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Cranes - Safety - Hand powered cranes CONSOLIDATED  
TEXT

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13157:2004+A1:2009 sisaldab Euroopa standardi EN 13157:2004+A1:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.09.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.08.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13157:2004+A1:2009 consists of the English text of the European standard EN 13157:2004+A1:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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The standard is available from Estonian standardisation organisation.

ICS 53.020.20

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English Version

## Cranes - Safety - Hand powered cranes

Appareils de levage à charge suspendue - Sécurité -  
Appareils de levage à bras

Krane - Sicherheit - Handbetriebene Krane

This European Standard was approved by CEN on 22 October 2003 and includes Corrigendum 1 issued by CEN on 8 October 2008 and Amendment 1 approved by CEN on 16 July 2009.

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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.

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## Foreword

This document (EN 13157:2004+A1:2009) has been prepared by Technical Committee CEN/TC 147 "Cranes - Safety", the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by February 2010, and conflicting national standards shall be withdrawn at the latest by February 2010.

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 2009-07-16 and Corrigendum 1, issued by CEN on 2008-10-08.

This document supersedes EN 13157:2004.

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

The modifications of the related CEN Corrigendum have been implemented at the appropriate places in the text and are indicated by the tags **AC** **AC**.

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).

Annex A is normative.

**A1** For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

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, 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

This European Standard has been prepared to be a harmonised standard to provide one means for hand powered lifting equipment to conform to the essential health and safety requirements of the Machinery Directive, as amended.

This European Standard is a type C standard as stated in  EN ISO 12100-2 .

The machinery concerned and the extent to which hazards are covered are indicated in the scope of this 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 lever blocks which have been designed and built according to the provisions of this type C standard.

## 1 Scope

This European Standard specifies requirements for the following hand powered lifting equipment defined in clause 3:

- Hand chain blocks;
- Lever hoists;
- Jaw winches;
- Hand powered trolleys supporting lifting machines;
- Drum winches;
- Pulley blocks and deflection pulley.

The significant hazards covered by this European Standard are identified in clause 4.

This European Standard does not cover hazards related to the lifting of persons.

This standard does not specify the additional requirements for:

- use in ambient temperature outside the range of - 10°C to + 50°C,
- hand powered lifting equipment in direct contact with food stuffs or pharmaceuticals requiring a high level of cleanliness for hygiene reasons;
- hazards resulting from handling specific hazardous materials (e.g. explosives, hot molten masses, radiating materials);
- hazards caused by operation in an explosive atmosphere.

This European Standard is applicable to hand powered lifting equipment, which are manufactured after the date of approval by CEN of this standard.

## 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]**

**[A1]** *deleted text* **[A1]**

**[A1]** EN 818-7:2002 **[A1]**, *Short link chain for lifting purposes — Safety — Part 7: Fine tolerance hoist chain, Grades T (Types T, DAT and DT)*

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

**[A1]** *deleted text* **[A1]**

EN 12385-1, *Steel wire ropes — Safety — Part 1: General requirements*

EN 12385-4, *Steel wire ropes — Safety — Part 4: Stranded ropes for general lifting applications*

EN 13411-1, *Terminations for steel wire ropes — Safety — Part 1: Thimbles for steel wire rope slings*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire rope slings*

EN 13411-3, *Terminations for steel wire ropes — Safety — Part 3: Ferrules and ferrule-securing*

EN 13411-4, *Terminations for steel wire ropes — Safety — Part 4: Metal and resin socketing*

EN 13411-6, *Terminations for steel wire ropes — Safety — Part 6: Asymmetric wedge socket*

EN 13411-7, *Terminations for steel wire ropes — Safety — Part 7: Symmetric wedge socket*

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

ISO 606, *Short-pitch transmission precision roller and bush chains, attachments and associated chain sprockets*

ISO 4309, *Cranes — Wires ropes — Care, maintenance, installation and discard*

### 3 Terms and definitions

For the purposes of this standard, the definitions given in EN ISO 12100-2:2003 apply, together with the following:

#### 3.1 General definitions

##### 3.1.1

##### **coefficient of utilisation (safety coefficient)**

the arithmetic ratio between the maximum load held by the lifting equipment and its rated capacity

##### 3.1.2

##### **combined unit**

combination of a trolley and a hoist which are connected (see figure 1)

##### 3.1.3

##### **dynamic tests**

testing of lifting equipment by executing operating motions under a specified test load exceeding the rated capacity

##### 3.1.4

##### **lifting**

change in level during the movement

NOTE Lifting incorporates the vertical or the vertical and horizontal movement of the load or all combinations

##### 3.1.5

##### **rated capacity**

load that the lifting equipment is designed to lift for a given operating condition (e.g. configuration, position of the load)