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Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads CONSOLIDATED TEXT

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 619:2003+A1:2010 sisaldab Euroopa standardi EN 619:2002+A1:2010 ingliskeelset teksti.	This Estonian standard EVS-EN 619:2003+A1:2010 consists of the English text of the European standard EN 619:2002+A1:2010.
Standard on kinnitatud Eesti Standardikeskuse 31.12.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.12.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 27.10.2010.	Date of Availability of the European standard text 27.10.2010.
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English Version

Continuous handling equipment and systems - Safety and EMC requirements for equipment for mechanical handling of unit loads

Equipements et systèmes de manutention continue - Prescriptions de sécurité et de CEM pour les équipements de manutention mécanique des charges isolées

Stetigförderer und Systeme - Sicherheits- und EMV-Anforderungen an mechanische Fördereinrichtungen für Stückgut

This European Standard was approved by CEN on 8 March 2001 and includes Amendment 1 approved by CEN on 28 September 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.

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

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Contents

Foreword

This document (EN 619:2002+A1:2010) has been prepared by Technical Committee CEN/TC 148 "Continuous handling equipment and systems - Safety" the secretariat of which is held by AFNOR.

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 April 2011 and conflicting national standards shall be withdrawn at the latest by April 2011.

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 includes Amendment 1, approved by CEN on 2010-09-28.

This document supersedes EN 619:2002.

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

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 Annexes ZA and ZB, which are integral parts of this document.

This draft standard forms part of a series of five draft standards the titles of which are given below:

— EN 617, *Continuous handling equipment and systems — Safety and EMC requirements for the equipment for the storage of bulk materials in silos, bunkers, bins and hoppers*;

— EN 618, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of bulk materials except fixed belt conveyors*;

— EN 619, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of unit loads*;

— EN 620, *Continuous handling equipment and systems — Safety and EMC requirements for fixed belt conveyors for bulk material*;

— EN 741, *Continuous handling equipment and systems — Safety requirements for systems and their components for pneumatic handling of bulk materials*.

The Annexes A, B, C, D, E, F and H are normative, the Annexes G, ZA and ZB are informative.

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 the United Kingdom.

Introduction

This European Standard is a type C standard as stated in EN 1070.

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

While producing this standard it was assumed that:

— only competent persons operate the machine;

— components without specific requirements are:

a) designed in accordance with the usual engineering practice and calculation codes, including all failure modes;

b) of sound mechanical and electrical construction;

c) made of materials with adequate strength and of suitable quality;

d) made of materials free of defects;

— harmful materials, such as asbestos are not used as part of the machine;

— components are kept in good repair and working order, so that the required characteristics remain despite wear;

— by design of the load bearing elements, a safe operation of the machine is assured for loading ranging from zero to 100 % of the rated possibilities and during the tests;

— dialogue has taken place between the user and the supplier concerning the conditions for the use and places of use of the machinery;

— the working area is adequately lit;

— the places of installation allow a safe use of the machine.

1 Scope

1.1 This European standard deals with the technical requirements to minimise the hazards listed in Clause 4 and Annex B. These hazards can arise during the operation and maintenance of continuous handling equipment and systems when carried out in accordance with the specifications given by the manufacturer or his authorised representative. This standard deals with safety related technical verification during commissioning.

1.2 This standard applies to mechanical handling devices defined in Clause 3, singly or combined to form a conveyor system, and designed exclusively for moving unit loads continuously on a predefined route from the loading to the unloading points, possibly with varying speed or cyclically. In general, it also applies to conveyors which are built into machines or attached to machines.

1.3 Safety requirements and/or measures in this standard apply to equipment used in all environments. However, additional risk assessments and safety measures need to be considered for uses in severe conditions, e.g. freezer applications, high temperatures, corrosive environments, strong magnetic fields, potentially explosive atmospheres, radioactive conditions and loads the nature of which could lead to a dangerous situation (e.g. molten metal, acids/bases, specially brittle loads, explosives) operation on ships and earthquake effects and also contact with foodstuff. Hazards during decommissioning are not covered.

