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Segamismasinad. Ohutus- ja  
hügieeninõuded**

Food processing machinery - Mixing machines -  
Safety and hygiene requirements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13570:2005 sisaldab Euroopa standardi EN 13570:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.06.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13570:2005 consists of the English text of the European standard EN 13570:2005.</p> <p>This document is endorsed on 22.06.2005 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><b>Käsitlusala:</b> This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of mixing machines and their accessories intended to be used in sausage kitchens and industrial erations.</p>	<p><b>Scope:</b> This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of mixing machines and their accessories intended to be used in sausage kitchens and industrial erations.</p>
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English version

## Food processing machinery - Mixing machines - Safety and hygiene requirements

Machines pour les produits alimentaires - Malaxeurs -  
Prescriptions relatives à la sécurité et à l'hygiène

Nahrungsmittelmaschinen - Mischmaschinen - Sicherheits-  
und Hygieneanforderungen

This European Standard was approved by CEN on 25 March 2005.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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## Contents

Page

Foreword .....	4
Introduction .....	5
1 Scope .....	6
2 Normative references .....	7
3 Terms and definitions .....	8
4 List of significant hazards .....	10
5 Safety and hygiene requirements and/or protective measures .....	13
6 Verification of safety and hygiene requirements and/or protective measures .....	26
7 Information for use .....	28
Annex A (normative) Noise test code for mixing machines ( grade 2) .....	31
Annex B (normative) Design principles to ensure cleanability of mixing machines .....	33
Annex C (normative) Common hazards for food processing machines and reduction requirements applicable to mixing machines .....	38
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC .....	40
Bibliography .....	41

## Figures

Figure 1 — Components of a mixing machine .....	7
Figure 2 — Danger zones on mixing machines .....	10
Figure 3 — Mixing machines with a cover at the mixing container - safety dimensions .....	15
Figure 4 — Mixing machine with open mixing container, mechanical bar, light barrier and interlocking step at the operator side – safety dimensions .....	16
Figure 5 — Mixing machine with open mixing container, protective grid and fixed step at the operator side – safety dimensions .....	17
Figure 6 — Discharge outlet at the mixing machine – protective hood .....	17
Figure 7 — Safety device for container position .....	20
Figure 8 — ON/OFF switch with hood .....	22
Figure 9 — Transport carriage for screw conveyor .....	23
Figure 10 — Hygiene areas on mixing machines with front face discharge outlet .....	24

Figure 11 — Hygiene areas on mixing machines with bottom discharge opening ..... 25

Figure B.1 — Smooth surfaces - food area..... 33

Figure B.2 — Angles and radii in food area ..... 34

Figure B.3 — Angle in food area..... 35

Figure B.4 — Adjoining surfaces in food area..... 35

Figure B.5 — Admissible joining elements – head profiles..... 36

## Foreword

This European Standard (EN 13570:2005) has been prepared by Technical Committee CEN/TC 153 “Food processing machinery – Safety and hygiene specifications”, 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 November 2005, and conflicting national standards shall be withdrawn at the latest by November 2005.

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 98/37.

For relationship with EU Directive 98/37, see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, 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

**1.1** This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of mixing machines and their accessories intended to be used in sausage kitchens and industrial operations.

This European Standard deals with all significant hazards, hazardous situations and events relevant to mixing machines, when they are used as intended and under the conditions foreseen by the manufacturer ( see Clause 4).

This European standard is not applicable to mixing machines which are manufactured before the date of publication of this European Standard by CEN.

**1.2** This European Standard covers the following types of mixing machines:

- Mixing machines with a tilting container, one or several mixing shafts
- Mixing machines with a stationary mixing container, front face or bottom discharge opening
- Mixing machines with a container and loading device
- Mixing machines with a container, mixing shaft(s), screw conveyor and loading device

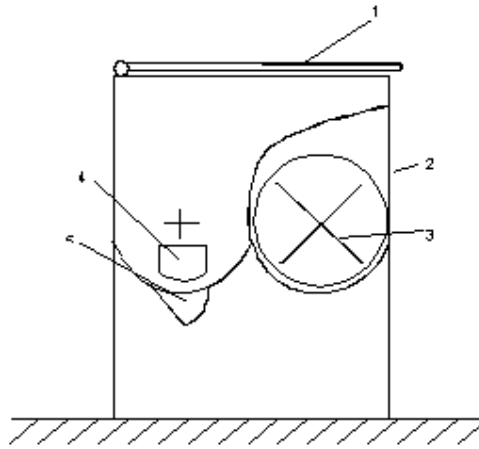
The mixing machines are constructed of a machine frame, a trough-shaped mixing container, one or several mixing shafts, an associated drive and electrical, hydraulic and pneumatic components, depending on machine type.

The mixing shaft can be equipped with wings, screws, rods, paddles or the like.

Mixing machines may be equipped e. g. with

- cover over the top of the mixing container,
- pipe connections for gases, steam, water or vacuum,
- protective hood over the front face discharge opening,
- lifting devices for mixing shaft,
- loading device,
- screw conveyor at the discharge opening.



**KEY**

- 1 cover
- 2 mixing container
- 3 mixing shaft
- 4 front-face discharge opening
- 5 bottom discharge opening

**Figure 1 — Components of a mixing machine****1.3 Intended use**

The fresh or frozen meat, meat product, meat pieces or fish, salt, spices and other additives are loaded into the mixing container by hand or by means of a loading device and mixed by the mixing unit.

The discharge outlet may be located at the bottom or the front face and can either be a slide, a flap, a pipe, a pump or a screw.

During the production of this standard the following assumptions were made:

- Mixing machines are installed at a sufficiently lighted place.
- They are used only by designated and skilled operators.

Although it should be advised against, the standard, taking into account practice, deals with the hazards due to cleaning with pressurised water.

**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 294:1992, *Safety of machinery - Safety distance to prevent danger zones being reached by the upper limbs*

EN 614-1:1995, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*.

EN 953:1997, *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 1005-1, *Safety of machinery — Human physical performance — Part 1: Terms and definitions.*

EN 1005-2, *Safety of machinery - Human physical performance - Part 2: Manual handling of machinery and component parts of machinery*

EN 1005-3, *Safety of machinery — Human physical performance — Part 3: Recommended force limits for machine operation.*

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

EN 1088:1995, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection.*

EN 1672-2:1997, *Food processing machinery — Basic concepts — Part 2: Hygiene requirements.*

EN 60204-1:1997, *Safety of machinery — Electrical equipment of machinery — Part 1: General provisions.*

EN 60529, *Degrees of protection provided by enclosures (IP Code)(IEC 529:1989).*

EN 61496-1:1997, *Safety of machinery — Electrosensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004, modified),*

EN ISO 3744, *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 4871:1996, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996).*

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 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995).*

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)*

### **3 Terms and definitions**

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