

This document is a review generated by EVS

**Liikuvad tee-ehitusmasinad. Ohutus. Osa 3:  
Erinõuded pinnasestabiliseerimis- ja  
ümbertöötlusmasinatele KONSOLIDEERITUD  
TEKST**

Mobile road construction machinery - Safety - Part 3:  
Specific requirements for soil-stabilising machines and  
recycling machines CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 500-3:2006+A1:2008 sisaldb Euroopa standardi EN 500-3:2006+A1:2008 ingliskeelset teksti.	This Estonian standard EVS-EN 500-3:2006+A1:2008 consists of the English text of the European standard EN 500-3:2006+A1:2008.
Standard on kinnitatud Eesti Standardikeskuse 10.11.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	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.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kätesaadavaks tegemise kuupäev on 22.10.2008.	Date of Availability of the European standard text 22.10.2008.
Standard on kätesaadav Eesti standardiorganisatsionist.	The standard is available from Estonian standardisation organisation.

**ICS** 93.080.10

**Võtmesõnad:** human factors engineering, operating stations, portable equipment, safety r, soils, specification (approval), specifications, stabilization, stabilizing equipment, stability, transport, transportable, transportable structures, working places

**Standardite reproduutseerimis- 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](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 500-3:2006+A1**

October 2008

ICS 93.080.10

Supersedes EN 500-3:2006

English Version

**Mobile road construction machinery - Safety - Part 3: Specific requirements for soil-stabilising machines and recycling machines**

Machines mobiles pour la construction de routes - Sécurité  
- Partie 3: Prescriptions spécifiques pour engins de stabilisation de sol et machines de recyclage

Bewegliche Straßenbaumaschinen - Sicherheit - Teil 3:  
Besondere Anforderungen an Bodenstabilisierungsma schinen und Recyclingmaschinen

This European Standard was approved by CEN on 17 August 2006 and includes Amendment 1 approved by CEN on 11 September 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
<b>Foreword</b>	<b>4</b>
<b>Introduction</b>	<b>5</b>
<b>1 Scope</b>	<b>6</b>
<b>2 Normative references</b>	<b>6</b>
<b>3 Terms and definitions</b>	<b>6</b>
<b>4 List of significant hazards</b>	<b>7</b>
<b>5 Safety requirements and/or protective measures</b>	<b>7</b>
<b>5.1 Lighting, signalling and marking lights and reflex-reflector devices</b>	<b>7</b>
<b>5.2 Operation and handling</b>	<b>7</b>
<b>5.3 Operator's station</b>	<b>7</b>
<b>5.4 Operator's seat</b>	<b>7</b>
<b>5.5 Controls and indicators</b>	<b>7</b>
<b>5.6 Starting</b>	<b>7</b>
<b>5.7 Stopping</b>	<b>7</b>
<b>5.8 Access system to operator's station and to maintenance points</b>	<b>8</b>
<b>5.9 Protection</b>	<b>8</b>
<b>5.10 Pressurised systems</b>	<b>9</b>
<b>5.11 Fire protection</b>	<b>9</b>
<b>5.12 Hot surfaces</b>	<b>10</b>
<b>5.13 Signal devices and warning signs</b>	<b>10</b>
<b>5.14 Electrical and electronic systems</b>	<b>10</b>
<b>5.15 Electro-magnetic compatibility (EMC)</b>	<b>10</b>
<b>5.16 Noise and vibration</b>	<b>10</b>
<b>5.17 Conveyors</b>	<b>10</b>
<b>6 Verification of safety requirements/measures</b>	<b>10</b>
<b>7 Information for the user</b>	<b>11</b>
<b>7.1 Warning signals and devices</b>	<b>11</b>
<b>7.2 Instruction handbook</b>	<b>11</b>
<b>7.3 Marking</b>	<b>11</b>
<b>Annex A (normative) Braking systems – Performance requirements and test procedures</b>	<b>12</b>
<b>Annex B (normative) Noise test code for soil-stabilising machines and recycling machines</b>	<b>13</b>
<b>Annex C (normative) Examples of soil-stabilising machines and recycling machines</b>	<b>18</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EC Directive 98/37/EC</b>	<b>21</b>
<b>Annex ZB (informative) <b>A1</b> Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC <b>A1</b></b>	<b>22</b>

**Figures**

<b>Figure 1 — Mixing equipment.....</b>	<b>9</b>
<b>Figure 2 — Warning sign .....</b>	<b>10</b>
<b>Figure B.1 — Basic length <math>L</math> .....</b>	<b>14</b>
<b>Figure B.2 — Microphone positions .....</b>	<b>14</b>
<b>Figure C.1 — Central soil-stabilising machine with horizontal rotor .....</b>	<b>18</b>
<b>Figure C.2 — Grader-based central soil-stabilising machine with horizontal mixing drum .....</b>	<b>19</b>
<b>Figure C.3 — Recycling machine with paving screed .....</b>	<b>19</b>
<b>Figure C.4 — Rear soil-stabilising machine with horizontal mixing drum .....</b>	<b>20</b>
<b>Figure C.5 — Crawler-based rear soil-stabilising machine with horizontal mixing drum .....</b>	<b>20</b>
<b>Figure C.6 — Rear soil-stabilising machine with vertical mixing unit .....</b>	<b>20</b>

## Foreword

This document (EN 500-3:2006+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 document supersedes [A1](#) EN 500-3:2006 [A1](#).

This document includes Amendment 1, approved by CEN on 2008-09-11.

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(s).

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

EN 500 "Mobile road construction machinery — Safety" comprises the following parts:

- Part 1: Common requirements;
- Part 2: Specific requirements for road-milling machines;
- Part 3: Specific requirements for soil-stabilising machines and recycling machines;
- Part 4: Specific requirements for compaction machines;
- Part 6: Specific requirements for paver-finishers.

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.

## Introduction

This European Standard is a type C standard as stated in EN ISO 12100-1.

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 500 specifies the safety requirements for soil-stabilising machines and recycling machines as defined in Clause 3 and deals with all significant hazards, hazardous situations and events relevant to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable.

This part of EN 500 contains additional requirements to EN 500-1 "Common requirements".

## 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 500-1:2006, *Mobile road construction machinery — Safety — Part 1: Common requirements*.

EN 811:1996, *Safety of machinery — Safety distances to prevent danger zones being reached by the lower limbs*.

EN 953:1997, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*.

EN 61310-1:1995, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)*.

EN ISO 3450:1996, *Earth-moving machinery — Braking systems of rubber-tyred machines — Systems and performance requirements and test procedures (ISO 3450:1996)*.

EN ISO 3744:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*.

EN ISO 11201:1995, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995)*.

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

ISO 8643:1997, *Earth-moving machinery — Hydraulic excavator and backhoe loader boom-lowering control device — Requirements and tests*.

## 3 Terms and definitions

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

### 3.1

#### **soil-stabilising machines**

mobile machines used for the purpose of mixing fillers and/or binders, e.g. cement, lime, with natural soil to improve the mechanical and physical properties of the soil material

### 3.2

#### **recycling machines**

mobile machines used for the reinstatement of road surfaces using self-removed material mixed with fillers and/or binders and reapplied in situ