



SLOVENSKI STANDARD
SIST EN 12629-2:2004+A1:2010
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Stroji za izdelavo gradbenih proizvodov iz betona in apnenega peščenca - Varnost
- 2. del: Stroji za izdelavo blokov

Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 2: Block making machines

Maschinen für die Herstellung von Bauprodukten aus Beton und Kalksandsteinmassen - Sicherheit - Teil 2: Steinformmaschinen

Machines pour la fabrication de produits de construction en béton et silico-calcaire - Sécurité - Partie 2: Machines à blocs

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EUROPEAN STANDARD
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Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 2: Block making machines

Machines pour la fabrication de produits de construction en
béton et silico-calcaire - Sécurité - Partie 2: Machines à
blocs

Maschinen für die Herstellung von Bauprodukten aus Beton
und Kalksandsteinmassen - Sicherheit - Teil 2:
Steinformmaschinen

This European Standard was approved by CEN on 1 November 2002 and includes Amendment 1 approved by CEN on 5 August 2010.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 12629-2:2002+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of an identical text or by endorsement, at the latest by March 2011, and conflicting national standards shall be withdrawn at the latest by March 2011.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 12629-2:2002.

The start and finish of text introduced or altered by amendment is indicated in the text by tags \square_{A1} \square_{A1} .

\square_{A1} 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 ZA, which is an integral part of this document. \square_{A1}

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

Part 1: Common requirements [https://standards.iteh.ai/catalog/standards/sist/0f0caf83-8f5a-4db1-bb7b-](https://standards.iteh.ai/catalog/standards/sist/0f0caf83-8f5a-4db1-bb7b-b74dcb804b79/sist-en-12629-2-2004a1-2010)

Part 2: Block making machines [b74dcb804b79/sist-en-12629-2-2004a1-2010](https://standards.iteh.ai/catalog/standards/sist/0f0caf83-8f5a-4db1-bb7b-b74dcb804b79/sist-en-12629-2-2004a1-2010)

Part 3: Slide and turntable machines

Part 4: Concrete roof tile making machines

Part 5.1: Pipe making machines manufacturing in the vertical axis

Part 5.2: Pipe making 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 long line manufacture of prestressed products

Part 8: Machines and equipment for the manufacture of constructional products from calcium silicate (and concrete) \square_{A1}

\square_{A1} *deleted text* \square_{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.

EN 12629-2:2002+A1:2010 (E)**Introduction**

A1 This European Standard is a Type C-standard as stated in EN ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situation and events are covered are indicated in the scope of this document.

When provisions of this type C document are different from those, which are stated in type A or B documents, the provisions of this type C document take precedence over the provisions of the other documents, for machines that have been designed and built according to the provisions of this type C document.

This document specifies the additional requirements to and/or the deviations from EN 12629-1:2000+A1:2010 specific for the block making machines as described in 1.1.

With the aim of clarifying the intentions of the document 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 document 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. **A1**

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1 Scope

1.1 **A1** This part of EN 12629, taken together with EN 12629-1:2000+A1:2010, applies to machines for the manufacture of blocks, kerbs, paving stones and similar concrete products.

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 **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**

1.3 This European Standard applies to the machines from the point at which the mixture enters the machine (see point 1-2 of annex B) and the point where the pallet boards are brought to the assembly (see point 3 of annex B) until the point where the green products are removed from the machine assembly to the curing system (see point 4 of annex B).

A1 *deleted text* **A1**

1.4 This European Standard deals with the hazards ~~listed in clause 4~~ listed in clause 4 which can arise during the operation and maintenance, including the interfaces, of the block making machines, when carried out in accordance with the specifications given by the manufacturer or his authorised representative.

NOTE 1 Amendment is under preparation to deal with noise, in particular for measures to reduce noise at source and a noise test code including noise declaration.

NOTE 2 Interfaces between the block making machines and others of the installation are dealt with in EN 12629-1:2000+A1:2010 (7.2).

This standard establishes safety requirements and/or methods of protection which apply to these machines.

1.5 This document is not applicable to block making machines, which are manufactured before the date of publication of this document by CEN.

