Packaging - Complete, filled transport packages and unit loads - Vertical random vibration test

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 13355:2003 sisaldab Euroopa standardi EN ISO 13355:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 17.09.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 13355:2003 consists of the English text of the European standard EN ISO 13355:2003. This document is endorsed on 17.09.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International standard specifies a method to carry out a vertical random vibration test on a complete, filled transport package(s) and unit loads using a random excitation	**Scope:** This International standard specifies a method to carry out a vertical random vibration test on a complete, filled transport package(s) and unit loads using a random excitation

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Võtmesõnad:

EUROPEAN STANDARD
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English version

Packaging

Complete, filled transport packages and unit loads

Vertical random vibration test

(ISO 13355 : 2001)

Emballages – Emballages d'expédition complets et pleins et charges unitaires – Essais de vibration verticale aléatoire (ISO 13355 : 2001)

Verpackung – Versandfertige Packstücke und Ladeeinheiten – Schwingprüfung mit vertikaler rauschförmiger Anregung (ISO 13355 : 2001)

This European Standard was approved by CEN on 2003-03-18.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Management Centre: rue de Stassart 36, B-1050 Brussels

Ref. No. EN ISO 13355 : 2003 E

Foreword

International Standard

ISO 13355 : 2001 Packaging – Complete, filled transport packages and unit loads – Vertical random vibration test,

which was prepared by ISO/TC 122 'Packaging' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 261 'Packaging', the Secretariat of which is held by AFNOR, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 2003 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 13355 : 2001 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

Introduction

A random vibration test is the most realistic way to reproduce environmental vibration during transportation. For this reason, if suitable laboratory facilities are available, this kind of test should be preferred to any fixed or swept frequency sinusoidal vibration tests similar to those given in ISO 2247 [1] and ISO 8318 [2].

1 Scope

This International Standard specifies a method to carry out a vertical random vibration test on a complete, filled transport package(s) and unit loads using a random excitation[1)].

This test may be used to assess the performance of a package in terms of its strength or the protection that it offers to its contents when it is subjected to vertical vibration. It may be performed either as a single test to investigate the effects of vertical vibration or as a part of a sequence of tests designed to measure the ability of a test item to withstand a distribution system that includes a vibration hazard.

NOTE In the following text a package or unit load is called a test item.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

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

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

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

3 Principle

The test item is placed on a vibration table and made to vibrate using a random excitation with frequency between 3 Hz and 200 Hz. The atmospheric conditions, the duration of the test, the acceleration power spectral density, the attitude of the test item and its method of restraint are predetermined.

NOTE When required, a load may be superimposed on the test item to simulate conditions at the bottom of a stack.

4 Apparatus

4.1 Vibration table, of sufficient size and performance (in terms of power, displacement, frequency range) capable of being stiff (its lower resonant frequency shall be higher than the higher test frequency) and remaining horizontal during the test.

The table may be equipped with the following components.

4.1.1 Low fences, restricting sideways and endways movements during testing.

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1) The treatment of random vibration theory can be found in IEC 60068-2-64 (see reference [3] in the Bibliography).