# Mullatöömasinad. Ohutus. Osa 2: Buldooseritele esitatavad nõuded KONSOLIDEERITUD TEKST

Earth-moving machinery - Safety - Part 2: JZE JOHON ORNORALI JO Requirements for tractor-dozers CONSOLIDATED **TEXT** 



### EESTI STANDARDI EESSÕNA

### **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 474-2:2007+A1:2008 sisaldab Euroopa standardi EN 474-2:2006+A1:2008 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 10.11.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.10.2008.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 474-2:2007+A1:2008 consists of the English text of the European standard EN 474-2:2006+A1:2008.

This standard is ratified with the order of Estonian Centre for Standardisation dated 10.11.2008 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 01.10.2008.

The standard is available from Estonian standardisation organisation.

ICS 53,100

Võtmesõnad:

# 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

# EUROPEAN STANDARD

# NORME EUROPÉENNE

## **EUROPÄISCHE NORM**

October 2008

EN 474-2:2006+A1

ICS 53,100

Supersedes EN 474-2:2006

### **English Version**

# Earth-moving machinery - Safety - Part 2: Requirements for tractor-dozers

Engins de terrassement - Sécurité - Partie 2: Prescriptions applicables aux bouteurs

Erdbaumaschinen - Sicherheit - Teil 2: Anforderungen für Planiermaschinen

This European Standard was approved by CEN on 17 April 2006 and includes Amendment 1 approved by CEN on 18 August 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

	tents	Page
Forew	vord	3
	luction	
1	Scope	6
2	Normative references	
3	Terms and definitions	6
4	List of additional significant hazards	7
5	Safety requirements and/or measures	7
5.1	General	7
5.2 5.3	Operator's seatRear window(s)	
5.4	Rear-mounted winch	8
6	Information for use	8
6.1 6.2	Warning signs Operation manual	
6.3	Machine marking	
Annex	x A (normative) List of additional significant hazards – Tractor-dozers	9
Annex	x B (informative) Illustrations	10
Annex	x ZA (informative) Relationship between this European Standard and the Essen Requirements of EU Directive 98/37/EC	tial 12
Annex	x ZB (informative) A Relationship between this European Standard and the Ess Requirements of EU Directive 2006/42/EC 街	sential
Biblio		
	es e B.1 — Crawler tractor-dozer	
Figure	es	
_		
Figure	e B.2 — Wheel tractor-dozer	10
Figure	e B.3 — Crawler tractor-dozer with a plough	11
		9
Tables	e B.3 — Crawler tractor-dozer with a ploughs s A.1 — List of additional significant hazards	
Table	A.1 — List of additional significant hazards	9

### **Foreword**

This document (EN 474-2:2006+A1:2008) 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 April 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This European Standard supersedes (A) EN 474-2:2006 (A).

This document includes Amendment 1, approved by CEN on 2008-08-18.

The start and finish of text introduced or altered by amendment is indicated in the text by tags [A] (A)

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.

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

For bibliographic references see EN 474-1:2006.

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 Matta, and United 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

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.

Action and built. 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 wheel and crawler tractor-dozers 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 rear-mounted winches for use on tractor-dozers.

The requirements of this part are complementary to the common requirements formulated in EN 474-1:2006.

This part does not repeat the requirements from EN 474-1:2006, but adds or replaces the requirements for application for tractor-dozers.

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 tractor-dozers.

This European Standard is not applicable to tractor-dozers 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.

EN 474-1:2006, Earth-moving machinery — Safety — Part 1: General requirements.

EN ISO 3411:1999, Earth-moving machinery — Human physical dimensions of operators and minimum operator space envelope (ISO 3411:1995).

EN ISO 6165:2006, Earth-moving machinery — Basic types — Identification and terms and definitions (ISO 6165:2006).

EN ISO 7096:2000, 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 6016:1998, Earth-moving machinery — Methods of measuring the masses of whole machines, their equipment and components.

ISO 6405-2:1993, Earth-moving machinery — Symbols for operator controls and other displays — Part 2: Specific symbols for machines, equipment and accessories.

ISO 10968:2004, Earth-moving machinery — Operator's controls.

### 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 474-1:2006, EN ISO 12100-1:2003 and the following apply.

NOTE 1 Terminology for tractor-dozers is specified in ISO 6747:1998 and is illustrated in Annex B of this European Standard.