



SLOVENSKI STANDARD

SIST EN 12267:2003+A1:2010

01-oktober-2010

Nadomešča:
SIST EN 12267:2003

Stroji za predelavo hrane - Krožne žage - Varnostne in higienske zahteve (vključno z dopolnilom A1)

Food processing machinery - Circular saw machines - Safety and hygiene requirements

Nahrungsmittelmaschinen - Kreissägemaschinen - Sicherheits- und Hygienebestimmungen

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

[SIST EN 12267:2003+A1:2010
https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010](https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010)

Ta slovenski standard je istoveten z: EN 12267:2003+A1:2010

ICS:

67.260

Tovarne in oprema za
živilsko industrijo

Plants and equipment for the
food industry

SIST EN 12267:2003+A1:2010

en,fr,de

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST EN 12267:2003+A1:2010

<https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12267:2003+A1

May 2010

ICS 67.260

Supersedes EN 12267:2003

English Version

**Food processing machinery - Circular saw machines - Safety
and hygiene requirements**

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

Nahrungsmittelmaschinen - Kreissägemaschinen -
Sicherheits- und Hygienebestimmungen

This European Standard was approved by CEN on 9 January 2003 and includes Amendment 1 approved by CEN on 9 April 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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.



iTeh STANDARD PREVIEW
(standards.iteh.ai)
<https://standards.iteh.ai/catalog/standards/sist/afla08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	7
3 Terms and definitions	8
4 List of hazards.....	8
4.1 General.....	8
4.2 Mechanical hazards	8
4.3 Electrical hazards	10
4.4 Hazard from loss of stability.....	10
4.5 Noise hazard.....	10
4.6 Hazards from non-compliance with ergonomic principles	11
4.7 Hazards from non-compliance with hygiene principles	11
5 Safety requirements and/or measures	11
5.1 General.....	11
5.2 Mechanical hazards	11
5.3 Electrical hazards	14
5.4 Hazard from loss of stability.....	16
5.5 Noise hazard.....	17
5.6 Ergonomic requirements	17
5.7 Hygiene and cleaning.....	17
6 Verification of safety requirements and/or measures.....	19
7 Information for use	20
7.1 General.....	20
7.2 Operating instruction	20
7.3 Operator training.....	22
8 Marking	22
Annex A (normative) Noise test code for circular saw machines (grade 2)	24
Annex B (normative) Design principles to ensure cleanability of circular saw machines.....	26
Annex C (normative) Common hazards for food processing machines and reduction requirements applicable to circular saw machines	31
Annex ZA (informative)  Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC 	33
Bibliography	34

Foreword

This document (EN 12267:2003+A1:2010) has been prepared by Technical Committee CEN/TC 153 "Machinery intended for use with foodstuffs and feed", the secretariat of which is held by DIN.

It has been prepared by Working Group 2 "Meat Processing Machinery" of CEN/TC 153.

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 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

This document includes Amendment 1, approved by CEN on 2010-04-09.

This document supersedes EN 12267:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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 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).

A1 For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document. **A1**

A1 *deleted text* **A1**

<https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ff6b0e3378/sist-en-12267-2003a1-2010>

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

A1 This document is a type C standard as stated in EN ISO 12100.

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

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. **A1**

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 12267:2003+A1:2010](https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010)

<https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>

1 Scope

This European Standard specifies requirements for the design and manufacturing of circular saw machines (see Figures 1 and 2).

The machines covered by this European Standard are used to cut bone and meat.

The circular saw machines covered by this European Standard do not include circular saw machines for processing of wood and similar materials and the requirements of EN 1870-1 do not apply.

Circular saw machines for domestic use are not included in this European Standard.

This European Standard applies only to machines which are manufactured after the date of issue of this European Standard.

