



SLOVENSKI STANDARD
SIST EN 13000:2010/kFprA1:2013
01-september-2013

Žerjavi - Mobilni žerjavi - Dopolnilo A1

Cranes - Mobile cranes

Krane - Fahrzeugkrane

Appareils de levage à charge suspendue - Grues mobiles

Ta slovenski standard je istoveten z: EN 13000:2010/FprA1

ICS:

53.020.20 Dvigala Cranes

SIST EN 13000:2010/kFprA1:2013 en,fr,de

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

FINAL DRAFT
EN 13000:2010

FprA1

August 2013

ICS 53.020.20

English Version

Cranes - Mobile cranes

Appareils de levage à charge suspendue - Grues mobiles

Krane - Fahrzeugkrane

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 147.

This draft amendment A1, if approved, will modify the European Standard EN 13000:2010. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	4
1 General.....	5
2 Modification to the Introduction.....	6
3 Modifications to the Scope.....	6
4 Modifications to Clause 2, Normative references.....	7
5 Modifications to Clause 3, Terms and definitions.....	7
6 Modifications to 4.1.2.2.2, In-service wind loads.....	7
7 Modification to 4.2.1, General principles.....	8
8 Modifications to 4.2.2.2, Cabins.....	8
9 Modification to 4.2.2.6, Heating and ventilation.....	8
10 Modification to 4.2.2.7, Doors and windows.....	8
11 Modification to 4.2.2.10, Specific requirements for crane operating cabins.....	8
12 Modification to 4.2.3, Protection against falling tools.....	8
13 Modification to 4.2.4.1, General.....	8
14 Modification to 4.2.5.2, Control devices.....	9
15 Modification to 4.2.5.4, Stopping.....	9
16 Modification to 4.2.6.1, General.....	9
17 Modifications to 4.2.6.3.1, General.....	9
18 Modifications to 4.2.6.3.2, Rated capacity limiter.....	9
19 Addition of a new sub-clause 4.2.6.3.5, Rated capacity indicator.....	10
20 Modification to 4.2.14, Specific requirements for spare tyres/wheels.....	10
21 Modification to 4.3.1, Crane operator's field of view.....	10
22 Modifications to 4.4, Noise and noise reduction.....	11
23 Modification to 4.4.1, Noise and noise reduction at source by design.....	11
24 Modification to 4.6.1, General.....	11
25 Modification to 5.3, Verification based on noise emission values.....	11
26 Modification in 6.1.2, Technical data and information.....	11
27 Modification to 6.2.1, General.....	12
28 Modification to 6.2.2.1, Checks before starting a crane operation.....	12
29 Modification to 6.2.2.2, Specific safety requirements during operation.....	12
30 Addition of new sub-clauses 6.2.2.4 and 6.2.2.5:.....	12
31 Modification to 6.4.2, Instructions for maintenance.....	13
32 Modification to 6.4.3, Instructions for inspection.....	13
33 Modification to the heading of the 3rd column of Table C.1 (only in the French version).....	14
34 Modification to Annexes G.1 and G.2.....	14
35 Modification to Annex L.6.1.....	24

36	Modification to Annex N.1	24
37	Addition of a new Annex N.4	25
38	Addition of a new Annex N.5	27
39	Modification to Annex Q	28
40	Modification to Annex U	28
41	Deletion of Annex ZA	28
42	Modification to the Bibliography	29

EN 13000:2010/FprA1:2013 (E)**Foreword**

This document (EN 13000:2010/FprA1:2013) has been prepared by Technical Committee CEN/TC 147 "Crane - Safety", the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

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.

CEN/TC147 WG11 has reviewed EN 13000:2010 to adapt the standard to the technical progress, new requirements and changes in standards referenced; the main topics are:

- The scope of this standard has been amended to cover gaps and overlaps with other European Standards.
- Several wind related incidents forced the introduction of more clarification on wind loads and the development of explanations to be added in the instruction manual (4.1.2.2.2 and 6.2.2.4).
- The limit value for the noise measured at the operator position has been aligned with the actual legal requirements and the former noise clause has been reorganized to improve readability (5.3, 6.1.2 and Annex G).
- To cover the risk of a wrong setting of the outrigger configuration and to align the standard with other European Standards and recently introduced regulations outside of the EEA, requirements for outrigger monitoring are introduced (4.2.6.3.5).

