

SÕIDUKITÕSTUKID

Vehicle lifts

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 1493:2022 sisaldab Euroopa standardi EN 1493:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 1493:2022 consists of the English text of the European standard EN 1493:2022.
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English Version

Vehicle lifts

Élévateurs de véhicules

Fahrzeug-Hebebühnen

This European Standard was approved by CEN on 12 September 2022.

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European foreword

This document (EN 1493:2022) 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of an identical text or by endorsement, at the latest by May 2023, and conflicting national standards shall be withdrawn at the latest by May 2023.

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

This document supersedes EN 1493:2010.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered, are both indicated in the scope of this document. In addition, machinery should comply as appropriate with EN ISO 12100:2010 for hazards which are not covered by 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.

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

While devising this document it was assumed that only authorized persons operate or use the vehicle lifts and that the working area is sufficiently lit.

The requirement concerning loading control is not deemed pertinent to this document in so far 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 document is applicable to stationary and mobile 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 does not exclude a person from entering a lifted vehicle on wheel supporting lifts, e.g. for special works or for periodical technical inspection, and vehicle lifts for rail-bound vehicles.

This document does not contain requirements for hazards which may arise on vehicle lifts where the carrying device can be tilted.

NOTE Noise does not play a role in vehicle lifts in the majority of cases and is therefore not considered in this document.

This document does not apply to:

- vehicle lifts movable when loaded;
- equipment for power driven parking of motor vehicles (see EN 14010:2003+A1:2009).

This document is applicable to vehicle lifts which are manufactured six months after the date of its publication as a European Standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13557:2003+A2:2008, *Cranes - Controls and control stations*

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)*

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

EN 60529:1991¹, *Degrees of protection provided by enclosures (IP Code)*

EN 60947-5-1:2017², *Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices*

EN ISO 4413:2010, *Hydraulic fluid power - General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 4414:2010, *Pneumatic fluid power - General rules and safety requirements for systems and their components (ISO 4414:2010)*

¹ As impacted by EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.

² As impacted by EN 60947-5-1:2017/AC:2020-05.

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

EN ISO 13849-1:2015, *Safety of machinery - Safety-related parts of control systems - Part 1: General principles for design (ISO 13849-1:2015)*

EN ISO 13849-2:2012, *Safety of machinery - Safety-related parts of control systems - Part 2: Validation (ISO 13849-2:2012)*

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

ISO 4301-1:2016, *Cranes - Classification - Part 1: General*

ISO 16625:2013, *Cranes and hoists - Selection of wire ropes, drums and sheaves*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at <http://www.electropedia.org/>

— ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 General

3.1.1

vehicle lift

lifting device with guided load carrying device for lifting land based means of transportation such as cars, motorcycles, lorries, buses, trams, rail vehicles, industrial trucks and similar, and which is designed to allow working on or under the raised vehicle

Note 1 to entry: The guidance of the load carrying device is given by the supporting structure.

Note 2 to entry: The following types of vehicle lift are examples of those covered by this definition: single and multi-column lifts, single and multi-cylinder lifts, mobile column lifts, scissor and parallelogram lifts, short stroke lifts, which support vehicle wheels, chassis or other designated lifting points (see Annex C).

3.1.2

normative vehicle

theoretical vehicle representative of the normal vehicles on which a lift is intended to operate, used as reference vehicle for structural calculations of the lift itself (see 4.7.4.2, 4.7.4.3)

3.1.3

normal vehicle

land based mean of transport such as cars, motorcycles, lorries, buses, trams, trucks and similar commonly on the road