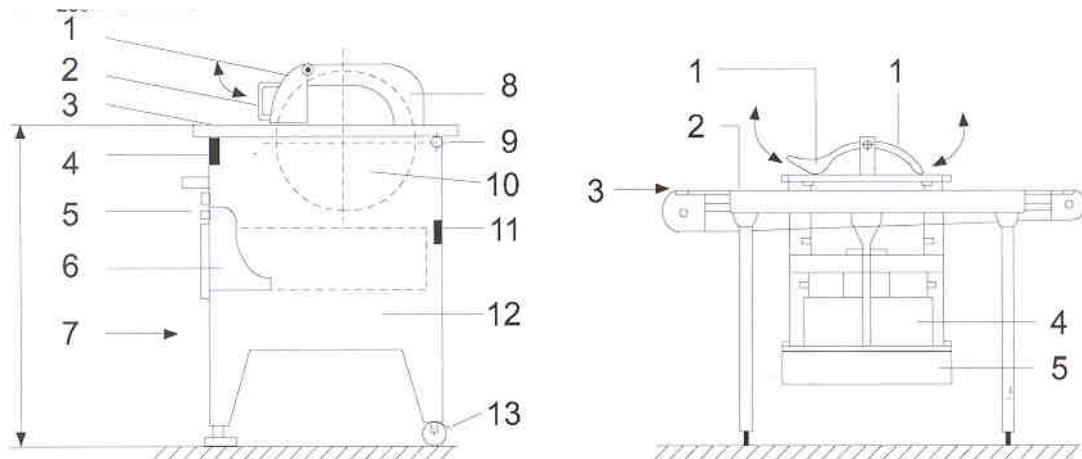
This European Standard covers the following types of machines:

Circular saw machines with a feed table and a fixed product pusher

- The distance "A" from the floor to the top surface of the feed table is from 800 mm to 1050 mm. The saw blade diameter is between 350 mm and 400 mm (see Figure 1).
- Circular saw machines installed in a cutting line (e.g. conveyor belt or roller conveyor), e.g. with a protective component which can be lifted on the feed and discharge side. The saw blade diameter is between 350 mm and 400 mm (see Figure 2).

[SIST EN 12267:2003+A1:2010](https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010)
<https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>

EN 12267:2003+A1:2010 (E)



Key

- | | | | |
|----|------------------------------------|---|----------------------------------|
| 1 | Product pusher | 1 | Protective hood |
| 2 | Handle | 2 | Roller conveyor or belt conveyor |
| 3 | Feed table | 3 | Feed side |
| 4 | Interlocking switch for feed table | 4 | Casing |
| 5 | ON / OFF switch | 5 | Chip pan |
| 6 | Chip pan | | |
| 7 | Operator side | | |
| 8 | Protective hood | | |
| 9 | Hinge | | |
| 10 | Saw blade 350 mm - 400 mm diameter | | |
| 11 | Interlocking switch for chip pan | | |
| 12 | Machine rack | | |
| 13 | Locking device | | |

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 12267:2003+A1:2010

standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010

Figure 1 — Circular saw machine with machine base

Figure 2 — Circular saw machine in cutting line

Circular saw machines comprise a machine base, a fixed, foldable feed table, a product pusher, a protective hood which can be lifted, a saw blade, a drive and electrical components, depending on machine type.

Circular saw machines with a machine base can be wheel-mounted (see Figure 1).

A1 *deleted text* **A1**

A1 This European Standard deals with all significant hazards, hazardous situations and events relevant to circular saw 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 deals with the hazards which can arise during commissioning, operation, cleaning, use, maintenance and decommissioning of the machine. **A1**

On floor-type circular saw machines (see Figure 3) the product to be cut is placed by hand onto the feed table and pushed against the cutting zone of the saw blade by means of the product pusher and sawed.

On circular saw machines which are installed in a cutting line (see Figure 4) the product to be cut is pushed by hand via the conveyor belt or roller conveyor against the cutting zone of the saw blade and sawed.

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 614-1, *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 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 machinery operation*

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

EN 1672-2:2005, *Food processing machinery — Basic concepts — Part 2: Hygiene requirements*

EN 60204-1:2006, *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 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, *Acoustics — Declaration and verification of noise emission values of machinery and equipment — (ISO 4871:1996)*

EN ISO 11204, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Method requiring environmental corrections (EN ISO 11204:1995)*

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 and specifications (ISO 12100-2:2003)*

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

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

EN 12267:2003+A1:2010 (E)

3 Terms and definitions

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

3.1
movable protective hood
movable device for covering the saw blade at the cutting zone and on the discharge side above the feed level

3.2
product pusher
movable device for pushing the bone against the cutting zone and for covering the saw blade above the table

3.3
saw blade
toothed cutting tool in the form of a disc

3.4
protective hood
device for covering the saw blade above and below the table except for the cutting zone

3.5
cutting line
device for automatic product processing with conveyor belts or roller conveyors

3.6
feed table
surface with an integrated saw blade for placing the bone in position for cutting

iteh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 12267:2003+A1:2010
<https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>

4 List of hazards

4.1 General

This clause and annex C (normative) contain the hazards and hazardous situations based upon EN 1050:1996 as far as they are dealt with in this European Standard, identified by a risk assessment significant for circular saw cutting machines, and actions to eliminate or reduce risk.

