Concrete compactors and smoothing machines - Safety

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12649:2008 sisaldab Euroopa standardi EN 12649:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 12649:2008 consists of the English text of the European standard EN 12649:2008.
Standard on kinnitatud Eesti Standardikeskuse 21.07.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 21.07.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 11.06.2008.	Date of Availability of the European standard text 11.06.2008.
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Võtmesõnad: concrete mixers, concretes, construction material, hazards, marking

EUROPEAN STANDARD

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English Version

Concrete compactors and smoothing machines - Safety

Compacteurs à béton et talocheuses - Prescriptions de sécurité

Maschinen zum Verdichten und Glätten von Beton - Sicherheitsanforderungen

This European Standard was approved by CEN on 21 March 2008.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Foreword

This document (EN 12649:2008) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines - Safety”, 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of an identical text or by endorsement, at the latest by December 2008, and conflicting national standards shall be withdrawn at the latest by December 2008.

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 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 98/37/EC. For relationship with EU Directive(s), see informative Annex ZA and ZB, which are integral parts of this document.

This is the first edition of this European Standard.

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

Introduction

This document is a type C standard as stated in EN ISO 12100-1:2003.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards for machines that have been designed and built according to the provisions of this type C standard.

In this standard it is assumed that:

— only competent persons operate the machine;

— components without specific requirements are:

  a) designed in accordance with good engineering practice and calculation codes, including all failure modes;

  b) of sound mechanical and electrical construction according to the state of the art;

  c) made of materials with adequate strength and of suitable quality;

  d) made of no harmful materials, such as asbestos;

— components are kept in good repair and working order, so that the required characteristics remain despite wear;

— installation allows for safe use of the machine;

— negotiation occurs between the manufacturer and the user/purchaser concerning particular conditions of use and the places (e.g. ground and local safety conditions) of use of the machinery.

NOTE ”Manufacturer” is to be understood within the European Union as intended in the Machinery Directive.

1 Scope

1.1 This document applies to concrete compactors and smoothing machines as defined in Clause 3 and illustrated in Annex A and Annex B.

This standard also applies for hand-held motor-operated concrete vibrators as defined in EN 60745-2-12:2003, but with the additional safety requirements for electronically controlled systems as defined in this standard (see 5.2.1.2).

1.2 This document does not deal with auxiliary equipment which provides the energy for internal and external vibrators, e.g. air compressors, hydraulic power sources and voltage transformers. This document does not apply to remote-controlled or portable smoothing machines and self-acting (robotic) smoothing machines.

1.3 This document deals with all significant hazards, hazardous situations and events relevant to concrete compactors and smoothing machines, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). This document specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards.

This standard also includes measures to consider reasonably foreseeable misuse.

1.4 This document is not applicable to machines which are manufactured before the date of publication of this document by CEN.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 294:1992, *Safety of machinery — Safety distance to prevent danger zones from being reached by the upper limbs*

EN 500-1:2006, *Mobile road construction machinery — Safety — Part 1: Common requirements*

EN 574:1996, *Safety of machinery — Two-hand control devices — Functional aspects — Principles for design*

EN 614-1:2006, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 811:1996, *Safety of machinery — Safety distances to prevent danger zones being reached by the lower limbs*

EN 953:1997, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

EN 982:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 983:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics*

EN 1032:2003, *Mechanical vibration — Testing of mobile machinery in order to determine the vibration emission value*

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

EN 13309:2000, *Construction machinery — Electromagnetic compatibility of machines with internal electrical power supply*

EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60309-1:1999, *Plugs, socket-outlets and couplers for industrial purposes — Part 1: General requirements (IEC 60309-1:1999)*

EN 60309-2:1999, *Plugs, socket-outlets and couplers for industrial purposes — Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories (IEC 60309-2:1999)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60745-2-12:2003, *Hand-held motor operated electric tools - Safety - Part 2-12: Particular for concrete vibrators (IEC 60745-2-12:2003)*

EN ISO 3744:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*

EN ISO 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995)*

EN ISO 11688-1:1998, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

EN ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732:2006)*

EN ISO 13849-1:2006, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 20643:2005, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission (ISO 20643:2005)*

ISO 3795:1989, *Road vehicles, and tractors and machinery for agriculture and forestry — Determination of burning behaviour of interior materials*

ISO 6405-1:2004, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

CR 1030-1:1995, *Hand-arm vibration — Guidelines for vibration hazards reduction — Part 1: Engineering methods by design of machinery*

HD 22.4 S4:2004, *Cables of rated voltages up to and including 450/750 V and having crosslinked insulation — Part 4: Cords and flexible cables*

HD 384.4.41 S2:1996, *Electrical installations of buildings — Part 4: Protection for safety — Chapter 41: Protection against electric shock (IEC 60364-4-41:1992, modified)*