

**Jäätmematerjalide või taaskasutatavate osiste
tihendamise masinad. Horisontaalsed pallimispressid.
Ohutusnõuded**

**Machines for compacting waste materials or recyclable
fractions - Horizontal baling presses - Safety
requirements**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 16252:2012 sisaldab Euroopa standardi EN 16252:2012 ingliskeelset teksti.	This Estonian standard EVS-EN 16252:2012 consists of the English text of the European standard EN 16252:2012.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 19.12.2012.	Date of Availability of the European standard is 19.12.2012.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.030.40, 25.120.10

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

ICS 13.030.40; 25.120.10

English Version

**Machines for compacting waste materials or recyclable fractions
- Horizontal baling presses - Safety requirements**

Machines de compactage pour déchets ou matières
recyclables - Presses à balles horizontales - Prescriptions
de sécurité

Maschinen zum Verdichten von Abfällen oder recyclebaren
Materialien - Horizontal arbeitende Ballenpressen -
Sicherheitsanforderungen

This European Standard was approved by CEN on 3 November 2012.

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-CENELEC 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-CENELEC 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	8
4 List of significant hazards	12
5 Safety requirements and/or protective measures	16
5.1 Mechanical hazards	16
5.1.1 General.....	16
5.1.2 Feed equipment area	17
5.1.3 Feed hopper area	19
5.1.4 Baling chamber area	21
5.1.5 Wire guidance zone	22
5.1.6 Bale channel and wire tying area	22
5.2 Hazards due to failures in the control system or unexpected start-up.....	22
5.2.1 Control devices	22
5.2.2 Prevention of unauthorised operation.....	22
5.2.3 Emergency stop	23
5.2.4 Required performance levels PL _r according to EN ISO 13849-1.....	23
5.3 Electrical hazards	24
5.4 Hazards from hydraulic equipment.....	24
5.5 Slips, trips and falls	24
5.6 Noise hazards.....	24
5.6.1 Noise reduction at source by design.....	24
5.6.2 Noise reduction by protective measures	24
5.6.3 Information connected with noise hazards.....	25
5.7 Hazards due to neglecting ergonomic principles in the design of the machine	25
6 Verification of the safety requirements and/or protective measures.....	25
7 Information for use	26
7.1 General information.....	26
7.2 Information for safe operation.....	27
7.2.1 General.....	27
7.2.2 Summary of operating instructions	27
7.2.3 Information on noise	27
7.2.4 Setting and maintenance instructions	27
7.2.5 Instructions for the replacement of coils	28
7.2.6 Spare parts list.....	28
7.2.7 Preventing faults and fault recovery.....	28
7.2.8 Information for preventing and removing blockages in the feed hopper.....	28
7.2.9 Information for preventing faults and troubleshooting on the bale tying equipment (e.g. in the event of a broken bale wire).....	29
7.2.10 Information on periodic examinations and examinations following repairs and modifications.....	29
7.3 Marking	30
7.3.1 Manufacturer's plate.....	30
7.3.2 Safety signs.....	30
Annex A (normative) Noise test code	32
A.1 Scope	32
A.2 Determination of emission sound pressure level at the work station(s).....	32

A.2.1	Basic standards	32
A.2.2	Measurement uncertainty	33
A.3	Determination of sound power levels	33
A.3.1	Basic standards	33
A.3.2	Measurement uncertainty	33
A.4	Installation and mounting conditions for the noise measurement	33
A.5	Operating conditions	34
A.6	Information to be recorded and reported	34
A.6.1	General	34
A.6.2	Horizontal baling press data	34
A.6.3	Standards used	34
A.6.4	Noise data	34
A.6.5	Installation and operating conditions	34
A.7	Declaration and verification of noise emission values	34
Annex B	(informative) Preliminary dialogue between manufacturer and user	36
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	37
Bibliography		38

Foreword

This document (EN 16252:2012) has been prepared by Technical Committee CEN/TC 397 "Project Committee - Baling presses - Safety 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 June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

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).

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

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard 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 in accordance with the provisions of this type C standard.

1 Scope

This European Standard specifies the safety requirements for the design, manufacture and information for safe use of horizontal baling presses for compacting waste material or recyclable fractions (e.g. paper, plastics, textiles, cans, cardboard, mixed waste), hereafter referred to as materials. It covers only machines fed by conveyors or by feed hoppers where the bales are bound manually or automatically. The feed hoppers covered by this European Standard are only fed mechanically or by hand.

The scope of this European Standard includes any mechanical feed equipment, such as belt type loading and feed conveyors or bin lifts, forming an integral part of the baling press assembly. However, pneumatic conveying systems are outside the scope of this European Standard.