Before using this standard it is important to carry out a risk assessment of the cutting machine to check that it has the hazards identified in this clause.

4.2 Mechanical hazards

4.2.1 Circular saw machine with feed table and fixed product pusher (see Figure 3)

4.2.1.1 Area of saw blade

— Zone 1

Saw blade at the cutting zone, above the feed table

Hazard of cutting or severing fingers.

— Zone 2

Saw blade outside the cutting zone, above the feed table

Hazard of cutting or severing fingers.

— Zone 3

Saw blade outside the cutting zone, below the feed table

Hazard of cutting or severing fingers.

4.2.1.2 Area of drive mechanism

— Zone 4

Saw blade drive

Crushing hazard to fingers or hand.

4.2.2 Circular saw machine in cutting line (see Figure 4) - Area of saw blade

— Zone 1

Saw blade at the cutting zone, above the feed plane

Hazard of cutting or severing fingers.

— Zone 2

Saw blade outside the cutting zone, above the feed plane

Hazard of cutting or severing fingers

— Zone 3

Saw blade outside the cutting zone, below the feed plane

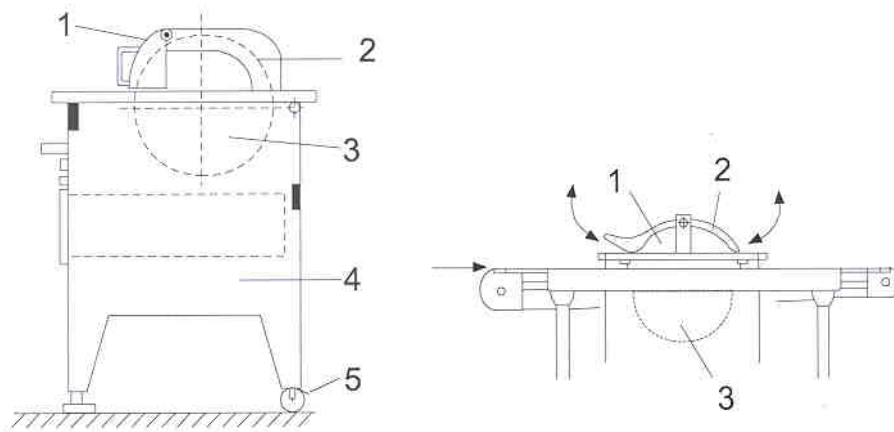
Hazard of cutting or severing fingers.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 12267:2003+A1:2010](https://standards.iteh.ai/standards/sist/a1a08f0-9ea4-4dc2-9aa4-4fd6b0e3378/sist-en-12267-2003a1-2010)

<https://standards.iteh.ai/standards/sist/a1a08f0-9ea4-4dc2-9aa4-4fd6b0e3378/sist-en-12267-2003a1-2010>

EN 12267:2003+A1:2010 (E)

**Key**

- 1 Zone 1
- 2 Zone 2
- 3 Zone 3
- 4 Zone 4
- 5 Zone 5

- 1 Zone 1
- 2 Zone 2
- 3 Zone 3

iTeh STANDARD PREVIEW

(standards.iteh.ai)

**Figure 3 — Floor type circular saw machine
- danger zones**

**Figure 4 — Circular saw machine in cutting line
- danger zones**

SIST EN 12267:2003+A1:2010

4.3 Electrical hazards <https://standards.iteh.ai/catalog/standards/sist/a08f0-9ea4-4dc2-9aa4-4ffd6b0e3378/sist-en-12267-2003a1-2010>

4.3.1 Direct or indirect contact with life parts

Hazard from electrical shock to the body.

4.3.2 Electrical components with insufficient safety level

Hazards arising from malfunction of electrical components.

Hazards from the effect of failure/unexpected stoppage on other elements in a cutting line.

4.4 Hazard from loss of stability

— Zone 5

Wheel-mounted circular saw machines (see Figure 3).

Impact or squeezing hazard to the body if machine topples over.

4.5 Noise hazard

Noise can lead to

- permanent loss of hearing,
- ringing in the ears (tinnitus),
- fatigue, stress etc.