

**Mullatöömasinad. Ohutus. Osa 3: Laaduritele
esitatavad nõuded KONSOLIDEERITUD TEKST**

Earth-moving machinery - Safety - Part 3:
Requirements for loaders CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 474-3:2007+A1:2009 sisaldab Euroopa standardi EN 474-3:2006+A1:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 27.03.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 11.02.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 474-3:2007+A1:2009 consists of the English text of the European standard EN 474-3:2006+A1:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 27.03.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 11.02.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

ICS 53.100

Võtmesõnad:

Standardite reprodutseerimis- ja levitamiseõigus 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

English Version

Earth-moving machinery - Safety - Part 3: Requirements for loaders

Engins de terrassement - Sécurité - Partie 3: Prescriptions applicables aux chargeuses

Erdbaumaschinen - Sicherheit - Teil 3: Anforderungen für Lader

This European Standard was approved by CEN on 17 April 2006 and includes Amendment 1 approved by CEN on 20 December 2008.

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, 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: rue de Stassart, 36 B-1050 Brussels

Contents

Page

Foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 List of additional significant hazards	8
5 Safety requirements and/or measures	8
5.1 General.....	8
5.2 Loaders with front access	9
5.3 Operator's seat.....	9
5.4 Rear window(s)	9
5.5 Protection	9
5.6 Stability	11
6 Information for use	16
Annex A (normative) List of significant additional hazards – Loaders	17
Annex B (informative) Illustrations	18
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	21
Annex ZB (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 	22
Bibliography	23

Figures

Figure 1 — Deflection-limiting volume (DLV), front view	10
Figure 2 — Load centre distance with fork arms	13
Figure B.1 — Wheel loader	18
Figure B.2 — Compact wheel loader	18
Figure B.3 — Skid steer loader.....	19
Figure B.4 — Crawler loader.....	19
Figure B.5 — Wheel loader with fork arms.....	20
Figure B.6 — Wheel loader with grapple	20

Tables

Table 1 — Stability factors in fork application	12
Table 2 — Load centre distance	12
Table 3 — Stability factors in log handling.....	13
Table 4 — Stability factors in single heavy object handling in transport mode	14
Table 5 — Load centre distance	15
Table A.1 — List of additional significant hazards	17

Foreword

This document (EN 474-3:2006+A1:2009) has been prepared by Technical Committee CEN/TC 151 "Construction equipment and building material machines — Safety", 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 August 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2008-12-20.

This document supersedes A1 EN 474-3:2006 A1.

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.

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

For bibliographic references, see A1 EN 474-1:2006+A1:2009 A1.

EN 474 "Earth-moving machinery — Safety" comprises the following parts:

- Part 1: General requirements
- Part 2: Requirements for tractor-dozers
- Part 3: Requirements for loaders
- Part 4: Requirements for backhoe-loaders
- Part 5: Requirements for hydraulic excavators
- Part 6: Requirements for dumpers
- Part 7: Requirements for scrapers
- Part 8: Requirements for graders
- Part 9: Requirements for pipelayers
- Part 10: Requirements for trenchers
- Part 11: Requirements for earth and landfill compactors
- Part 12: Requirements for cable excavators.

This European Standard is intended for use in combination with part 1 of the series.

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.

This document is a preview generated by EVS

Introduction

This part of EN 474 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 events are covered are indicated in the scope of this European 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.

1 Scope

This part of EN 474 deals with all significant hazards, hazardous situations and events relevant to loaders as defined in EN ISO 6165:2006, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This part also deals with fork application, single heavy object handling application, object handling application and log handling.

The requirements of this part are complementary to the common requirements formulated in ^[A1] EN 474-1:2006+A1:2009 ^[A1].

This part does not repeat the requirements from ^[A1] EN 474-1:2006+A1:2009 ^[A1], but adds or replaces the requirements for application for loaders.

This part specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, hazardous situations and events during commissioning, operation and maintenance of loaders.

This European Standard is not applicable to loaders manufactured before the date of publication of this European Standard by CEN.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

^[A1] EN 474-1:2006+A1:2009 ^[A1], *Earth-moving machinery — Safety — Part 1: General requirements*

^[A1] EN ISO 2867:2008, *Earth-moving machinery - Access systems (ISO 2867:2006, including Cor 1:2008)* ^[A1]

^[A1] EN ISO 3164:2008 ^[A1], *Earth-moving machinery — Laboratory evaluations of protective structures — Specifications for deflecting-limiting volume (ISO 3164:1995)*

^[A1] EN ISO 3449:2008 ^[A1], *Earth-moving machinery — Falling-object protective structures — Laboratory tests and performance requirements (ISO 3449:2005)*

^[A1] EN ISO 3457:2008 ^[A1], *Earth-moving machinery — Guards — Definitions and requirements (ISO 3457:2003)*

^[A1] EN ISO 6682:2008 ^[A1], *Earth-moving machinery — Zones of comfort and reach for controls (ISO 6682:1986 including Amendment 1:1989)*

^[A1] EN ISO 7096:2008 ^[A1], *Earth-moving machinery — Laboratory evaluation of operator seat vibration (ISO 7096:2000)*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

ISO 2330:2002, *Fork-lift trucks — Fork arms — Technical characteristics and testing*

^[A1] ISO 6016:2008 ^[A1], *Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components*

ISO 7546:1983, *Earth-moving machinery — Loader and front loading excavator buckets — Volumetric ratings*

This document is a preview generated by EVS