This standard applies to mobile cranes which are put on the market 12 months after the date of ratification by CEN.

1 General

Replace each occurrence of "jib" with "boom" throughout the text in the following cases:

- in 3.1 and 3.2, in the examples;
- in 3.10 and 3.14 (twice);
- in 3.18, in notes 3 and 4 (four times);
- in 4.1.2.2.2, note 3;
- in 4.1.2.2.3, b), 2nd paragraph and in the paragraph after the note;
- in 4.2.6.2.1, last but one paragraph;
- in 4.2.6.3.8, a) 2), b) 1) ii), b) 4) (twice), b) 5) (twice);
- in 4.2.6.3.9, in a) and c);
- in 4.2.9.1, 1st paragraph;
- in 4.6.1b);
- in 5.2.1, 2nd paragraph;
- in 6.3, last but one paragraph
- in the titles of Figures A.2 and A.5;
- Figure B.1.1, key 3;
- in the title of Figure B.1.2a) and in the title of Figure B.1.2 (1st occurrence);
- in the heading of Annex B.2 and in Figure B.2.1, key 5;
- Figure B.2.2, keys A to E and in the title of Figure B.2.2 (1st occurrence);
- in the titles of Figure F.1 and in the titles of Figures F.1a) and F.1b);
- in K.4, under *1).

Replace "jib" with "boom/jib" in the following occurrences:

- in 4.1.2.1, 1st paragraph;
- in 4.1.2.2.2, 1st and 2nd paragraphs;
- in 4.1.2.6.4, a) 2);
- in 4.2.6.31, paragraph before the note;
- in 4.2.6.3.8, b) 2);
- in 4.2.8.1.3, 1st paragraph;
- in 4.2.9.1, 4th paragraph;

EN 13000:2010/FprA1:2013 (E)

- in 4.3.1 c);

- in the title of Figure B.1.2, 2nd occurrence;

- in the title of Figure B.2.2, 2nd occurrence;

- in Annex F, 4th paragraph.

In 4.2.6.3.6, replace "jib/jib head" with "boom/jib or the boom/jib head".

In 7.4, 1st paragraph and in the note, replace "jib intersection" with "boom/jib section".

In the title of Figure A.3, replace "telescopic and fly jib" with "telescopic boom and fly jib".

2 Modification to the Introduction

Add the following text at the end of the Introduction:

"CEN/TC147 WG11 had set up a dedicated working group with representatives from crane manufacturers, electronic component suppliers and Health and Safety organizations. This group did a thorough investigation in the transition from EN 954 to EN ISO 13849 and came to the conclusion that this transition is not currently feasible for mobile cranes.

The required Performance Level was determined by risk assessment according to EN 1050; it was established as PL_r=c; this value is not achievable with components currently available on the market and is as such beyond the state of the art for mobile cranes. This is mainly due to the amount of signals to be processed simultaneously.

Therefore, in the present amendment A1, the requirements given for safety related parts of control systems will refer to EN 954."

3 Modifications to the Scope

Delete in the 2nd sentence, 1st paragraph the following:

"with the exception of loader cranes (see 3.1.1 of EN 12999:2002). Examples of mobile crane types and of their major parts are given in Annexes A and B."

After the 1st sentence, add the following:

"This European Standard does not apply to:

- loader cranes (see EN 12999)
- off-shore cranes (see EN 13852-1)
- floating cranes (see EN 13852-2)
- variable reach truck (see EN 1459)

NOTE Variable Reach Trucks are commonly known as telehandlers.

- mobile self-erecting tower cranes
- earth-moving machinery used for object handling (see EN 474-series)."

4 Modifications to Clause 2, Normative references

Delete:

"EN 12077-2:1998, *Cranes safety — Requirements for health and safety — Part 2: Limiting and indicating devices*"

Add:

"EN ISO 11688-1, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1)*"

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

Replace

"ISO 7752-2:1985, *Lifting appliances — Controls layout and characteristics — Part 2: Basic arrangement and requirements for mobile cranes*"

with:

"ISO 7752-2:2011, *Cranes — Control layout and characteristics — Part 2: Basic arrangement and requirements for mobile cranes*".

5 Modifications to Clause 3, Terms and definitions

Replace "Data recorder" with "Event recorder" throughout the document.