1.4 This European Standard deals with the technical requirements for electromagnetic compatibility (EMC).

1.5 This standard does not cover hazards during decommissioning and hazards generated by noise. It also does not cover operation in environments where the electromagnetic disturbances are outside the range of those specified in EN 61000-6-2.

This standard does not apply to conveying equipment and systems used underground or in public areas and to aircraft ground support equipment.

NOTE 1 Aircraft ground support equipment is covered by the standards of CEN/TC 247.

NOTE 2 Conveying equipment and systems used in public areas will be covered in an amendment.

NOTE 3 Hazards generated by noise will be dealt with in an amendment.

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. [A1]

EN 81-3, *Safety rules for the construction and installation of lifts — Part 3: Electric and hydraulic service lifts*

[A1] *deleted text* [A1]

EN 294:1992, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs*

EN 341, *Personal protective equipment against falls from a height — Descender devices*

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

EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*

[A1] *deleted text* [A1]

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

EN 626-1, *Safety of machinery — Reduction of risks to health from hazardous substances emitted by machinery: Part 1: Principles and Specifications for machinery manufacturers*

EN 795:1996, *Protection against falls from a height — Anchor devices — Requirements and testing*

EN 842, *Safety of machinery — Visual danger signals — General requirements, design and testing*

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

EN 954-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

EN 982:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics*

EN 983:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics*

EN 1037, *Safety of machinery — Prevention of unexpected start-up*

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

EN 1070, *Safety of machinery — Terminology*

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

EN 1760-1, *Safety of machinery — Pressure sensitive protective devices — Part 1: General principles for the design and testing of pressure sensitive mats and pressure sensitive floors*

[A1] EN 13557:2003+A2:2008, *Cranes — Controls and control stations* [A1]

[A1] *deleted text* [A1]

EN 50081-1, *Electromagnetic compatibility — Generic emission standard — Part 1: Residential, commercial and light industry*

EN 61000-6-2:1999, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunitiy for industrial environments*

EN 60204-1:1997, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:1997 + prA1 1998)*

EN 60204-11:1998, *Safety of machinery — Electrical equipment of machines — Part 11: General requirements for voltages above 1000 V a.c. or 1500 V d.c. and not exceeding 36 kV*

EN 60529:1999, *Degrees of protection provided by enclosures (IEC 60529: 1989/A1:1999)*
A1:2000

EN 61310-1, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)*

prEN 61496-2:1997, *Safety of machinery — Electrosensitive protective equipment — Part 2: Particular requirements for equipment using active optoelectronic protective devices*

[A1] EN ISO 7731, *Ergonomics — Danger signals for public and work areas — Auditory danger signals (ISO 7731:2003)*

EN ISO 12100-1, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003[1)], *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

EN ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)*

EN ISO 14122-2:2001, *Safety of machinery — Permanent means of access to machines and industrial plants — Part 2: Working platforms and walkways (ISO 14122-2:2001)*

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

ISO 3864-1, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs in workplaces and public areas* 〈A1〉

ISO 4309, *Cranes — Wire ropes — Code of practice for examination and discard*

NOTE Specific references may be added to this standard after the EN B-standards are completed.

3 Terms and definitions

For the purposes of this standard, the terms and definitions in EN 1070 and the following terms and definitions apply:

3.1
working area
area, as intended by the manufacturer, where persons work at or operate conveyors under normal conditions (inspection, maintenance and cleaning are excluded)

NOTE For manufacturers information relating to intended use, see Introduction “dialogue”.

3.2
traffic area
area, as intended by the manufacturer, which is accessible to or reachable by all persons without opening a guard, activating a trip device or using additional means

NOTE For manufacturers information relating to intended use, see Introduction “dialogue”.

3.3
transport area
area or space required by the moving element of a conveyor and its load

NOTE For manufacturers information relating to intended use see Introduction “dialogue”.

3.4
traction element
power driven parts of a conveyor which move the loads directly or indirectly e.g. belts, chains, straps, wire ropes

NOTE Traction elements can also be carrying elements, e.g. the chain of a drag chain conveyor.

〈A1〉 1) EN ISO 12100-2:2003 is impacted by EN ISO 12100-2:2003/A1:2009, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles — Amendment 1 (ISO 12100-2:2003/Amd 1:2009)*. 〈A1〉