Tööstuslike mootorkärude ohutus. Juhita kärud ja nende süsteemid

Safety of industrial trucks - Driverless trucks and their systems

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1525:1999 sisaldab Euroopa standardi EN 1525:1997 ingliskeelset teksti. Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1525:1999 consists of the English text of the European standard EN 1525:1997. This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard kehtib kõikide kärude ja nende süsteemide kohta, välja arvatud: a) kärud, mida juhitakse ainult mehaaniliselt (rööpad, juhtpinnad jms); b) kärud, mis töötavad piirkonnas, mis on avatud ohtudest mitteteadlikele isikutele.	**Scope:**

ICS 53.060

Võtmesõnad: juhtseadmed, masinate ohutus, märgistamine, määratlused, ohud, ohupiirkonnad, ohutusmeetmed, ohutusseadmed, teave, tööstuslikud kärud, utiliseerimine, õnnetuste vältimine

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English version

Safety of industrial trucks – Driverless trucks and their systems

Sécurité des chariots de manutention – Chariots sans conducteur et leurs systèmes

Sicherheit von Flurförderzeugen – Fahrerlose Flurförderzeuge und ihre Systeme

This European Standard was approved by CEN on 1997-06-22.

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 Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

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Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 150 "Industrial trucks - Safety", the secretariat of which is held by BSI.

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 March 1998, and conflicting national standards shall be withdrawn at the latest by March 1998.

This European Standard is one of a series of standards for the safety of industrial trucks.

	Safety of industrial trucks - Self propelled trucks up to and including 10 000 kg capacity and tractors with a drawbar pull up to and including 20 000 N
prEN 1726-1	Part 1: General requirements
prEN 1726-2	Part 2: Additional requirements for trucks with elevating operator position and trucks specifically designed to travel with elevated loads
prEN 1551	Safety of industrial trucks - Self propelled trucks over 10 000 kg capacity
prEN 1459	Safety of industrial trucks - Self propelled variable reach trucks
	Safety of industrial trucks - Pedestrian propelled trucks
prEN 1757-1	Part 1: Stacker trucks
prEN 1757-2	Part 2: Pallet trucks with lift height up to 300 mm
prEN 1757-3	Part 3: Platform trucks
prEN 1757-4	Part 4: Scissor lift pallet trucks
EN 1525	Safety of Industrial trucks - Driverless trucks and their systems
prEN 1526	Safety of Industrial trucks - Additional requirements for automated functions on trucks
	Safety of Industrial trucks - Electrical requirements for trucks
prEN 1175-1	Part 1: Battery powered trucks
prEN 1175-2	Part 2: General requirements for internal combustion engine powered trucks
prEN 1175-3	Part 3: Specific requirements for the electrical power transmission systems of internal combustion engine powered trucks
prEN 1755	Safety of industrial trucks - Operation in potentially explosive atmospheres
prEN 12053	Safety of Industrial trucks - Test methods for measuring noise emissions
prEN 13564	Safety of Industrial trucks - Test methods for measuring visibility from self propelled trucks

This European Standard 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 ZZ, which is an integral part of this 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This European Standard is a type C standard as stated in EN 292-1. This standard has been prepared to be a harmonised standard to provide one means of conforming with the essential safety requirements of the Machinery Directive and associated EFTA Regulations.

The extent to which hazards are covered is indicated in the scope of this standard. In addition, driverless industrial trucks (hereinafter referred to as "trucks") and their systems should comply as appropriate with EN 292 for hazards which are not covered by this standard.

1 Scope

1.1 This European Standard applies to all trucks and their systems except:

a) trucks solely guided by mechanical means (rails, guides, etc);
b) trucks operating in areas open to persons unaware of the hazards.

1.2 For the purposes of this European Standard, a driverless industrial truck is a powered vehicle, including any trailers, designed to travel automatically in which the safety of operation does not depend on an operator. Remote controlled trucks are not considered driverless trucks.

1.3 For the purposes of this European Standard, a system comprises the control system, which may be part of the truck and/or separate from it, the guidance means and the battery charging system.

1.4 This European Standard deals with the technical requirements to minimise the hazards listed in clause 4 which can arise during the commissioning, operation and maintenance of trucks in accordance with the specifications given by the manufacturer or his authorised representative. In addition, trucks should comply as appropriate with EN 292 for hazards not covered by this standard or the applicable companion standards.

1.5 This European Standard covers specific hazards related to the automated functions of trucks and their systems listed in clause 4. This standard must be used in conjunction with one or more of the applicable companion standards listed in the Foreword.

1.6 The provision of a portable control unit does not classify the truck as a pedestrian controlled truck.

1.7 The environment of trucks can have a significant effect on their safe operation. Annex A establishes requirements for the preparation of the environment to eliminate the associated hazards. For the person responsible for the integration of the trucks into the workplace, Annex A is normative.

1.8 This European Standard does not establish the following additional requirements for:

a) operation in severe conditions (e.g. extreme climates, freezer applications, strong magnetic fields);
b) operation in environments subject to special rules (e.g. potentially explosive atmospheres);
c) electromagnetic compatibility;
d) transportation of passengers;
e) handling of loads the nature of which could lead to dangerous situations (e.g. molten metals, acids/bases, radiating materials);
f) parts of trucks requiring manual intervention during operation.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication applies.

EN 292-1:1991	Safety of machinery - Basic concepts - General principles of design - Part 1: Basic terminology, methodology
EN 292-2:1991	Safety of machinery - Basic concepts - General principles of design - Part 2: Technical principles and specifications
EN 418:1992	Safety of machinery - Emergency stop equipment - Functional aspects
EN 953:1997	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
prEN 1726-1:1996	Safety of industrial trucks - Self propelled trucks up to and including 10 000 kg capacity and tractors with a drawbar pull up to and including 20 000 N -Part 1: General requirements
ISO 6292:1996	Powered industrial trucks - Brakes performance and component strength