



SLOVENSKI STANDARD
SIST EN 13885:2005

01-november-2005

Stroji za predelavo hrane – Stroji za sponkanje – Varnostne in higienske zahteve

Food processing machinery - Clipping machines - Safety and hygiene requirements

Nahrungsmittelmaschinen - Clipmaschinen - Sicherheits- und Hygieneanforderungen

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

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ICS:

67.260

Tovarne in oprema za
živilsko industrijo

Plants and equipment for the
food industry

SIST EN 13885:2005

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EUROPEAN STANDARD

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Food processing machinery - Clipping machines - Safety and hygiene requirements

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

Nahrungsmittelmaschinen - Clipmaschinen - Sicherheits- und Hygieneanforderungen

This European Standard was approved by CEN on 21 April 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.

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

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EN 13885:2005 (E)**Foreword**

This document (EN 13885:2005) has been prepared by Technical Committee CEN/TC 153 “Food processing machinery — Safety and hygiene requirements”, 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of an identical text or by endorsement, at the latest by December 2005, and conflicting national standards shall be withdrawn at the latest by December 2005.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/EC.

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

It is one of a series of standards for meat processing machinery, in compliance with EN 1672-2 and Annex C.

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.

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Introduction

This European Standard is a type C standard as stated in EN ISO12100-1.

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.

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EN 13885:2005 (E)

1 Scope

1.1 This European Standard applies to clipping machines

This European Standard specifies safety and hygiene requirements to minimise the hazards which can arise during the commissioning, the use and the maintenance of clipping machines for portioning and closing of casings filled with foodstuffs, and intended to be used in butcheries, meat processing factories, main kitchens and other food processing factories.

This European Standard deals with all significant hazards, hazardous situations and events relevant to clipping 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 clipping machines which are manufactured before the date of publication of this European Standard by CEN.

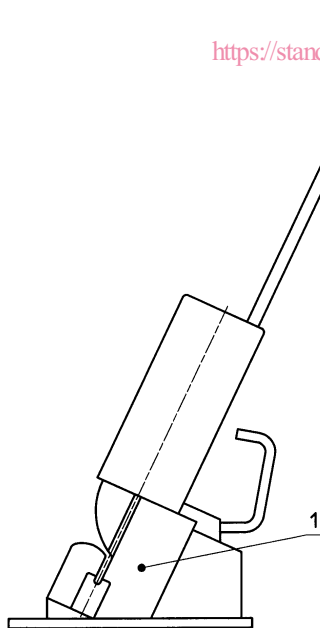
1.2 This European Standard covers the following types of machines:

Concerning the sort of actuation:

- machine for gathering up by hand, power motioned locking-stroke;
- machine for automatic-motioned gathering and automatic-motioned locking-stroke.

Concerning the removal-system:

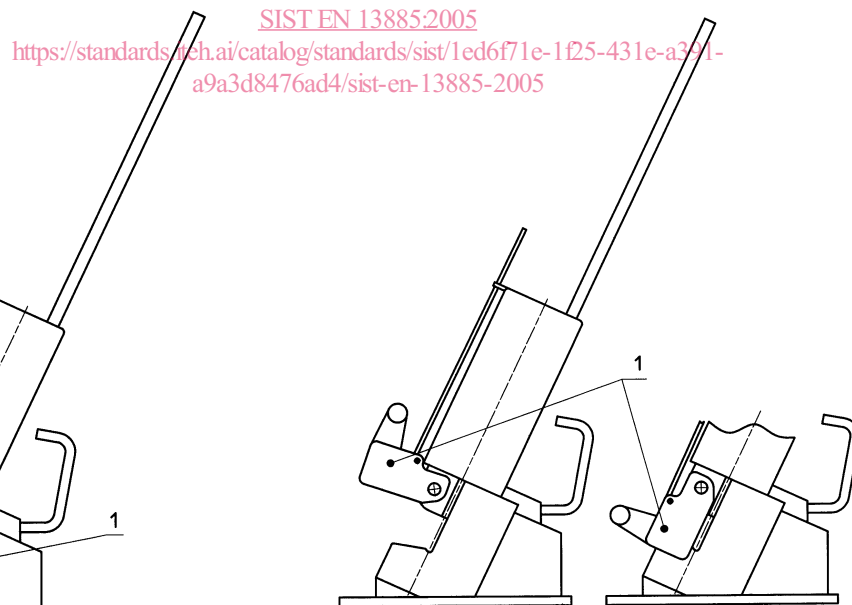
- machine with removal by fixed or movable clip-guide (see Figures 1 and 2);
- machine with spread-removal (see Figures 3 and 4).



