

Metallurgiatööstuse vormimis- ja kärnimasinate, seadmete ning nendega seotud abiseadmete ohutusnõuded

Safety requirements for foundry moulding and
coremaking machinery and plant and associated
equipment

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 710:1999 sisaldab Euroopa standardi EN 710:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 710:1999 consists of the English text of the European standard EN 710:1997.</p> <p>This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>See Euroopa standard määrab kindlaks ohutusnõuded juhendumiseks tootjale, kes valmistab masinaid ja sisseseadeid ühekorra valuvormides valmistatavate valandite tootmiseks. Standard võtab arvesse konstrueerimisest, valmistamisest ja paigaldamisest tulenevaid etteaimatavaid ohte, mis võivad ilmnedas töösse andmisel, käitamisel, hooldamisel või seiskamisel. Standard määrab kindlaks ärahoide- ja kontrollimeetmed nende ohtude kõrvaldamiseks või vähendamiseks. See standard kehtib järgmiste seadmete kohta: masinad ja seadmed valumulla ettevalmistamiseks ja korduvkasutamiseks; vormimismasinad ja -seadmed.</p>	<p>Scope:</p>
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ICS 25.120.30

Võtmesõnad: kontrollimine, märgistamine, ohtlikud masinad, ohtlikud piirkonnad, ohud, ohutusmeetmed, ohutusnõuded, ohutusseadmed, seadmeohutus, tehnilised märkused, valamisseadmed, vormimisseadmed, õnnetuste vältimine

ICS 25.120.30

Descriptors: Safety requirements, foundry, moulding machinery, coremaking.

English version

**Safety requirements for foundry moulding and
coremaking machinery and plant and
associated equipment**

Prescriptions de sécurité applicables
aux machines et chantiers de mou-
lage et de noyautage en fonderie et à
leurs équipements annexes

Sicherheitsanforderungen an
Gießereimaschinen und -anlagen der
Form- und Kernherstellung und
dazugehörige Einrichtungen

This European Standard was approved by CEN on 1997-08-02.

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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.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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FOREWORD

This European Standard has been prepared by Technical Committee CEN/TC 202 "Foundry machinery", 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 February 1998, and conflicting national standards shall be withdrawn at the latest by February 1998.

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this standard.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 INTRODUCTION

This European standard is a type C standard as defined in EN 292-1.

The machinery concerned and the extent to which hazards are covered is indicated in the scope of this standard.

In addition, machinery shall comply as appropriate with EN 292-1 and EN 292-2 for hazards which are not covered by this standard and if applicable the other standards referenced in clause 2.

1 SCOPE

This standard specifies safety requirements to be met by the manufacturer for machines and plant used in foundries for the production of castings in disposable moulds. It takes into account the foreseeable significant hazards due to design, construction and installation that may occur during commissioning, operation, maintenance and decommissioning. It specifies preventative measures and verification means for the elimination or reduction of these hazards. It specifies requirements for information to be provided by the manufacturer to the user on safe operation and maintenance.

This standard applies to the following equipment:

- Machinery and plant constructed to condition and/or reclaim foundry sands;
- Moulding machinery and plants;
- Coremaking machinery and plants;
- Knock-out equipment;
- Other directly associated equipment.

The foreseeable significant hazards covered are listed in clause 5 and include:

- mechanical hazards, movement of machinery and workpieces, ejection of material, of liquids and gases, inadequacy of the mechanical strength;
- explosion, fire, exothermic reactions;
- contact with hot parts, gases and flames;
- noise and vibration;
- thermal heat radiation and conduction;
- harmful by-products, poisoning, pollution of operators breathing air.

This standard applies to equipment covered by this standard which is placed on the market after the date of issue of this standard.

This standard does not cover the safety requirements for wax- and lost foam pattern production and wax removal equipment and drying ovens.

This standard does not apply to crane installations, winches, continuous conveyors or handling systems which could be an integral part of the above equipment.

The standard does not cover dust reduction equipment.

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.

EN 286-1:1991	Simple unfired pressure vessels designed to contain air or nitrogen Part 1: Design, manufacture and testing
EN 292-1:1991	Safety of machinery - Basic concepts, general principles for design Part 1: Basic terminology, methodology
EN 292-2:1991	Safety of machinery - Basic concepts, general principles for design Part 2: Technical principles and specifications
EN 292-2/A1:1995	Safety of machinery - Basic concepts, general principles for design Part 2: Technical principles and specifications
EN 294:1992	Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs
EN 349:1993	Safety of machinery - Minimum distances to avoid crushing of parts of the human body

EN 418:1992	Safety of machinery - Emergency stop equipment, functional aspects - principles for design
ENV 1070	Safety of machinery - Terminology
EN 1088:1995	Safety of machinery - Interlocking devices with and without guard locking General principles and specifications for design
EN 60 204-1:1992	Safety of machinery - Electrical equipment of machines; Part 1: General requirements
EN 61 310-1:1994	Safety of machinery - Indicating, marking and actuating principles - Part 1: Visual, audible and tactile signals
prEN 574:1991	Safety of machinery - Two-hand control device
prEN 614-1:1994	Safety of machinery - Ergonomic design principles Part 1: Terminology and general principles
prEN 746-2:1992	Industrial thermoprocessing equipment - Part 2: Safety requirements for combustion and fuel handling systems
prEN 953:1992	Safety of machinery - Guarding of machinery - Fixed and movable guards
prEN 954-1:1996	Safety of machinery - Safety related parts of control systems Part 1: General principles for design
prEN 982:1995	Safety of machinery - Safety requirements for fluid power systems and their components - hydraulics
prEN 983:1994	Safety of machinery - Safety requirements for fluid power systems and t components - pneumatics
prEN 999:1993	Safety of machinery - hand/arm speed; approach speed of parts of the body for the positioning of safety devices
prEN 1005-2:1995 (2nd revision)	Safety of machinery - Human physical performance Part 2: Manual handling of machinery and component parts of machinery
prEN 1093-1:1993	Safety of machinery - Evaluation of the emission of airborne hazardous substances Part 1: Selection of test methods
prEN 1265:1993	Noise test code for foundry machines and equipment
prEN 1539:1994	Dryers and ovens in which flammable substances are released from coating materials - Safety requirements

prEN 1921:1995	Industrial automation systems - Safety of integrated manufacturing systems - basic requirements
prEN 50100-1:1992	Safety of machinery - Electro-sensitive protective devices Part 1: Specifications for general requirements
ISO 6184-1:1985	Explosion Protection Systems Part 1: Determination of explosion indices of combustible dusts in air
ISO/TR 11688-1:1995	Acoustics - Recommended practice for the design of low-noise machinery and equipment Part 1: Planning