

**Betoonist ja kaltsiumsilikaadist
konstruktsioonelementide valmistamiseks mõeldud
masinad. Ohutus. Osa 7: Statsionaarsed ja liikuvad
seadmed eelpingestatud toodete valmistamisel pikal
liinil KONSOLIDEERITUD TEKST**

Machines for the manufacture of constructional products
from concrete and calcium-silicate - Safety - Part 7:
Stationary and mobile equipment for long line manufacture
of prestressed products CONSOLIDATED TEXT

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 12629-7:2004+A1:2010 sisaldab Euroopa standardi EN 12629-7:2004+A1:2010 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.10.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 01.09.2010.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 12629-7:2004+A1:2010 consists of the English text of the European standard EN 12629-7:2004+A1:2010.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.10.2010 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 01.09.2010.

The standard is available from Estonian standardisation organisation.

ICS 91.220

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English Version

**Machines for the manufacture of constructional products from
concrete and calcium-silicate - Safety - Part 7: Stationary and
mobile equipment for long line manufacture of prestressed
products**

Machines pour la fabrication de produits de construction en
béton et silico-calcaire - Sécurité - Partie 7: Equipements
fixes et mobiles pour la fabrication sur bancs de produits en
béton précontraint

Maschinen für die Herstellung von Bauprodukten aus Beton
und Kalksandsteinmassen - Sicherheit - Teil 7: Stationäre
und fahrbare Einrichtungen für die Herstellung von
Spannbetonelementen

This European Standard was approved by CEN on 3 November 2003 and includes Amendment 1 approved by CEN on 5 August 2010.

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Foreword

This document (EN 12629-7:2004+A1:2010) 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 March 2011, and conflicting national standards shall be withdrawn at the latest by March 2011.

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

This document includes Amendment 1, approved by CEN on 2010-08-05.

This document supersedes EN 12629-7:2004.

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).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

A1 *deleted text* **A1**

A1 The series "*Machines for the manufacture of constructional products from concrete and calcium – silicate – Safety*" consists of following parts:

Part 1: Common requirements

Part 2: Block making machines

Part 3: Slide and turntable machines

Part 4: Concrete roof tile making machines

Part 5.1: Concrete pipe machines manufacturing in the vertical axis

Part 5.2: Concrete pipe machines manufacturing in the horizontal axis

Part 5.3: Pipe prestressing machines

Part 5.4: Concrete pipe coating machines

Part 6: Stationary and mobile equipment for the manufacture of precast reinforced products

Part 7: Stationary and mobile equipment for the benching manufacture of prestressed products

Part 8: Machines and equipment for the manufacture of constructional products from calcium silicate (and concrete). **A1**

A1 *deleted text* **A1**

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, Croatia, 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**.

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.

This European Standard specifies the additional requirements to and/or the deviations from **EN 12629-1:2000+A1:2010** specific for the Stationary and mobile equipment for long line manufacture of pre-stressed products as defined in clause 3.

With the aim of clarifying the intentions of the standard it should be noticed that the following assumptions were made when producing it:

- specific conditions of use or environmental conditions out of the scope of the standard shall be the subject of negotiations between the manufacturer and the user/owner;
- the equipment will only be used by competent and designated persons;
- the place of use/installation is adequately lit;
- All operations are carried out by specially trained operators.

1 Scope

1.1 A1 This part of EN 12629, taken together with EN 12629-1:2000+A1:2010 applies to stationary and mobile equipment for the benching manufacture of prestressed products. The manufacturing bed is a machine with which other associated machines work simultaneously. Moreover, these machines are generally used on beds installed in parallel.

EN 12629-1:2000+A1:2010 specifies general requirements applicable to machines for the manufacture of constructional products from concrete and calcium-silicate.

This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific to the machines it covers. A1

1.2 This standard gives particular requirements for the design of the following machines:

- Pre-stressing bed (schematic representation is given in annex A);
- Bed sweeper, vacuum cleaner, oiler, wire-guide machine (schematic representation is given in annex B);
- Bed layout machine (schematic representation is given in annex C);
- Strand pushing/pulling machine (schematic representation is given in annex D);
- Spinner, extruder, vibrodistributor (schematic representation is given in annex E);
- Tarpaulin paying out and winding in machine (schematic representation is given in annex F);
- Sawing machine (schematic representation is given in annex G).

