



SLOVENSKI STANDARD

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Cranes - Information for use and testing - Part 1: Instructions

Krane - Informationen für die Nutzung und Prüfung - Teil 1: Betriebsanleitungen

Appareils de levage a charge suspendue - Information pour l'utilisation et les essais -
Partie 1: Instructions

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53.020.20 Dvigala

Cranes

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EUROPEAN STANDARD
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EN 12644-1

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English version

Cranes - Information for use and testing - Part 1: Instructions

Appareils de levage à charge suspendue - Information pour
l'utilisation et les essais - Partie 1: Instructions

Krane - Informationen für die Nutzung und Prüfung -
Teil 1: Betriebsanleitungen

This European Standard was approved by CEN on 13 December 2000.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by July 2001, and conflicting national standards shall be withdrawn at the latest by July 2001.

This European Standard 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 standard.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This European Standard is a type C-standard as defined in EN 414.

This standard has been prepared to be a harmonized standard to provide one means of conforming with the essential health and safety requirements of the Machinery Directive, as amended.

This is part 1 of a series intended to give information for use to be supplied by the manufacturers of cranes.

The other parts of this standard are:

Part 2: Marking

Part 3: Fitness for purpose

This is the first edition of this part of EN 12644.

The extent to which hazards are covered is indicated in the scope of this standard.

1 Scope

This part of EN 12644 specifies requirements for the presentation and content of instruction handbook(s) supplied by the manufacturer for the use of cranes.

This crane standard has been written to be used in conjunction with other crane standards being prepared by CEN/TC 147.

NOTE Specific requirements for particular types of crane, are given in the appropriate European Standard for the particular crane type.

The hazards covered by this standard are identified in clause 4.

This part of EN 12644 applies to cranes which are manufactured after the date of approval by CEN of this standard.

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

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and publications are listed hereafter. For dated references, subsequent amendments to, or revisions of, any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292-2:1991 + A1:1995	Safety of machinery – Basic concepts, general principles for design – Part 2: Technical principles and specifications
EN 1070:1998	Safety of machinery - Terminology
prEN 13001-1:1997	Crane safety - General design - Part 1: General principles and requirements

NOTE Informative annex ZA provides information regarding relevant EU directives, European and International Standards.

3 Terms and definitions

For the purposes of this European Standard the terms and definitions given in EN 1070:1998 and the following apply.

3.1

check

visual and functional assessment (not a test) of the condition of the crane without dismantling.

3.2

crane driver

person operating the crane for the purpose of handling loads.

3.3

examination

verification that the crane can safely continue in service including a functional test of all safety devices i.e. limiting, indicating equipment, brakes, clutches etc to verify that they operate within the required tolerances. An examination is more thorough than an inspection.

3.4

inspection

looking at the crane for defects and checking the operation of the controls, limiting and indicating devices without loading the crane. This is much more than a check but does not normally require any part of the crane to be dismantled other than removal or opening of cover(s) or housing(s).

3.5

instruction handbook

principal means by which the manufacturer provides information or instructions on how the crane has to be used.

3.6

rated capacity

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

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3.7 service conditions

3.7.1 in-service

crane in use handling or preparing to handle loads up to the rated capacity in conditions as specified by the manufacturer.

3.7.2 out-of-service

crane out of use, without load and left in conditions as specified by the manufacturer.

3.8 test

specific operation of the crane with or without a defined load in order to establish whether the crane is fit for use.

3.9 use

any operation with or on the crane e.g. transportation, erection, dismantling, maintenance, movements of the load.

3.10 user; user organisation

person or organisation which has direct control over the crane use.

4 Hazards

Cranes can present hazards to persons in the danger zone.

Instructions regarding use, handling, maintenance etc. of cranes are necessary to reduce or eliminate the risks associated with the hazards.

This standard specifies requirements for instructions in order to prevent or minimize hazards or hazardous situations.

A list of hazards is given in the appropriate standards for each crane type.

5 Requirements for instructions

5.1 General

An instruction handbook with information for safe use of the crane shall be supplied. Presentation of this information shall comply with clause 5 of EN 292-2:1991. The provisions of language versions shall meet the requirements of A.1.7.4 revised in EN 292-2:1991.

