



SLOVENSKI STANDARD
SIST EN 16851:2017/oprA1:2019
01-oktober-2019

Žerjavi - Lahki žerjavni sistemi

Cranes - Light crane systems

Krane - Leichtkransysteme

Appareils de levage à charge suspendue - Systèmes de grue légère

Ta slovenski standard je istoveten z: EN 16851:2017/prA1

[SIST EN 16851:2017/KFprA1:2019](https://standards.iteh.ai/catalog/standards/sist/b134dfc0-b687-4ee2-97b2-3e5a2b3d689d/sist-en-16851-2017-kfpra1-2019)

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ICS:

53.020.20 Dvigala Cranes

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EUROPEAN STANDARD
NORME EUROPÉENNE
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English Version

Cranes - Light crane systems

Appareils de levage à charge suspendue - Systèmes de
grue légère

Krane - Leichtkransysteme

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

This draft amendment A1, if approved, will modify the European Standard EN 16851:2017. 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.

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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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	3
1 Modification to Clause 1, "Scope".....	4
2 Modifications to Clause 2, "Normative references".....	4
3 Modifications to Clause 3, "Terms and definitions".....	4
4 Modifications to Clause 5, "Safety requirements and/or protective measures".....	5
5 Modifications to Clause 6, "Fitness for purpose testing".....	6
6 Modifications to Clause 7, "Information for use".....	8
7 Modifications to Annex D, "Selection of a suitable set of European Standards for cranes in a given application".....	8
8 Modifications to Annex ZA, "Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered".....	8

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European foreword

This document (EN 16851:2017/prA1:2019) has been prepared by Technical Committee CEN/TC 147 “Cranes - Safety”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

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.

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EN 16851:2017/prA1:2019 (E)**1 Modification to Clause 1, "Scope"**

Replace the entire clause with the following:

"This document applies to:

- light crane systems, either suspended or free-standing systems, where the rated capacity of any single lifting device is 4 t or less;
- pillar and wall-mounted jib cranes, without an operator's cabin, and whose rated capacity is 10 t or less and the maximum slew radius of the load is 5 m or less.

NOTE For illustration of crane types, see Annex B.

Cranes not falling into the scope of this document should be covered either by another product specific crane standard, e.g. EN 15011 (regarding light crane and free-standing systems) or EN 14985 (regarding jib cranes) or by a combination of horizontal, subject specific crane standards, see Annex D.

This document is applicable to cranes and crane systems, whose structures are made of steel or aluminium, excluding aluminium structures containing welded joints.

This document gives requirements for all significant hazards, hazardous situations and events relevant to cranes, when used as intended and under conditions foreseen by the manufacturer (see Clause 4).

The specific hazards due to potentially explosive atmospheres, ionizing radiation, operation in electro-magnetic fields beyond the range of EN 61000-6-2 and operation in pharmacy or food industry are not covered by this document.

This document does not include requirements for the lifting of persons.

This document is applicable to cranes which are manufactured after the date of approval by CEN of this European Standard.

2 Modifications to Clause 2, "Normative references"

Add the following references:

"EN 12644-2, *Cranes — Information for use and testing — Part 2: Marking*

EN 13001-3-4, *Cranes — General design — Part 3-4: Limit states and proof of competence of machinery — Bearings*

EN 13001-3-6, *Cranes — General design — Part 3-6: Limit states and proof of competence of machinery — Hydraulic cylinders*".

3 Modifications to Clause 3, "Terms and definitions"

In 3.5, replace the definition with the following:

"single track consisting of one or several sections, on which lifting devices or trolleys are running

Note 1 to entry: Monorail together with lifting devices is a particular type of a light crane system."

Delete the term and definition 3.6.

Add the following terms and definitions:

3.6

pillar mounted jib crane

crane with a vertical pillar fixed on a floor, equipped with a slewing jib and lifting device(s)

3.7

wall mounted jib crane

crane fixed on a wall, equipped with a slewing jib and lifting device(s)

3.8

jib crane

generic term for both pillar mounted and wall mounted jib cranes

Note 1 to entry: This definition is different from that in ISO 4306-1."

Change the following reference numbers as follows:

3.7 to 3.9

3.8 to 3.10

3.9 to 3.11

3.10 to 3.12

3.11 to 3.13

3.12 to 3.14.

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4 Modifications to Clause 5, "Safety requirements and/or protective measures"

<https://standards.iteh.ai/catalog/standards/sist/b134dfc0-b687-4ee2-97b2-3e5a2b3d689d/sist-en-16851-2017-kfpra1-2019>

In 5.1, delete the 3rd paragraph.

