Masinate ohutus. Seadmed mootorsõidukite parkimiseks mootorsõidukite abil. Ohutus ja elektromagnetilise ühilduvuse nõuded seadmete projekteerimisel, tootmisel, paigaldamisel ja kasutuselevõtul KONSOLIDEERITUD TEKST

Safety of machinery - Equipment for power driven parking of motor vehicles - Safety and EMC requirements for design, manufacturing, erection and commissioning stages CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 14010:2004+A1:2009 sisaldab Euroopa standardi EN 14010:2003+A1:2009 ingliskeelset teksti.	This Estonian standard EVS-EN 14010:2004+A1:2009 consists of the English text of the European standard EN 14010:2003+A1:2009.
Standard on kinnitatud Eesti Standardikeskuse 30.09.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2009 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 15.07.2009.	Date of Availability of the European standard text 15.07.2009.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 33.100.01, 53.020.99, 53.080

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14010:2003+A1

July 2009

ICS 33.100.01; 53.020.99; 53.080

Supersedes EN 14010:2003

English Version

Safety of machinery - Equipment for power driven parking of motor vehicles - Safety and EMC requirements for design, manufacturing, erection and commissioning stages

Sécurité des machines - Dispositif de stationnement motorisé des véhicules automobiles - Exigences concernant la sécurité et la CEM pour les phases de conception, construction, montage et mise en service

Sicherheit von Maschinen - Kraftbetriebene Parkeinrichtungen für Kraftfahrzeuge - Sicherheits- und EMV-Anforderungen an Gestaltung, Herstellung, Aufstellung und Inbetriebnahme

This European Standard was approved by CEN on 1 October 2003 and includes Amendment 1 approved by CEN on 19 June 2009.

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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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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 14010:2003+A1:2009: E

Contents

Foreword

This document (EN 14010:2003+A1:2009) has been prepared by Technical Committee CEN /TC 98, "Lifting platforms", 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 January 2010, and conflicting national standards shall be withdrawn at the latest by January 2010.

This document includes Amendment 1, approved by CEN on 2009-06-19.

This document supersedes EN 14010:2003.

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 EU Directive(s).

⟦A1⟩ For relationship with EU Directive(s), see informative Annexes ZA, ZB and ZC, which are integral parts of this document. ⟨A1⟧

Annexes ⟦A1⟩ A and C ⟨A1⟧ are normative. Annex B is informative.

This document includes a Bibliography.

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

[A1] This European Standard is a type C standard as stated in EN ISO 12100-1:2003. [A1]

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

When producing this standard it was assumed that

— negotiation will take place between the manufacturer and the purchaser of the parking equipment/systems, concerning particular conditions for the use and places of use for the equipment/system, related to health, safety and environmental conditions;

— erection, commissioning and testing will be carried out by suitably trained persons;

— only legal drivers of vehicles will use the equipment/system;

— no vehicles in excess of the rated load or otherwise unsuitable (see clause 1), will use the equipment/system;

— persons will not be lifted or transported by the machinery;

— the machinery and its components will be kept in good repair and working order in accordance with the manufacturers instructions, to retain specified safety characteristics throughout the intended working life of the machinery;

— by design of the load bearing elements, safe operation of the machinery will be assured for loading ranging from zero to 100% of the rated capacities and during the loaded tests (see 6.1f);

— harmful materials, such as asbestos are not used as part of the machine;

— all parts of the equipment/system without specific requirements will be:

1) designed in accordance with the usual engineering practice and design codes, using appropriate safety factors, taking account of all relevant forces, loads and failure modes;

2) of sound mechanical and electrical construction;

3) made from materials of adequate strength and durability and of suitable quality for their intended purpose.

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 other standards, for machines that have been designed and built according to the provisions of this type C standard.

1 Scope

1.1 This European Standard deals with the technical requirements to minimise the risks due to the hazards listed in clause 4, which can arise during installation1, operation and maintenance of permanently installed equipment and systems for the power driven parking of motor vehicles, as defined in 3.1 to 3.4 below. Requirements are also given on the provision of information for use, which includes requirements for the drafting of the instructions. Electromagnetic compatibility requirements are also covered.

1.2 This European Standard applies to equipment and systems for the power driven parking of motor vehicles which have four wheels, are within a maximum size envelope of 5,30 m long, by 2,30 m wide, by 2,20 m high and have a mass less than 2500 kg. The equipment can be manually or automatically controlled.

1.3 This standard does not cover:

a) vehicle lifts (see EN 1493);

b) peripheral devices, which do not handle motor vehicles, e.g. parking meters, ticket machines;

c) requirements related to the building even if they support directly stored vehicles;

d) goods only lifts in accordance with EN 81-31;

e) power driven parking equipment intended for lifting and/or transporting any person;

f) transmission and interface of remote controls;

g) automatic parking equipment with transfer areas which move;

h) the use of power driven parking equipment by wheelchair users and deaf persons;

i) the workplace of any attendant.