NOTE The manufacturing operations include some or all of the following:

- treating pre-stressing bed with release agent;
- "marking out" the elements (slabs, plain slabs, etc.) to be made;
- running the pre-stressing strands;
- pre-tensioning;
- installing the shutterings, (formwork, side shutters, end plates and inserts)
- fixing reinforcement;
- tensioning;
- concrete distribution and compaction;
- winding out the tarpaulin;
- heating;
- detensioning;
- removal of shettering, formwork, etc. ;
- strands cutting or sawing;
- removal of final products;
- bed cleaning.

The concrete supply interface which is taken into account for safety is also considered.

The sequence of these operations can be different according to the manufacturing process used in the factory and to the various types of products.

A1 The handling of the cut wires and their placement on beds is not covered by the present standard. A1

1.3 ^{A1} This European Standard deals with all significant hazards pertinent to these machines, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards. ^{A1}

1.4 Sub-clause 1.3 of ^{A1} EN 12629-1:2000+A1:2010 ^{A1} applies.

^{A1} *deleted text* ^{A1}

^{A1}

1.5 ^{A1} This document is applicable to equipment for long-line manufacture of pre-stressed product which are manufactured after the date of publication of this document by CEN.

2 Normative references

^{A1} 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 349:1993+A1:2008, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 457, *Safety of machinery — Auditory danger signals — General requirements, design and testing (ISO 7731:1986, modified)*

EN 842, *Safety of machinery — Visual danger signals — General requirements, design and testing*

EN 953:1997+A1:2009, *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*

EN 982, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

EN 1088, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 1093 (all parts), *Safety of machinery — Evaluation of the emission of airborne hazardous substances*

EN 1760-2, *Safety of machinery — Pressure sensitive protective devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars*

EN 13862:2001+A1:2009, *Floor cutting-off machines — Safety*

EN 12629-1:2000+A1:2010, *Machines for the manufacture of constructional products from concrete and calcium-silicate — Safety — Part 1: Common requirements*

EN 60204-1, *Safety of machinery - Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 3457, *Earth-moving machinery — Guards — Definitions and requirements (ISO 3457:2003)*

EN ISO 7731:2008, *Ergonomics — Danger signals for public and work areas — Auditory danger signals (ISO 7731:2003)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs* (ISO 13857:2008)

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

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles* (ISO 12100-2:2003)

EN ISO 13732-1:2008, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces* (ISO 13732-1:2006)

EN ISO 14122-1:2001, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels* (ISO 14122-1:2001)

EN ISO 14122-2:2001, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and gangways* (ISO 14122-2:2001)

EN ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairways, stepladders and guard-rails* (ISO 14122-3:2001)

EN ISO 14122-4:2004, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders* (ISO 14122-4:2004) ^{A1}

3 Terms and definitions

^{A1} For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003, EN 12629-1:2000+A1:2010 and the following apply. ^{A1}

3.1 Products

3.1.1

hollow core flooring slab

pre-stressed slabs incorporating longitudinal hole used in the construction of floors. They are considered as structural elements

3.1.2

beam

pre-stressed concrete element used in building or bridge structures. It has a supporting function; their section can be that of an I, T, Y, U, Π, a rectangle, a trapezium, etc.

3.1.3

joist

pre-stressed concrete element forming the supporting part of complex flooring. Its inverted T-shape section provides a support for infill blocks or slabs and in-situ concrete screed (compression slab)

3.1.4

lintel

part constructed of pre-stressed concrete, prismatic in shape with a generally rectangular section. It forms the top part of openings in walls and ensure support for masonry mounted above

3.1.5

plain slab

thin pre-stressed concrete elements designed to form the reinforced section of complex flooring. The compression slab is cast in situ

3.1.6

transmission line pole

pre-stressed concrete post designed to support overhead electric energy or communication cables