In 5.1, replace the 4th and 5th paragraph with the following:

"Machinery included in light crane systems and jib cranes shall be in accordance with the following European Standards as applicable:

- EN 14492-2, *Cranes — Power driven winches and hoists — Part 2: Power driven hoists*;
- EN 14238, *Cranes — Manually controlled load manipulating devices*;
- EN 13157, *Cranes — Safety — Hand powered cranes*.

Components and parts of a light crane systems and jib cranes shall be in accordance with the following European Standards as applicable:

- EN 13135, *Cranes - Safety - Design - Requirements for equipment*;
- EN 13557:2003+A2:2008, *Cranes - Controls and control stations*;
- EN 12077-2, *Cranes safety — Requirements for health and safety — Part 2: Limiting and indicating devices*;
- EN 13586, *Cranes — Access*;
- EN 12644-1, *Cranes — Information for use and testing — Part 1: Instructions*;

EN 16851:2017/oprA1:2019 (E)

- EN 12644-2, *Cranes — Information for use and testing — Part 2: Marking*;
- EN 60204-32, *Safety of machinery - Electrical equipment of machines - Part 32: Requirements for hoisting machines (IEC 60204-32)*.

Proof of competence calculations shall be in accordance with EN 13001 series as applicable, i.e.

- EN 13001-1, *Cranes — General design — Part 1: General principles and requirements*;
- EN 13001-2, *Crane safety - General design - Part 2: Load actions*;
- EN 13001-3-1, *Cranes — General Design — Part 3-1: Limit States and proof competence of steel structure*;
- EN 13001-3-2, *Cranes - General design - Part 3-2: Limit states and proof of competence of wire ropes in reeving systems*;
- EN 13001-3-3, *Cranes - General design - Part 3-3: Limit states and proof of competence of wheel/rail contacts*;
- EN 13001-3-4, *Cranes — General design — Part 3-4: Limit states and proof of competence of machinery — Bearings*;
- EN 13001-3-5, *Cranes - General design - Part 3-5: Limit states and proof of competence of forged hooks*;
- EN 13001-3-6, *Cranes — General design — Part 3-6: Limit states and proof of competence of machinery — Hydraulic cylinders*.

In 5.7.3.1, replace the 1st paragraph with the following:

"Where the crane is provided with a permanent access to a control station, the access shall be in accordance with EN 13586."

In 5.7.3.1, replace the 1st sentence in the 5th paragraph with the following:

"For requirements on clearances (safety distances) between the crane and the surrounding structures, not covered by national regulations, the following are recommended as minimum values:"

5 Modifications to Clause 6, "Fitness for purpose testing"

Change the title of Clause 6 to:

"Verification of safety requirements and/or protective measures"

Change the number of the current Clause 6 to Clause 6.3.

Change the number of the current Clause 6.1 to Clause 6.3.1.

Change the number of the current Clause 6.2 to Clause 6.3.2.

Change the number of the current Clause 6.3 to Clause 6.3.3.

In Clause 6, add a new sub-clause 6.1:

"6.1 General

Conformity to the safety requirements and/or protective measures specified in Clause 5 shall be verified by the methods given in Tables 4 and 5. Where applicable, individual components may be separately verified or tested in accordance with their relevant standards."

In Clause 6, add a new sub-clause 6.2:

"6.2 Types of verification

Table 4 — Verification methods for requirements

Method of verification	Letter symbol
Visual inspection	V
Measurement	M
Testing	T
Calculation	C
Engineering assessment	EA

Table 5 — Methods to be used to verify conformity with the safety requirements and/or protective measures

Clause number	Title of the clause	Method of verification
5.1	General	Methods specified in the referenced standards
5.2	Aluminium structures	C, EA
5.3	Actions on supporting structures	C
5.4.1	Joints in crane tracks, crane bridges and monorails	V, M, EA
5.4.2	Suspensions	V, EA
5.4.3	Bridge skewing	V, EA
5.4.4	Backup devices for trolleys and suspensions	V, C
5.4.5	Turntables and switches	V
5.4.6	Interlock	V
5.4.7	Loading/unloading station	V, C, EA
5.4.8	Telescopic and cantilevered crane systems	V, C
5.4.9	Trolleys	V, C, EA
5.4.10	End stops and motion limiters	V, C, EA
5.4.11	Power supply	V, C, EA
5.5	Tandem operation of cranes/trolleys from a single control station	V, C, EA
5.6	Use of multiple lifting devices	V, C, EA
5.7.1	Control devices and control stations	V, EA
5.7.2	Horizontal speeds	V, EA
5.7.3.1	Access	V, M, EA
5.7.3.2	Guarding	V, M, EA