



SLOVENSKI STANDARD
SIST EN 13001-2:2005/A1:2007

01-marec-2007

8 j] [U U f j Y f U j] K E ? c b g h i _ W U Ž g d ` c y b c ` E & r X Y . 6 f Y a Y b g _] i] b _]

Cranes - General design - Part 2: Load actions

Krane - Konstruktion allgemein - Teil 2: Lasteinwirkungen

Appareils de levage a charge suspendue - Conception générale - Partie 2: Effets de charge

iteh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 13001-2:2004/A1:2006

[SIST EN 13001-2:2005/A1:2007](https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007)

[https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-](https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007)

[1fd2d1e7344/sist-en-13001-2-2005-a1-2007](https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007)

ICS:

53.020.20 Dvigala Cranes

SIST EN 13001-2:2005/A1:2007 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 13001-2:2005/A1:2007

<https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007>

English Version

Cranes - General design - Part 2: Load actions

Appareils de levage à charge suspendue - Conception
générale - Partie 2: Effets de charge

Krane - Konstruktion allgemein - Teil 2: Lasteinwirkungen

This amendment A1 modifies the European Standard EN 13001-2:2004; it was approved by CEN on 18 September 2006.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This amendment 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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.

(standards.iteh.ai)

[SIST EN 13001-2:2005/A1:2007](https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007)

<https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Page

| | |
|--|---|
| Foreword..... | 3 |
| 4.2 Loads | 4 |
| 4.3 Load combinations | 4 |
| 4.3.3 Mass distribution classes MDC1 and MDC2 | 4 |
| 4.3.4 Partial safety factors for the mass of the crane | 5 |

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 13001-2:2005/A1:2007

<https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1ffd2d1e7344/sist-en-13001-2-2005-a1-2007>

Foreword

This document (EN 13001-2:2004/A1:2006) has been prepared by Technical Committee CEN/TC 147 "Cranes - Safety", the secretariat of which is held by BSI.

This Amendment to the European Standard EN 13001-2:2004 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2007, and conflicting national standards shall be withdrawn at the latest by April 2007.

This draft amendment covers the necessary additional precautions by replacing the relevant existing text of EN 13001-2:2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 13001-2:2005/A1:2007](https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007)

<https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-1fd2d1e7344/sist-en-13001-2-2005-a1-2007>

4.2 Loads

The text of 4.2.2.1 shall be replaced as follows:

4.2.2.1 Hoisting and gravity effects acting on the mass of the crane

When lifting the load off the ground or when releasing the load or parts of the load vibrational excitation of the crane structure shall be taken into account. The gravitational force induced by the mass of the crane or crane parts shall be multiplied by the factor ϕ_1 . The masses of cranes or crane parts in class MDC1 (see 4.3.3) shall be multiplied by

$$\phi_1 = 1 + \delta, \quad 0 \leq \delta \leq 0,1 \quad (1)$$

The value of δ depends on the crane structure and shall be specified.

The divisions of masses of crane parts in class MDC2 (see 4.3.3) shall be multiplied by

$$\phi_1 = 1 \pm \delta, \quad 0 \leq \delta \leq 0,05 \quad (2)$$

depending on whether their gravitational acting is partly increasing (+ δ) or decreasing (- δ) the resulting load effects in the critical points selected for the proof calculation.

The mass of the crane includes those components which are always in place during operation except for the net load itself. For some cranes or applications, it may be necessary to add mass to account for accumulation of debris.

4.3 Load combinations

SIST EN 13001-2:2005/A1:2007

The text of 4.3.3 and 4.3.4 shall be replaced as follows:
<https://standards.iteh.ai/catalog/standards/sist/0126de4b-abf3-45c7-94a2-fdd2d1e7544/sist-en-13001-2-2005-a1-2007>

4.3.3 Mass distribution classes MDC1 and MDC2

Concerning the application of partial safety factors on gravitational loads there are two mass distribution classes the cranes can be attached to:

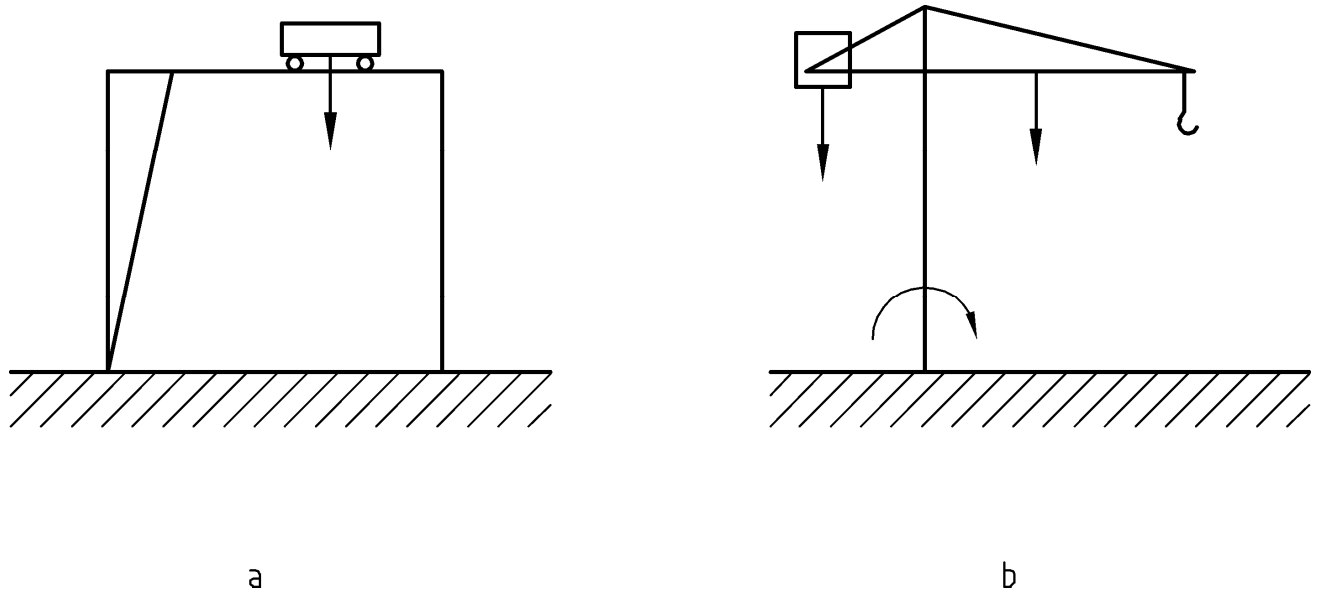
a) Cranes of mass distribution class MDC1:

Cranes or crane parts, where in all critical points selected for the proof calculation all loads from gravitation acting on the masses of the different parts of the crane increase the resulting load effects ("unfavourable") and which are not affected by intended displacement ("prestressing"), are considered as cranes or crane parts of mass distribution class MDC1 (see Figure 14).

In this case the given values of the partial safety factors γ_p shall be applied (see Table 7).

b) Cranes of mass distribution class MDC2

A crane or a part of a crane is assigned to the class MDC2 (see Figure 14), if it contains at least one element, in which gravitational load effect from some partial mass of the crane is decreasing the resulting load effect or in which load effects are affected by intended displacements (pre-stressing). In this case the total mass has to be divided into those whose gravitational actions increase the resulting load effects ("unfavourable mass") and into those that decrease the resulting load effects ("favourable mass").



a) cranes of mass distribution MDC1

b) crane of mass distribution class MDC2

Figure 14 – Illustration of the two different mass distribution classes

4.3.4 Partial safety factors for the mass of the crane

For the mass of the crane partial safety factors γ_p shall be chosen from Table 7 depending on the method of determining the masses of the crane parts and depending on the type of the load effect. This choice shall be made separately for each relevant load combination and it may result in one mass having different partial safety factors in different load combinations.

For a crane of mass distribution class MDC2, a mass may be considered “favourable” with respect to a certain load effect that is evaluated in a certain element of the crane. The same mass may be “unfavourable” with respect to another load effect, another element of the crane or another load combination. The mass is deemed “favourable” if its action decreases the resulting load effect under consideration.

A part of a crane, (e.g. total length of girder of an unloader, slewing upper structure of a tower crane) having both favourable and unfavourable masses, may be assigned only one partial safety factor in each load combination, related to the centre of gravity of this part.

Table 7 — Values of factor γ_p

| Method of determining the masses of crane parts and their centres of gravity | Load combinations according 4.3.6 | | | | | |
|--|-----------------------------------|-----------------|------------------------|-----------------|------------------------|-----------------|
| | A | | B | | C | |
| | MDC1/MDC2 unfavourable | MDC2 favourable | MDC1/MDC2 unfavourable | MDC2 favourable | MDC1/MDC2 unfavourable | MDC2 favourable |
| by calculation | 1,22 | 1,00 | 1,16 | 1,00 | 1,10 | 1,00 |
| by weighing | 1,16 | 1,10 | 1,10 | 1,05 | 1,05 | 1,00 |