Masinate ohutus. Reeglid ohutusstandardite vibratsiooni käsitlevate jaotiste koostamiseks

Safety of machinery - Rules for the drafting of the vibration clauses of safety standards

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12786:2013 sisaldab Euroopa standardi EN 12786:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 12786:2013 consists of the English text of the European standard EN 12786:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.02.2013.	Date of Availability of the European standard is 20.02.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 01.120, 13.110, 17.160

EUROPEAN STANDARD

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English Version

Safety of machinery - Requirements for the drafting of the vibration clauses of safety standards

Sécurité des machines - Exigences relatives à la rédaction des clauses vibrations des normes de sécurité

Sicherheit von Maschinen - Anforderungen an die Abfassung der Abschnitte über Schwingungen in Sicherheitsnormen

This European Standard was approved by CEN on 22 December 2012.

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 CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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Foreword

This document (EN 12786:2013) has been prepared by Technical Committee CEN/TC 231 “Mechanical vibration and shock”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2013, and conflicting national standards shall be withdrawn at the latest by August 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12786:1999.

The main changes to the first edition EN 12786:1999 are:

– adapted to the requirements of Machinery Directive 2006/42/EC;

– Annex B with content of Directive 2006/42/EC relevant to vibration added;

– referenced documents updated.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard supplements and develops examples of how to deal with vibration as a health risk to machine operators as set out in the Guide to application of the Machinery Directive 2006/42/EC.

Risks to machine operators from hand-transmitted and whole-body vibration can be assessed by reference to EN ISO 5349-1 and ISO 2631-1, respectively, and by reference to the Non-binding guide to good practice for implementing Directive 2002/44/EC (Vibrations at Work).

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

For many machines, vibration is a significant hazard, i.e. a hazard which an assessment has identified as requiring a specific action on the part of the manufacturer or supplier (see EN ISO 12100:2010, 3.8).

If the manufacturer ensures that a machine complies with the relevant harmonized type-C safety standard, the machine is presumed to comply with all of the essential requirements addressed by that standard. The information contained in this European Standard will help writers of standards to address the essential requirements relevant to vibration and is based on the following principles:

a) vibration risk reduction is an integral part of machinery safety;

b) machinery shall be so designed and constructed that risks resulting from vibration produced by the machinery are reduced to the lowest level, taking account of technical progress and available means of reducing vibration, in particular at source; and

c) where vibration is assessed as a significant hazard, the vibration clauses of the type-C standard shall deal with aspects including minimizing the risk through design and protective measures, the provision of information about residual risk and instructions for safe use.

For portable hand-held and hand-guided machinery, and mobile machinery, the declaration of vibration emission is mandatory. This requirement is not dependent on the assessment of vibration as a significant hazard. The type-C standard should address the declaration of vibration emission.

Employers are required to comply with national legislation on the health and safety requirements regarding the exposure of workers to the risks arising from vibration. Employers should assess those risks and control them. The duties of machinery suppliers indicated in this standard are complementary to those of employers: by supplying safe work equipment, giving warnings of residual risk and providing information to enable safe use of the machinery they can help employers to control risks. It is therefore important that type-C safety standards deal adequately with vibration risks.

This document is a type-B standard as stated in EN ISO 12100.

The provisions of this document can be supplemented or modified by a type-C standard.

For machines which are covered by the scope of a type-C standard and which have been designed and built according to the provisions of that standard, the provisions of that type-C standard take precedence over the provisions of this type-B standard.

The provisions of this document are intended to be used by the Technical Committee drafting a type-C standard, while taking account of the specific requirements for the machinery dealt with and of the structure of the type-C standard. It is important that type-C safety standards deal adequately with vibration risks.

1 Scope

This European Standard gives guidance for the writers of harmonized type-C machinery safety standards on how to deal with vibration where hand-transmitted vibration and/or whole-body vibration is identified as a significant hazard.

This European Standard also gives guidance on how to deal with the requirement for declaration of the vibration emission of portable hand-held and/or hand-guided machinery and for mobile machinery.

This European Standard supplements EN ISO 12100.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CR 1030-1, *Hand-arm vibration — Guidelines for vibration hazards reduction — Part 1: Engineering methods by design of machinery*

EN 1032, *Mechanical vibration — Testing of mobile machinery in order to determine the vibration emission value*

EN 12096, *Mechanical vibration — Declaration and verification of vibration emission values*

CEN/TR 15172-1, *Whole-body vibration — Guidelines for vibration hazards reduction — Part 1: Engineering methods by design of machinery*

EN 30326-1, *Mechanical vibration — Laboratory method for evaluating vehicle seat vibration — Part 1: Basic requirements (ISO 10326-1)*

EN ISO 5349-1, *Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration — Part 1: General requirements (ISO 5349-1)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 20643, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission (ISO 20643)*

ISO 2631-1, *Mechanical vibration and shock — Evaluation of human exposure to whole-body vibration — Part 1: General requirements*

3 Requirements for drafting the vibration clauses in type-C standards

3.1 General drafting rules

3.1.1 General

The provisions of this European Standard shall be used by the Technical Committee drafting a type-C standard, while taking account of the specific requirements for the machinery dealt with and of the structure of the type-C standard.