Key

- 1 Fixed clip guide

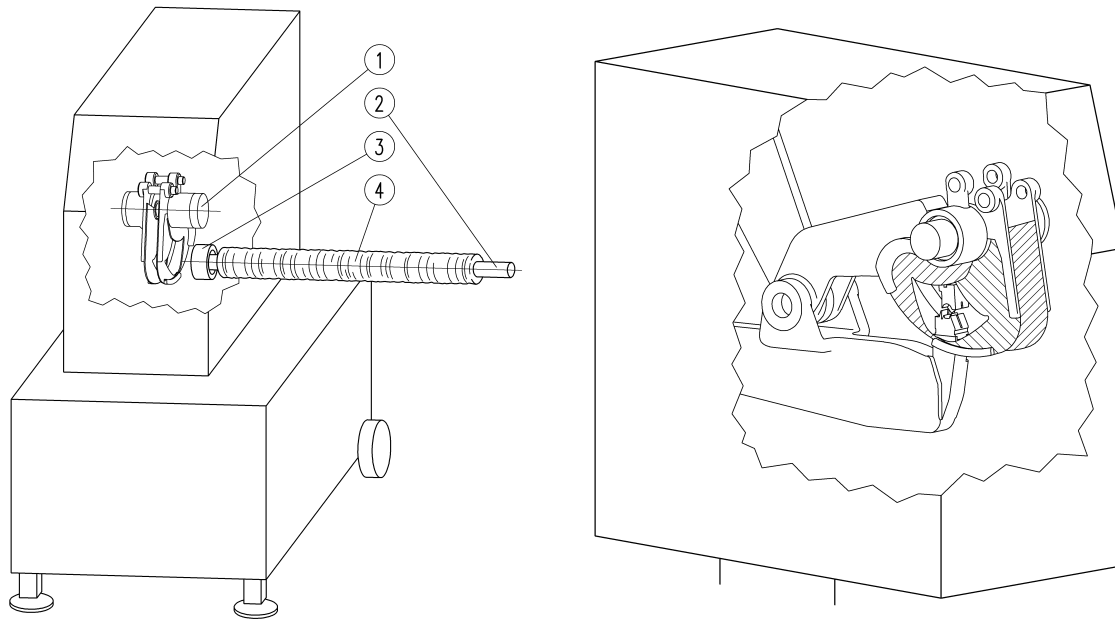
Figure 1 — Machine with removal by fixed clip guide



Key

- 1 Movable clip guide

Figure 2 — Machine with removal by movable clip guide

**Key**

- 1 Spread-removal
- 2 Filling-tube
- 3 Casing brake
- 4 Tube (casing)

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Figure 3 — Machine with spread-removal**Figure 4 — Spread-removal – detail**

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Concerning construction:

- table-top-machine;
- movable floor machines;
- floor-mounted-machine.

1.3 Description

Clipping machines will be used for closing of tubes with a single-clip (one side) or a double-clip (endlocking and startlocking).

The machines are equipped with closing tools (punch/die), which make the locking by deforming the locking-element (clip).

A removal/gathering is used to form a free space and to gather the tube in a way that the locking equipment can be put over the pressed tail and this can be locked.

By automatic action the clipping machine will be placed at the end of the filling-tube and after each ejecting of the filling-portion there are positioned one or two clips at the casing.

From the machine the filled portion will be divided with a knife from the skin which still remains on the filling-tube. If necessary, an additional loop for hanging up the package will be attached.

EN 13885:2005 (E)**1.4 Intended use**

A clipping machine is designed and constructed in such a way, that in combination with a filling equipment, the food stuff will be transported through a filling-tube in a casing, which is gathered on the filling-tube. Afterwards this casing will be closed with a clip.

Furthermore, it is usual to close already filled casings, bags or other packages by hand with a free-standing or hand-operated/hand held clipping machine.

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

With the aim of clarifying the intentions of the standard and avoiding doubts when reading it, the following assumptions were made when producing it:

- only designated and instructed persons operate the machine;
- place of use is adequately lit.