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 12629-1:2000+A1:2010~~

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

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 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles* (ISO 12100-2:2003)

3 Terms and definitions

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.

NOTE See also annex B for terminology of a typical block making machine.

3.1

drawing box

container having the shape of a box with an open or movable bottom. The drawing box fills the mould with the mixture

3.2

drawing box grid

machine element which is placed at the bottom of the drawing box. It consists of bars specially designed so as to assist a uniform supply of fresh concrete into the mould. The grid can be loose, fixed or movable with respect to the drawing box

3.3

feed hopper

device that contains the mixture which is transported to the drawing box by a discharge gate or a dosing belt

EN 12629-2:2002+A1:2010 (E)**3.4****draw plate**

integral system which is part of the assembly of the machine

It is placed between the mould and the pallet board. It is designed to:

- provide the surface condition of the underside of the products;
- produce profiles to the underside of the product

3.5**vibration table**

equipment located beneath the mould and mounted on flexible suspension and features vibrators. Vibration is transmitted to the mould via the pallet board

3.6**internal pallet board transfer mechanism**

device that feeds empty pallet boards beneath the mould and discharges the fresh products

3.7**tamper cleaning device**

device that automatically moves transversally to clean the moulding part of the tamper between two lots

3.8**face mix filling device**

part of a machine consisting of a frame, a hopper and a drawing box which can be connected to or removed from the main machine frame

3.9**pallet board**

wooden, metal or other material support placed during manufacturing between the vibrating table and the mould to form the base thus permitting, after mould release, transport of green products to the curing chambers

3.10**tamper**

removable tooling element that forms the upper part of the mould. It is intended to:

- assist the compacting of concrete by compression;
- form the upper part of the products.

4 List of significant hazards

This clause contains all hazards, as far as they are dealt with in this European Standard, identified by risk assessments significant for this type of machinery and which require action to eliminate or reduce risk.

A1 *deleted text* **A1**

4.1 Mechanical hazards (see informative annex B)

Annex B (informative) illustrates an example of a common machine type.

In accordance with **A1** Clause 4 of EN 12629-1:2000+A1:2010 **A1** the hazard zones, marked 1-8 at annex A of this standard, are described in the following table (see also 4.1.1 to 4.1.6 for detailed mechanical hazards).

Table 1 — Mechanical hazards and hazard zones

Hazard zones	Hazards	See subclauses
1	Crushing Shearing Cutting or severing	4.1.1 4.1.2 4.1.3
2	Shearing Cutting or severing	4.1.2 4.1.3
3	Shearing Cutting or severing	4.1.2 4.1.3
4	Crushing	4.1.1
5	Entanglement	4.1.4
6	Crushing Cutting or severing	4.1.1 4.1.3
7	Shearing Cutting or severing Entanglement	4.1.2 4.1.3 4.1.4
8	Cutting or severing	4.1.3
Equipment	High pressure	4.1.5
Floor	Slip, trip or fall	4.1.6
Around the machine	Vibration	4.3

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4.1.1 Crushing hazards

Between the drawing box(es) and the dosing device and fixed parts of the machine assembly (see hazard zone 6, annex A).

Between one of the fixed parts of the machine and the sheet pulling device (see hazard zone 4, annex A).

In the event of gravity drop of the support cross member, of the mould or of the attaching parts of the mould during action of personnel with the machine which is at a stop (see hazard zone 1, annex A).

4.1.2 Shearing hazards

Between the mould and the fixed parts of the machine assembly (see hazard zone 1, annex A).

Between the inner mould and the outside mould (see hazard zone 1, annex A).

Between the tamper support crossbeam and the hopper or the fixed parts of the machine (see hazard zone 2, annex A).

Between the tamper and the tamper support crossbeam and the mould (see hazard zone 1, annex A). In the internal transfer of the machine pallet boards (see hazard zone 3, annex A).

Between the synchronisation parts of the mould or the tamper and the fixed parts of the machine (see hazard zone 5, annex A).

Between the drawing box(es) and its (their) grid (see hazard zone 7, annex A).