1.4 This standard does not deal with the following:

a) hazards arising if loads, or other items fall from vehicles;

b) hazards arising if fuel or oil leaks from vehicles;

c) hazards caused by operating the equipment/system in electromagnetic fields outside the range of EN 61000-6-2;

d) hazards caused by operating the equipment/system in areas subject to special regulations (e.g. explosive atmospheres, fire risks);

e) hazards caused by the use of dangerous/toxic materials, e.g. special hydraulic oil;

f) hazards caused by noise;

g) hazards arising from inadequate lighting of the surrounding of automatic parking systems and/or the place of installation of non-automatic parking equipment;

h) hazards caused by earthquakes;

i) hazards caused by vandalism;

j) hazards due to the use of programmable electronic systems related to safety functions;

[1] When carried out by or on behalf of the purchaser

k) hazards due to the use of cableless control devices;

l) hazards arising due to collision caused by the driver of the vehicle.

This document is not applicable to power driven parking equipment and systems manufactured before the date of publication of this document by CEN.

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]

[A1] *deleted text* [A1]

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

EN 349:1993, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects; principles for design*

EN 457, *Safety of machinery — Auditory danger signals — General requirements, design and testing (ISO 7731:1986, modified)*

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

EN 842, *Safety of machinery — Visual danger signals — General requirements, design and testing*

EN 894-2, *Safety of machinery — Ergonomics requirements for the design of displays and control actuators — Part 2: Displays*

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

EN 954-1:1996, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

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

EN 1005-2, *Safety of machinery — Human physical performance — Part 2: Manual handling of machinery and component parts of machinery*

EN 1005-3, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machinery operation*

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

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

[A1] *deleted text* [A1]

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

EN 1760-2, *Safety of machinery — Pressure sensitive protective devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars*

EN 1837, *Safety of machinery — Integral lighting of machines*

EN 12150-1, *Glass in building — Thermally toughened soda lime silicate safety glass — Part 1: Definition and description*

EN 12385-4, *Steel wire ropes — Safety — Part 4: Stranded ropes for general lifting applications*

EN 12385-5, *Steel wire ropes — Safety — Part 5: Stranded ropes for lifts*

EN 12433-1, *Industrial, commercial and garage doors and gates —Terminology — Part 1: Types of doors*

EN 12453, *Industrial commercial and garage doors and gates — Safety in use of power operated doors — Requirements*

EN 12604, *Industrial, commercial and garage doors and gates — Mechanical aspects — Requirements*

prEN 12624, *Industrial, commercial and garage doors and gates — Operational noise — Requirements and test methods*

EN 12635, *Industrial, commercial and garage doors and gates — Installation and use*

EN 12978, *Industrial, commercial and garage doors and gates — Safety devices for power operated doors and gates — Requirements and test methods*

prEN 13241, *Industrial, commercial and garage doors and gates — Product standard*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire rope slings*

prEN 13411-3, *Terminations for steel wire ropes — Safety — Part 3: Ferrules and ferrule-securing*

prEN 13411-6, *Terminations for steel wire ropes — Safety — Part 6: Asymmetric wedge socket*

EN 60204-1:1997, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:1997)*

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

EN 60947-5-1:1997, *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:1997*)

EN 61000-6-2, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments (IEC 61000-6-2:1999, modified*)

EN 61000-6-3, *Electromagnetic compatibility (EMC) — Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments (IEC 61000-6-3:1996, modified)*

EN 61310-1, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)*

EN 61310-2, *Safety of machinery — Indication, marking and actuation — Part 2: Requirements for marking (IEC 61310-2:1995)*

EN 61496-1, *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests (IEC 61496:1997)*

〈A1〉 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)* 〈A1〉

EN ISO 12543-2, *Glass in building — Laminated glass and laminated safety glass — Part 2: Laminated safety glass (ISO 12543-2:1998)*

EN ISO 14122-1, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels (ISO 14122-1:2001)*

EN ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2:2001)*

EN ISO 14122-3, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

prEN ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO/FDIS 14122-4:2002)*

ISO 3864, *Graphical symbols — Safety colours and safety signs*

ISO 7000, *Graphical symbols for use on equipment — Index and synopsis*

ISO 13050:1999, *Curvilinear toothed synchronous belt drive systems*

IEC 61496-2, *Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs)*

3 Terms and definitions

〚A1〛 For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and the following apply. 〚/A1〛

3.1
automatic parking system
automatic parking equipment together with its linked ancillary equipment, e.g. main door, working area door, side door, emergency door

3.2
automatic parking equipment
power driven parking equipment for motor vehicles, which stores and retrieves motor vehicles in an automatically sequenced mode (see 5.11 and annex B). The equipment, which may include structural elements, is permanently installed

3.3
non-automatic horizontally moving parking equipment
power driven parking equipment for motor vehicles, which has a load carrier which is moved in a non-automatically sequenced mode only in the horizontal plane. The horizontal movement is either under permanent control of the user or partially automatic. The equipment is permanently installed

3.4
non-automatic vertical parking equipment
power driven parking equipment for motor vehicles, which is moved vertically exclusively or with separate horizontal movement in a non-automatically sequenced mode and has only one defined fixed access point for the load carrier. Each movement is under permanent control of the user or partially automatic. The equipment is permanently installed

3.5
ancillary equipment

3.5.1
main door
door between the access area outside an automatic parking equipment and the parking equipment itself, which is used by motor vehicles and users and passengers, to enter and exit the transfer area (see annex B)