

**Packaging - Complete, filled transport packages and unit loads - Vibration tests at fixed low frequency**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 2247:2003 sisaldab Euroopa standardi EN ISO 2247:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 2247:2003 consists of the English text of the European standard EN ISO 2247:2002.</p> <p>This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This internationale Standard specifies methods to carry out vibration tests on complete, filled transport packages or unit loads using sinusoidal excitation at fixed frequency</p>	<p><b>Scope:</b></p> <p>This internationale Standard specifies methods to carry out vibration tests on complete, filled transport packages or unit loads using sinusoidal excitation at fixed frequency</p>
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**ICS** 55.180.40

**Võtmesõnad:** definitions, frequencies, inspection, mechanical testing, packages, packaging, packaging tests, packing, protection, resistance, sinusoidal vibrations, strength of materials, testing, tests, transport packing, vibration, vibration testing, vibration tests

**English version**

Packaging

**Complete, filled transport packages and unit loads**

Vibration tests at fixed low frequency  
(ISO 2247 : 2000)

Emballages – Emballages d'expédition complets et pleins et charges unitaires – Essais de vibration à basse fréquence fixe  
(ISO 2247 : 2000)

Verpackung – Versandfertige Packstücke und Ladeeinheiten – Schwingprüfung mit niedriger Festfrequenz  
(ISO 2247 : 2000)

This European Standard was approved by CEN on 2002-08-26.

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.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

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

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## Foreword

International Standard

ISO 2247 : 2000 Packaging – Complete, filled transport packages and unit loads – Vibration tests at fixed low frequency,

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 March 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, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 2247 : 2000 was approved by CEN as a European Standard without any modification.

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

## Introduction

It is the responsibility of the user of this International Standard to establish appropriate health and safety practice in accordance with relevant legislation.

### 1 Scope

This International Standard specifies methods to carry out vibration tests on complete, filled transport packages or unit loads using sinusoidal excitation at fixed frequency. These tests may be used to assess the performance of packages and unit loads in terms of the strength or the protection that they offer to their contents when subjected to low frequency vibration. These tests may be performed either as a single test to investigate the effects of low frequency vibration or as a part of a sequence of tests designed to measure the ability of a package or unit load to withstand a distribution system that includes a vibration hazard at low frequency or repetitive shocks.

### 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 static load.*

### 3 Term and definition

For the purposes of this International Standard, the following term and definition applies.

#### 3.1

##### **test specimen**

a complete, filled transport package or unit load

### 4 Principle

The test specimen is placed on a vibration table and subjected to a vibration using an approximately sinusoidal excitation at a fixed low frequency. The atmospheric conditions, the duration of the test, the peak acceleration, the attitude of the test specimen and any method of restraint are predetermined.

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