Replace the definition of 3.18; first sentence with:

"Self-powered crane with a boom, which may be fitted on a mast (tower) and capable of travelling laden or unladen, without the need for fixed runways and which relies on gravity for stability, the chassis of the crane not having any capability to carry goods".

6 Modifications to 4.1.2.2.2, In-service wind loads

In paragraph 4, replace the last sentence "The reference value used to determine..." with:

"The reference values of the projected area and drag coefficient used to determine the wind effect on the load shall be indicated; the following minimum values shall be taken:

- Projected area per ton of lifted load: $A_p=1,0 \text{ m}^2/\text{t}$
- Drag coefficient: $c_w=1,2$ "

Replace Note 1 and the following paragraph "The wind load acting on the suspended load shall..." with:

"Thus the effective sail area becomes $1,2\text{m}^2/\text{t}$.

The wind loads acting on the suspended load shall be calculated with the effective sail area at the maximum possible lifting height of the suspended load for the given configuration. Special verification is required from case to case for lifting loads with a large "area exposed to wind" ($A \cdot c_w > 1,2 \text{ m}^2/\text{t}$). If the manufacturer provides load charts based on other assumptions than the standard ones, this shall be mentioned in the provided load chart."

EN 13000:2010/FprA1:2013 (E)**7 Modification to 4.2.1, General principles**

In the last paragraph, delete the wording "hydraulic system".

After the last paragraph, add the following sentence:

"Space for a first aid box shall be available on the crane at a place easily accessible, preferably in a cabin."

8 Modifications to 4.2.2.2, Cabins

Replace the title of 4.2.2.2 with "Crane operating cabin".

Replace the 4th paragraph "Space shall be available inside" with:

"Information for the operation of the crane shall be provided to the operator in a directly readable format in the cabin. This may be in electronic or paper format. If paper documents are supplied, adequate space for storage of these documents shall be provided on the crane."

9 Modification to 4.2.2.6, Heating and ventilation

In the last paragraph, add the word "closed" before "cabin regardless..." to read "....closed cabin regardless..."

10 Modification to 4.2.2.7, Doors and windows

In the last paragraph, replace the wording "falling tools" with "falling objects".

11 Modification to 4.2.2.10, Specific requirements for crane operating cabins

In the first paragraph delete the last sentence "Other control stations or crane ...".

12 Modification to 4.2.3, Protection against falling tools

Replace the title of 4.2.3 with "Protection against falling objects":

13 Modification to 4.2.4.1, General

In the note, delete the wording "adjustable".

14 Modification to 4.2.5.2, Control devices

After the first paragraph, add the following new paragraph and note:

"If other arrangements for control devices are chosen due to the nature of the machine, the basic principles of the directions of movements of ISO 7752-2:2011 shall be followed (i.e. movements towards the body of the operator = lifting/raising/retracting, movements away from the body of the operator = lowering/extending, movements to the right = slewing right, movements to the left = slewing left).

NOTE 1 ISO 7752-2:2011 establishes the arrangement, requirements, and direction of movement of the basic controls for slewing, load hoisting and lowering and boom luffing and telescoping."

Replace the existing "NOTE" with "NOTE 2".

In the last paragraph, add in the list a 3rd list item:

"

— Permanent information on the outriggers position."

15 Modification to 4.2.5.4, Stopping

Replace the second paragraph with the following:

"An emergency stop equipment according to EN ISO 13850 stopping category 1 shall be provided. It shall be located at a prominent place in the operator's cabin which is easily accessible through the cabin door (for activation by third parties in case of emergency). This stopping device is not required for specific engine(s) related to travel on public roads."

16 Modification to 4.2.6.1, General

Delete sub-clause 4.2.6.1 and renumber the following sub-clauses. Update the cross references throughout the text accordingly.

17 Modifications to 4.2.6.3.1, General

Delete the second paragraph "A rated capacity limiter/indicator shall ...".

Replace the note with the following:

"NOTE Normally there is no check (automatic plausibility check), whether the selected configuration corresponds with the real configuration, except for the indication of the horizontal position of outriggers and/or crawlers (see 4.2.6.2.5)."

18 Modifications to 4.2.6.3.2, Rated capacity limiter

Replace the list numbering; c), d), e) and f) with a), b) c) and d).

In note 1, replace the wording "d)" with "b)".