INTERNATIONAL STANDARD

ISO 18616-2

First edition
2016-11-15

Transport packaging — Reusable, rigid plastic distribution boxes —

Part 2: General specifications for testing

Emballages de transport — Boîtes de distribution en plastique rigide, réutilisables —

Partie 2: Spécifications d'essai générales

Reference number
ISO 18616-2:2016(E)

© ISO 2016



COPYRIGHT PROTECTED DOCUMENT

© ISO 2016, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

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

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Performance requirements **1**
4.1 Surfaces 1
4.2 Dimensions 2
4.3 Shape stability 2
4.4 Stacking stability 2
4.5 Base deflection 2
5 Requirements before testing **2**
5.1 General 2
5.2 Conditioning 2
5.3 Dimensions and weight 2
5.4 Test load 3
5.4.1 General 3
5.4.2 Test load inside the box 3
5.4.3 Test load on top of the box 3
6 Test methods **3**
6.1 Stacking test using static load 3
6.1.1 Test parameters 3
6.1.2 Test method 3
6.2 Drop test 4
6.2.1 General 4
6.2.2 Drop test 1 4
6.2.3 Drop test 2 4
6.2.4 Sequence 4
6.3 Base deflection test 7
6.3.1 Test parameters 7
6.3.2 Test method 7
Bibliography **8**

© ISO 2016 – All rights reserved

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 18616 series can be found on the ISO website.

© ISO 2016 – All rights reserved

Introduction

Standardization is a crucial element to improve the efficiency of a returnable packaging system in a supply chain and can help to integrate a supply chain. Standardization of returnable transport items (RTI) and its operation system (returnable transport system) is the first step for an efficient and seamless supply chain. RTI standards such as container sizes, materials and weights enable a company's supply chain integration. A standardized returnable packaging operation system facilitates the supply chain automation, increases efficiency of inventory control and reduces total logistics costs. Global standardization of returnable transport systems can help a company to make it easy to invest in their packaging system while facilitating smooth and integrated supply chain interfaces from suppliers to customers.

© ISO 2016 – All rights reserved

Transport packaging — Reusable, rigid plastic distribution boxes —

Part 2: General specifications for testing

1 Scope

This document specifies the test methods for handling and managing reusable, rigid plastic distribution boxes. These boxes are based on the modular area 600 mm × 400 mm, 600 mm × 500 mm, 550 mm × 366 mm and subdivisions of them.

This document is designed for general purpose applications in a returnable transport system. For automotive industry application, ISO 19709-1, ISO/TS 19709-2 and ISO/TS 19709-3 can be referenced.

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 2206, *Packaging — Complete, filled transport packages — Identification of parts when testing*

ISO 2233, *Packaging — Complete, filled transport packages — Conditioning for testing*

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

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

ISO 3394, *Packaging — Complete, filled transport packages and unit loads — Dimensions of rigid rectangular packages*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 18616-1 and ISO 21067 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

4 Performance requirements

4.1 Surfaces

The box shall be free from foreign bodies, blowholes, cracks and burrs and granules which have not melted, as well as from other defects. Minor unevenness or sunken areas produced in processing are permissible provided that fitness for use is not adversely affected.

© ISO 2016 – All rights reserved