



**SLOVENSKI STANDARD**  
**SIST EN 12629-5-2:2004**

**01-september-2004**

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**Stroji za izdelavo gradbenih proizvodov iz betona in apnenega peščenca - Varnost**  
**- 5-2. del: Stroji za izdelavo cevi po vodoravni osi**

Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 5-2: Pipe making machines manufacturing in the horizontal axis

Maschinen für die Herstellung von Bauprodukten aus Beton und Kalksandsteinmassen - Sicherheit - Teil 5-2: Beton-Rohrmaschinen mit Fertigung in horizontaler Lage

Machines pour la fabrication de produits de construction en béton et silico-calcaire - Sécurité - Partie 5-2: Machines pour la fabrication de tuyaux dans l'axe horizontal

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EUROPEAN STANDARD

EN 12629-5-2

NORME EUROPÉENNE

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English version

## Machines for the manufacture of constructional products from concrete and calcium-silicate - Safety - Part 5-2: Pipe making machines manufacturing in the horizontal axis

Machines pour la fabrication de produits de construction en béton et silico-calcaire - Sécurité - Partie 5-2: Machines pour la fabrication de tuyaux dans l'axe horizontal

Maschinen für die Herstellung von Bauprodukten aus Beton und Kalksandsteinmassen - Sicherheit - Teil 5-2: Beton-Rohrmaschinen mit Fertigung in horizontaler Lage

This European Standard was approved by CEN on 3 November 2003.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 12629-5-2:2003) 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 June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

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.

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 rooftile 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 benched manufacture of prestressed products

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

Annex A is informative and contains "Definitions of terms", annex B is informative and contains "Hazard zones".

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

EN 12629-5-2:2003 (E)

## Introduction

This European Standard is a Type C-standard as stated in EN 1070.

The machinery concerned and the extend to which hazards, hazardous situations and events are covered are indicated in the scope of this 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.

Reference to pertinent standards of this kind is made were such standards are applicable and so far necessary.

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## 1 Scope

1.1 This European Standard applies to machines for the manufacture of pipes in the horizontal axis and similar elements from concrete.

1.2 This European Standard deals with the hazards listed in clause 4, when used as intended under the conditions foreseen by the manufacturer (see clause 4). This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards, except noise hazards.

NOTE 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.

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

1.3 This European standard applies to the pipe making machines manufacturing in horizontal axis which may form an integral part of a pipe making process plant.

1.4 See 1.4 of EN 12629-1:2000.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1050:1996, Safety of machinery - Principle for risk assessment.

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EN 1070:1998, *Safety of machinery – Terminology*.

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

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 1070:1998 and the following apply. Other, more general, terms and definitions are contained in EN 12629-1, "Common requirements".

### 3.1

#### **pipe**

hollow body manufactured from concrete which may or may not contain reinforcing material and predominantly used in conjunction with other concrete pipes to convey liquids.

(See also 3.1.7 of EN 12629-1:2000)

### 3.2

#### **pipe making machine**

machine which fabricates pipes and similar elements primarily by spinning the pipe mould.

**EN 12629-5-2:2003 (E)****3.3 machine elements of pipe making machines manufacturing in horizontal axis****3.4 spinning machine**

machine used to produce pipes or similar products in concrete. It generates a centrifugal force necessary to compact mixture on mould internal surface. (See Figure A.1)

**3.5 mobile compacting roller**

mobile part of the spinning machine set up on two supports moved by two jacks. It compacts the mixture during the filling phase inside the mould and calibrates the pipe.

**3.6 vibrating rollers**

notched rollers which push against the mould during its rotation, making concrete vibrate inside the mould.

**3.7 mould**

equipment consisting of: two outer separable shells or one mould that can be opened; flanges on both ends; rolling rings.

see 3.2 of EN 12629-1:2000.

NOTE In that case, it is cylindrical (e. g. pipes) or conical (e. g. poles).

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**3.8 mobile feeder**

mobile device which feeds and distributes the mixture within the mould during the production phases moving on fixed rails.

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**3.9 fixed hopper**

equipment which is integral with the pipe making machine for the receiving and transfer of the mixture to the mobile feeder.

**4 List of significant hazards**

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



Table 1 — Spinning machine – List of hazards and hazardous situations.

List of hazards as per annex A of EN 1050:1996	List of hazards and hazardous situations	HAZARD ZONES (See Informative annex B, Figure B.1)
<b>1 Mechanical hazards</b>		
<b>1.1 Crushing hazards</b>	– Between the mobile feeder and the hopper or fixed structures	1
	– Between compacting roller and mould	3
	– Between mould and spinning machine	3
<b>1.2 Shearing hazards</b>	– Between mobile feeder wheels and rails	1
	– Between spinning machine wheels and mould	3
	– Between mould and vibrating rollers	3
	– Between the Archimedean screw and the fixed hopper	2
<b>1.3 Cutting and severing hazards</b>	–	-
<b>1.4 Entanglement hazards</b>	In the whole area of spinning machine rotation	3
	– In the motor transmission of the Archimedean screw	2
	– In the motor transmission of the spinning machine	4
<b>1.5 Drawing in - or trapping hazards</b>	– Between mobile feeder and fixed hopper	1
	– In the mobile feeder translation area	1
	– In the whole area of mould rotation	3
	– In the transmission from electric motor to spinning machine	4
<b>1.8 Friction or abrasion hazards</b>	– In contact with the feeding belt	1
	– In contact with the spinning machine rotating parts	3
<b>4 Noise hazards</b>	– From noise generated by vibrating rollers in contact with the mould while compacting concrete in the mould itself	5
<b>7.1 Hazards from materials used Contact and inhalation</b>	– Exit of small quantities of concrete from the mould during the filling phase	3