

საქართველოს სტანდარტი

ამწევები- ტვირთამწე ისარები

საქართველოს სტანდარტებისა და მეტროლოგიის
ეროვნული სააგენტო
თბილისი

საინფორმაციო მონაცემები

1 შემუშავებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს სტანდარტების დეპარტამენტის მიერ

2 დამტკიცებულია და შემოღებულია სამოქმედოდ საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს 2019 წლის 6 დეკემბრის № 98 განკარგულებით

3 მიღებულია გარეკანის თარგმნის მეთოდით სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 14985:2012 „ამწევბი- ტვირთამწე ისარები”

4 პირველად

5 რეგისტრირებულია საქართველოს სტანდარტების და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 2019 წლის 6 დეკემბერი №268-1.3-016384

დაუშვებელია წინამდებარე სტანდარტის სრული ან ნაწილობრივი კვლავწარმოება, ტირაჟირება და გავრცელება სსიპ საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს ნებართვის გარეშე

EUROPEAN STANDARD

EN 14985

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2012

ICS 53.020.20

Supersedes EN 14985:2007

English Version

Cranes - Slewing jib cranes

Appareils de levage à charge suspendue - Grues à flèche pivotante

Krane - Ausleger-Drehkrane

This European Standard was approved by CEN on 9 December 2011.

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-CENELEC 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 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, 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.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

	Page
Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	8
4 List of hazards.....	8
5 Safety requirements and/or protective measures	12
5.1 General.....	12
5.2 Requirements for strength and stability	12
5.2.1 Selection of classification parameters	12
5.2.2 Selection of loads and load combinations.....	12
5.2.3 Determination of factor ϕ_2	12
5.2.4 Stall load condition.....	13
5.2.5 Loads caused by acceleration.....	14
5.2.6 Jib side loading.....	14
5.2.7 Test loads	14
5.2.8 Conditions of use of permissible stress method and limit state method.....	14
5.2.9 Stability of rail mounted cranes	15
5.3 Electrotechnical equipment.....	16
5.3.1 General.....	16
5.3.2 Physical environment and operating conditions	16
5.3.3 Electrical supply	16
5.3.4 External protective earthing and equipotential bonding	16
5.3.5 Supply disconnecting and switching off.....	16
5.3.6 Protection against electric shock	17
5.3.7 Conductors and cables	17
5.3.8 Control circuits and control functions	17
5.3.9 Operator interface and mounted control devices	18
5.3.10 Control gear – Location, mounting and enclosures	19
5.3.11 Electrical requirements for the installation of load handling devices	19
5.3.12 Electric motors.....	19
5.4 Non-electrotechnical equipment.....	19
5.4.1 General.....	19
5.4.2 Braking systems	20
5.4.3 Hoisting mechanism.....	21
5.4.4 Luffing system	21
5.4.5 Slew mechanism	22
5.4.6 Travel mechanism.....	23
5.4.7 Gear drives	23
5.5 Limiting and indicating devices	24
5.5.1 Rated capacity limiters	24
5.5.2 Indicators	25
5.5.3 Motion limiters	25
5.5.4 Performance limiters	25
5.6 Protection against special hazards.....	26
5.6.1 Hot surfaces	26
5.6.2 Radio equipment.....	26
5.6.3 Laser beams	26
5.6.4 Fire hazard	26
5.6.5 Exhaust gases.....	26

5.6.6	Fuelling	26
5.7	Man-machine interface.....	26
5.7.1	Controls and control stations	26
5.7.2	Guarding and access	27
5.7.3	Lighting.....	27
5.7.4	Reduction of noise by design	28
5.8	Equipment for information and warning.....	29
5.8.1	General	29
5.8.2	Location of visual display units.....	29
5.8.3	Safety colour	29
5.8.4	Warning lights.....	29
6	Verification of the safety requirements and/or protective measures	29
6.1	General	29
6.2	Fitness for purpose testing	32
6.2.1	General	32
6.2.2	Tests	32
7	Information for use	34
7.1	Instructions for installation and safe use	34
7.2	Driver's manual.....	34
7.3	User's manual	35
7.4	Instructions for regular checks, inspections and tests.....	36
7.5	Instructions for maintenance	36
7.6	Markings	37
8	Information to be obtained from the purchaser	37
Annex A (informative)	Guidance for classification according to EN 13001-1.....	38
A.1	Total number of working cycles	38
A.2	Load spectrum factor kQ	39
A.3	Classification of the hoist mechanism.....	40
A.4	Classification of the luffing mechanism	41
A.5	Classification of the slewing mechanism	43
Annex B (normative)	Load combinations.....	46
Annex C (informative)	Calculation of stall load factor for indirect acting lifting force limiter	47
Annex D (normative)	Noise test code for slewing jib cranes	49
D.1	General	49
D.2	Description of machinery family	49
D.3	Determination of a conventional emission sound pressure level by calculation	50
D.3.1	Principle of the method.....	50
D.3.2	Calculation	50
D.4	Emission sound pressure level determination at control stations and other specified positions by measurement.....	52
D.4.1	Measurement method and points	52
D.4.2	Case of very large cranes	52
D.4.3	Installation and mounting conditions	52
D.4.4	Operating conditions	52
D.5	Uncertainties	53
D.6	Information to be recorded.....	53
D.7	Information to be reported.....	54
D.8	Declaration and verification of noise emission values	54
Annex ZA (informative)	Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	55
Bibliography		56

Foreword

This document (EN 14985:2012) 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 August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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 supersedes EN 14985:2007.

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.

This revision does not contain any fundamental changes. However, a number of clauses have been redrafted for reasons of clarity and technical and editorial accuracy.

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, Turkey and the United Kingdom.

Introduction

This European Standard has been prepared to be a harmonised standard to provide one means for slewing jib cranes to conform with the essential health and safety requirements of the Machinery Directive, as mentioned in Annex ZA.

This European Standard is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this European 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 machines that have been designed and built according to the provisions of this type C standard.