Sõidukitõstukid

Vehicle lifts



FESTI STANDARDI FESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1493:2010 sisaldab Euroopa standardi EN 1493:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.09.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 04.08.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1493:2010 consists of the English text of the European standard EN 1493:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 04.08.2010.

The standard is available from Estonian standardisation organisation.

ICS 43.180, 53.020.99

Standardite reprodutseerimis- ja levitamisõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega: Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation: Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: 605 5050; E-mail: info@evs.ee

EUROPEAN STANDARD

EN 1493

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2010

ICS 43.180; 53.020.99

Supersedes EN 1493:1998+A1:2008

English Version

Vehicle lifts

Elévateurs de véhicules

Fahrzeug-Hebebühnen

This European Standard was approved by CEN on 26 June 2010.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Cont		age
Forewo	ord	
	iction	
	Scope	
1		
2	Normative references	6
3	Terms and definitions	7
4	List of hazards	. 10
5	Safety requirements and/or measures	. 14
5.1	General	
5.2	Preventing unauthorised operation	
5.3	Control devices	
5.4	Control positions	
5.5	Duplicated drive systems	
5.6	Speeds	
5.7	Structural design of the supporting structure	
5.8	Driving machinery	
5.9 5.10	Load carrying devices	
5.10 5.11		
5.11 5.12	Limiting the travel of the load carrying device	. აე
5.12 5.13	Unintended blocking of the load carrying device	
5.13 5.14	Safety against rupture of mechanical bearing devices	
	Safety against leakage	
5.15	Additional requirements for lifts with several drives or lifting elements	
5.16	Additional requirements for movable and mobile lifts	
5.17	Protection against pinching and shearing	
5.18	Safety devices	
5.19	Protection against damage	
5.20	Manually driven vehicle lifts	
5.21	Electrical equipment	. 36
5.22	Special requirements for vehicle lifts where it is permitted to stand under the load during lifting and lowering movement	. 36
•	Verification of the safety requirements and/or measures	٥.
6 6.1	GeneralGeneral	3 <i>1</i>
J. I		
7	Information for use	. 39
7.1	General	
7.2	Marking	
7.3	Operation instructions	. 40
7.4	Name plate	
Δηηρχ	A (informative) Structural calculations	4:
A.1	Permissible stresses	. 42
	B (informative) Examples of solutions	
	C (normative) Design of rope drives	
	D (informative) Example of information about wind	
	•	
	E (normative) Protection against leakage	
	F (normative) Additional requirements for cableless controls and control systems	57 57

F.2 General	
F.3 Control limitation	
F.5 Serial data communication	57
F.6 Use of more than one operator control station	
F.7 Battery-powered operator control stations	
F.8 Wireless control components	
Annex G (normative) Noise	60
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	
Bibliography	62
Bibliography	

Foreword

This document (EN 1493:2010) 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 February 2011, and conflicting national standards shall be withdrawn at the latest by February 2011.

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 1493:1998+A1:2008.

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.

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, Croatia, 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 hazardous events are covered are indicated in the scope of this document. In addition, machinery should comply as appropriate with EN ISO 12100-1 for hazards which are not covered by this standard.

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 object of this European Standard is to define rules for safeguarding persons against the risk of accidents associated with the operation of vehicle lifts.

While elaborating this standard it was assumed that only authorized persons operate the vehicle lifts and that the working area is sufficiently lit.

The requirement concerning loading control is not deemed pertinent to this standard insofar as:

- experience and the state of the art suggests that failing to observe this requirement has not historically given rise to unsafe situations;
- such devices which would give protection against overall and local overloading are not currently available in forms which cover all eventualities;
- the weight and weight distribution is freely available for the type of vehicles to be lifted and as such it is the responsibility of the user to prevent an unsafe situation arising;
- vehicle lifts are generally designed to suit the maximum weight of vehicle to which it would reasonably be subjected, hence the normal duty of a lift is substantially lower than the maximum.

1 Scope

This European Standard applies to stationary, mobile and movable vehicle lifts, which are not intended to lift persons but which are designed to raise vehicles totally, for the purpose of examining and working on or under the vehicles whilst in a raised position. The vehicle lift may consist of one or more lifting-units.

Power supply to the vehicle lift by internal combustion engines is not considered.

The floor or ground supporting the vehicle lift in use is assumed to be horizontal.

This document is applicable to vehicle lifts which are manufactured ½ year after the date of its publication as EN.

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 982:1996+A1:2008, Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics

EN 983:1996+A1:2008, Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics

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

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

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

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 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 13849-2:2008, Safety of machinery — Safety-related parts of control systems — Part 2: Validation (ISO 13849-2:2003)

EN ISO 13850:2008, Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)

ISO 4308-1:2003, Cranes and lifting appliances — Selection of wire ropes — Part 1: General