Vertikaalsetel juhtrööbastel kabiiniga ehitustõstukid inimeste ja lasti tõstmiseks KONSOLIDEERITUD TEKST

Builder hoists for persons and materials with vertically guided cages CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12159:2001+A1:2009 sisaldab Euroopa standardi EN 12159:2000+A1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 12159:2001+A1:2009 consists of the English text of the European standard EN 12159:2000+A1:2009.
Standard on kinnitatud Eesti Standardikeskuse 31.08.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.08.2009 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 08.07.2009.	Date of Availability of the European standard text 08.07.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 91.140.90

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 12159:2000+A1

July 2009

ICS 91.140.90

Supersedes EN 12159:2000

English Version

Builders hoists for persons and materials with vertically guided cages

Ascenseurs de chantier pour personnes et matériaux avec cages guidées verticalement

Bauaufzüge zur Personen- und Materialbeförderung mit senkrecht geführten Fahrkörben

This European Standard was approved by CEN on 20 August 2000 and includes Amendment 1 approved by CEN on 28 May 2009.

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 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 Management Centre has the same status as the official versions.

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Ref. No. EN 12159:2000+A1:2009: E

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Foreword

This document (EN 12159:2000+A1:2009) has been prepared by Technical Committee CEN/TC 10 “Lifts, escalators and moving walks”, the secretariat of which is held by AFNOR.

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 January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

This document includes Amendment 1, approved by CEN on 2009-05-28.

This document supersedes EN 12159:2000.

The start and finish of text introduced or altered by amendment is indicated in the text by tags ⟩A1⟨ ⟨A1⟩.

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 ⟩A1⟨ EU Directive(s) ⟨A1⟩.

For relationship with ⟩A1⟨ EU Directive(s) ⟨A1⟩, see informative Annex ZA, which is an integral part of this document.

⟩A1⟨ *deleted text* ⟨A1⟩

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 United Kingdom.

Introduction

This standard is one of a series of standards produced by CEN / TC 10 / SC 1 as part of the CEN programme of work to produce machinery safety standards.

The standard is a Type C standard relating to the safety for builders hoists for persons and materials.

The extent to which hazards are covered is indicated in the scope of this standard. In addition, machinery shall comply as appropriate with ⟦A1⟩ EN ISO 12100:2003 ⟨A1⟧ for hazards which are not covered by this standard.

⟦A1⟩ 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.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this European Standard. ⟨A1⟧

1 Scope

1.1 This standard deals with power operated temporarily installed builders hoists (referred to as "hoists" in this standard) intended for use by persons who are permitted to enter sites of engineering and construction, serving landing levels, having a carrier

- designed for the transportation of persons or of persons and materials;
- guided;
- travelling vertically or along a path within 15 degrees max. of the vertical;
- supported or sustained by drum driven wire rope, rack and pinion, hydraulic jack (direct or indirect), or an expanding linkage mechanism;
- where masts, when erected, may or may not require support from separate structures.

1.2 The standard identifies hazards as listed in clause 4 which arise during the various phases in the life of such equipment and describes methods for the elimination or reduction of these hazards when used as intended by the manufacturer.

1.3 This European standard does not specify the additional requirements for

- operation in severe conditions (e.g. extreme climates, strong magnetic fields);
- lightning protection;
- operation subject to special rules (e.g. potentially explosive atmospheres);
- electromagnetic compatibility (emission, immunity);
- handling of loads the nature of which could lead to dangerous situations (e.g. molten metal, acids/bases, radiating materials, fragile loads);
- the use of combustion engines;
- the use of remote controls;
- hazards occurring during manufacture;
- hazards occurring as a result of mobility;
- hazards occurring as a result of being erected over a public road;
- earthquakes.
- [A1] *deleted text* [A1].

1.4 This standard is not applicable to

- builders hoists for the transport of goods only [A1] ; EN 12158-1:2000 and EN 12158-2:2000 [A1];
- lifts according to EN 81-1:1998, EN 81-2:1998 and [A1] EN 81-3:2000 [A1];
- work cages suspended from lifting appliances;
- work platforms carried on the forks of fork trucks;
- work platforms [A1] ; EN 1495:1997 [A1];
- funiculars;
- lifts specially designed for military purposes;
- mine lifts;
- theatre elevators;
- special purpose lifts.

1.5 This standard deals with the hoist installation. It includes the base frame and base enclosure but excludes the design of any concrete, hard core, timber or other foundation arrangement. It includes the design of mast ties but excludes the design of anchorage bolts to the supporting structure. It includes the landing gates and their frames but excludes the design of any anchorage fixing bolts to the supporting structure.

2 Normative references

[A1] 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. [A1]

EN 81-1:1998, *Safety rules for the construction and installation of lifts — Part 1: Electric lifts*

EN 81-2:1998, *Safety rules for the construction and installation of lifts — Part 2: Hydraulic lifts*

[A1] EN 81-3:2000, *Safety rules for the construction and installation of lifts — Part 3: Electric and hydraulic service lifts* [A1]

[A1] *deleted text* [A1]

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

EN 349:1992, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

[A1] *deleted text* [A1]

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

EN 894-1:1997, *Safety of machinery — Ergonomic requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators*

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

[A1] *deleted text* [A1]

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

EN 1037:1995, *Safety of machinery — Prevention of unexpected start-up*

EN 1088:1996, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

[A1] *deleted text* [A1]

[A1] EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)* [A1]

[A1] EN 60204-32:2008, *Safety of machinery — Electrical equipment of machines — Part 32: Requirements for hoisting machines (IEC 60204-32:2008)* [A1]

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

[A1] EN 60947-4-1:2001, *Low-voltage switchgear and controlgear — Part 4-1: Contactors and motor-starters; Electromechanical contactors and motor-starters (IEC 60947-4-1:2000)* [A1]

EN 60947-5-1:2004, *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2003)*

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

EN ISO 9000:2005, *Quality management systems — Fundamentals and vocabulary (ISO 9000:2005)*

EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at the 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 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13850:2006, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

ISO 2408:2004, *Steel wire ropes for general purposes — Minimum requirements*

ISO 3864-1:2002, *Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas*

ISO 4302:1981, *Cranes — Wind load assessment*

ISO 4309:2004, *Cranes — Wire ropes — Care, maintenance, installation, examination and discard*

ISO 6336-1:2006, *Calculation of load capacity of spur and helical gears — Part 1: Basic principles, introduction and general influence factors*

ISO 6336-2:1996, *Calculation of load capacity of spur and helical gears — Part 2: Calculation of surface durability (pitting)*

ISO 6336-3:2006, *Calculation of load capacity of spur and helical gears — Part 3: Calculation of tooth bending strength*

ISO 6336-5:2003, *Calculation of load capacity of spur and helical gears — Part 5: Strength and quality of materials*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and the following apply.