The instruction handbook may be published in one or more parts. Where appropriate, cross reference to other parts should be made to avoid unnecessary repetition. All handbook parts shall have clear identification as to which cranes they apply, including as a minimum:

- a) title of handbook;
- b) title of other parts (if appropriate);
- c) model and serial number of the crane (if appropriate);
- d) list of contents, number of pages and/or index.

The instruction handbook shall be written with internationally recognised terms, definitions, units and symbols with their key or signification.

The text should be simple and adapted to the individuals who will use it with all information being explicit and comprehensive. Clear and simple illustrations, diagrams,

graphs and tables should be used in preference to written text and be placed adjacent to any corresponding text.

5.2 Crane specification

5.2.1 General

This section of the instruction handbook shall contain all the necessary information for identification and technical data. The following items shall be included in the instruction handbook if appropriate.

5.2.2 Identification

- a) name and address of the manufacturer;
- b) designation of series or type(s);
- c) serial number(s);

The instruction handbook shall clearly indicate the crane, series, types, serial numbers and configurations to which it applies.

5.2.3 Technical data

- a) a drawing/sketch of the crane with overall dimensions and the number and designation of main components;
- b) a description and explanation about classification (see prEN 13001-1:1997), rated capacity and design standards;
- c) the design capability of the crane for overload test;
- d) a description and explanation about in-service and out-of-service conditions;
- e) those activities for which the crane is designed and those for which the crane shall not be used;
- f) description of the limiting and indicating devices;
- g) description of the control system(s);
- h) where appropriate, a description of emergency escape(s);
- i) technical data of importance for the erection, dismantling and transportation (e.g. dimensions and mass of components, reaction on supporting parts, power supply and test conditions);
- j) where appropriate, requirements for the tracks/rails and of the ground support conditions;
- k) where appropriate, the type and the means of installation of the ballast;
- l) information concerning airborne noise emission and, where appropriate, vibration emission by the crane, with the method used to measure it and the operating conditions of the crane during measurement, and an instruction that whenever a noise test code exists for the type of crane concerned, it shall be used;
- m) where appropriate, a description of the technical requirements necessary to operate in a potentially explosive atmosphere;
- n) information on materials and parts requiring specialised repair techniques.

5.3 User's instructions

This section of the handbook shall include requirements on the user to ensure that the purpose for which the crane is intended is compatible with the crane specification including:

- a) the need to ascertain that ground or support conditions are adequate for the maximum loadings imposed by the crane;

- b) checking that the specification for in-service conditions given in the instruction handbook, is in accordance with the site conditions (e.g. effects of wind including site effects, snow, adverse temperature, visibility);
- c) checking that the power supply is adequate;
- d) checking that there are no parts added to the crane which have not been verified for fitness for purpose.

NOTE Further guidance is given in ISO 12480-1.

5.4 Crane driver's instructions

5.4.1 General

This section of the instruction handbook shall contain any requirements relative to the crane type.

NOTE The intention of this section is not to replicate the requirements which are normally known by a competent crane driver.

5.4.2 Information

This section is to help the user to inform the crane driver of the following:

- a) the technical data, rated capacity and safety devices which are necessary for the crane driver to know before accessing and driving that crane;
- b) the controls and their layouts;
- c) the telephone, radio or closed circuit television communications (if provided);
- d) safety advice together with the appropriate safety signs and information;
- e) pictograms used on the crane;
- f) recommendation, when relevant, for the wearing of hearing protectors (this will apply in particular to cranes without an enclosed cabin).

5.4.3 Checks before starting any lifting operation

This section shall include :

- a) information given by all indicators of the crane (electrical power, fluid level and pressure, wear limits, wind speed, etc.);
- b) correct operation of the controls;
- c) where practicable, the need for a clear and unrestricted view of the load and operational area. If this is not practicable a check of the correct functioning of communications equipment;
- d) correct position (e.g. level of a mobile crane).

5.4.4 Specific safety aspects during operation

This section shall include (if appropriate):

- a) slinging of the load;
- b) evaluating and monitoring of the load;
- c) loading and unloading;
- d) verticality of hoist line;
- e) starting and stopping motions;
- f) load control and balancing of the load;