modulus 1 200 × 800, 1 200 × 1 000 (1 219 × 1 016) and 1 100 × 1 100. These represent universally usable, poolable systems and are especially designed to meet customer and supplier needs, as well as the technical and environmental requirements of the logistic chain.

One of the main goals is to create and promote an overall open system for packaging and equipment for unit loads to facilitate free border crossing exchange of goods.

This leads to the condition of the more restricted use of standardized packages and unit loads as the main elements of the transportation and distribution of goods and unit loads, "the modular system".

This document specifies the elements of Small Load Container (SLC) modular systems which are designed to promote reusable primary and transport packaging to protect the environment.

It has to be recognized that a single overall system is unlikely to cover all aspects of distribution chain. For this reason, this document specifies different systems which are dependent on different specification requirements.

Handling and transportation technologies are taken into account by specifying different types of SLC systems.

These containers and the other system elements are designed for handling, storage and transport operations in order to meet the requirements of the transportation chain most efficiently.

This document is based on performance requirements and thus, does not include specific design features. However, it includes essential requirements to allow for third-party assessment and certification of the products if required.

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Transport packaging — Small load container systems —

Part 1:
Common requirements and test methods

1 Scope

This document specifies the essential characteristics and the common requirements and test methods for SLC systems used in the handling, transport and storage for the automotive industry. The application of such systems is described in Annex B.

These containers are based on the modular area 600 mm × 400 mm, 550 mm × 366 mm and 600 mm × 500 mm and subdivisions according to ISO 3394 and ISO 3676.

This document is designed to be read in conjunction with the particular part which specifies the chosen system.

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 2234, *Packaging — Complete, filled transport packages and unit loads — Stacking tests using a static load*

ISO 2248, *Packaging — Complete, filled transport packages — Vertical impact test by dropping*

ISO 3676, *Packaging — Complete, filled transport packages and unit loads — Unit load dimensions*

IEC 61340-2-3, *Electrostatics — Part 2-3: Methods of test for determining the resistance and resistivity of solid materials used to avoid electrostatic charge accumulation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21067, ISO/TS 19709-2, ISO/TS 19709-3 and the following apply.

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

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

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

3.1
ends
two shortest vertical walls of an *SLC* (3.5)

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3.2
nominal load
recommended maximum mass of container contents, lowest safe load value for the specified support conditions, independent of the type of load (excluding concentrated loads)

[SOURCE: ISO 445:2013, 2.2, modified, "recommended maximum mass of container contents" added, Note 1 and Note 2 removed.]

3.3
nominal stacking load
recommended maximum mass applied to the top of the lowest *SLC* (3.5) in a stack

3.4
sides
two longest vertical walls of an *SLC* (3.5)

3.5
small load container
SLC
open-topped durable, reusable, rigid, rectangular modular container which can be handled manually and/or mechanically and is the central element of a SLC system

3.6
system
entity consisting of interdependent components

[SOURCE: ISO 3676:2012, 3.2]

4 Module capacity

These SLC systems are based on the area module 600 mm × 400 mm according to ISO 3394. They shall be compatible with the international standardized unit load sizes 1 200 mm × 800 mm and/or 1 200 mm × 1 000 mm according to ISO 3676.

NOTE The SLC patterns identified for 1 000 × 1 200 will also be accommodated by a 1 016 × 1 219 pallet (North American standard GMA size). The ideal pallet size to transport the containers with an area module of 550 mm × 366 mm is 1 100 mm × 1 100 mm.

The plan view dimensions of the system elements specified shall be subdivisions or multiples of the area module with the following nominal sizes, for example:

— 300 mm × 200 mm, 400 mm × 300 mm, 600 mm × 400 mm;

— 550 mm × 366 mm, 366 mm × 275 mm, 366 mm × 183 mm;

— 600 mm × 500 mm, 500 mm × 300 mm, 300 mm × 250 mm.

Carrying handles and label frames are separated. Exceptions are BSS-SLC and CSS-SLC with height 147,5 mm, for which the label frame on the end face is integrated in the carrying handle.

5 SLC system elements designation

— SLC is an open container (with footprint up to 600 mm × 400 mm) for receiving bulk goods and components.

— CSS-SLC is an adaptation or system extension to meet the requirements of new supply chains (see Figure 1). Features are single-walled SLC design, rigid, filling mass up to 20 kg and flat base (see ISO/TS 19709-2).

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