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 574, *Safety of machinery — Two-hand control devices — Functional aspects — Principles for design*

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

EN 953, *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 983, *Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics*

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 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 machines — Part 1: General requirements (IEC 60204-1:1997)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

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

EN ISO 3744:1995, *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 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, EN ISO 12100-2:2003, and the following apply.

3.1

discharge device

inclined plane with/without rolls or driven discharge belt

3.2

clip/closing element

closing clamp out of metal or plastics in one- piece- or two-piece type

3.3

clip guide

feed-channel to the closure tool

3.4

casing

tubes

3.5

casing brake

device for retaining and braking of the casing on the filling-tube

3.6

string-/band-dispenser

device for manufacturing of ring-sausages

3.7

code device

device for marking the packaged unit

EN 13885:2005 (E)**3.8****magazine**

receptable to store the clips

3.9**oil fog**

particles of oil in the waste air from cylinders and valves

3.10**gathering**

folding of the casing

3.11**loop**

at the tail fixed eye to hang up the package

3.12**spread-removal**

device for gathering of the casing and making a free space for the clip

3.13**punch and die**

closure tools

3.14**dividing-knife**

fixed or movable knife for cutting the tail

3.15**removal**

device for dividing the filling-product in the casing and making a non-product-place for setting of the clips

3.16**tail**

gathered casing at the end of the package

3.17**conveyance-channel**

channel for feeding the clips from the magazine to the closing-tools

3.18**shirred casing**

pleaded tubes

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4 List of significant hazards

4.1 General

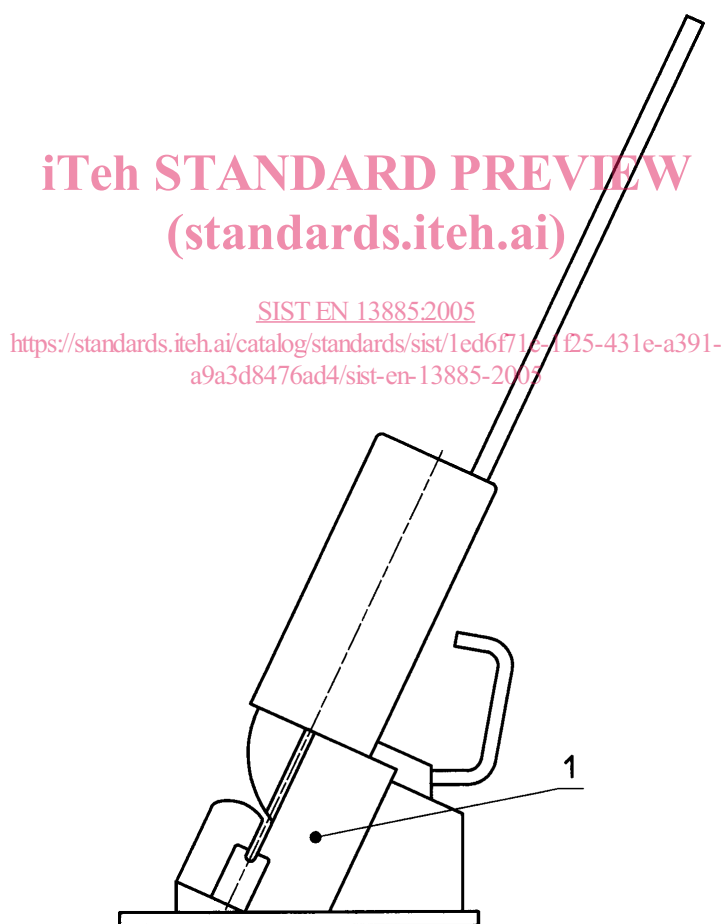
This Clause and Annex C contain all the significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by a risk assessment as significant for this type of machine and which require action identified to eliminate or reduce risk.

Before using this document a risk assessment of the clipping machines according to EN 1050 shall be carried out to check that it has identified all significant hazards, hazardous situations and events in this Clause.

4.2 Mechanical hazards

4.2.1 Table-top machines

4.2.1.1 with fixed clip-guide



Key

1 Fixed clip guide

Figure 5 — Clipping machine with fixed clip guide

— Zone 1: closing zone (see Figure 5)