This European Standard does not apply to cranes, lift trucks or other mobile plant used to load materials into the feed hopper. Nor does it apply to hazards arising from loading the feed hopper using cranes, lift trucks or other mobile plant.

This European Standard does not apply to pre-conditioning equipment connected at the inlet side of the feed hopper (e.g. sorter, shredder, stand-alone perforator), nor to equipment at the outlet side of the baling press.

This European Standard does not deal with suction and de-dusting mechanisms.

This European Standard does not apply to hazards arising from the materials being processed (e.g. asbestos, clinical waste, aerosol containers).

This European Standard does not cover risks arising from installation of baling presses in places accessible to the public.

All hazards mentioned in Clause 4 are dealt with in this European Standard.

This European Standard is not applicable for horizontal baling presses which are manufactured before the date of its publication as an European Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 349:1993+A1:2008, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 620:2002+A1:2010, *Continuous handling equipment and systems — Safety and EMC requirements for fixed belt conveyors for bulk materials*

EN 953:1997+A1:2009, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

EN 1088:1995+A2:2008, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

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

EN 60947-5-1:2004, *Low-voltage switchgear and control gear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2003)*

EN 60947-5-3, *Low-voltage switchgear and control gear — Part 5-3: Control circuit devices and switching elements — Requirements for proximity devices with defined behaviour under fault conditions (PDDE) (IEC 60947-5-3)*

EN 62262:2002, *Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code) (IEC 62262:2002)*

EN ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 3746:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:2010)*

EN ISO 3747:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering/survey methods for use in situ in a reverberant environment (ISO 3747:2010)*

EN ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 9614-2:1996, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning (ISO 9614-2:1996)*

EN ISO 11200:2009, *Acoustics — Noise emitted by machinery and equipment — Guidelines for the use of basic standards for the determination of emission sound pressure levels at a work station and at other specified positions (ISO 11200:1995, including Cor 1:1997)*

EN ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11202:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202:2010)*

EN ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections (ISO 11204:2010)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

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

EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

EN ISO 13855:2010, *Safety of machinery — Positioning of protective equipment with respect to the approach speeds of parts of the human body (ISO 13855:2010)*

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

EN ISO 14122-1, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of fixed means of access between two levels (ISO 14122-1)*

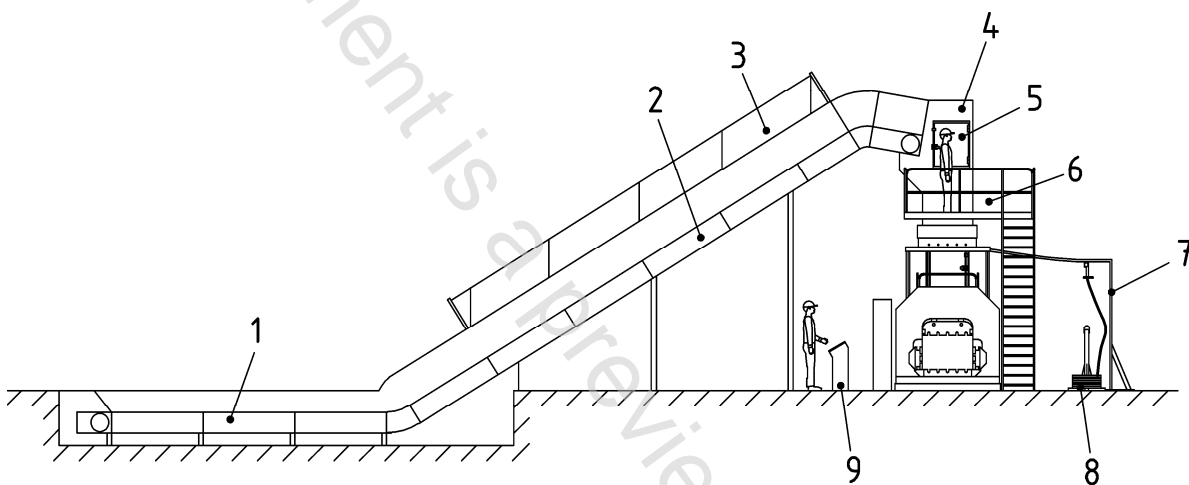
EN ISO 14122-2, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2)*

EN ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

EN ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO 14122-4)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.



Key

- 1 loading conveyor
- 2 feed conveyor
- 3 emergency stop actuator
- 4 feed hopper
- 5 access door
- 6 access platform
- 7 wire guidance zone
- 8 wire coils
- 9 control station

Figure 1a — Horizontal baling press, front view