



SLOVENSKI STANDARD

SIST EN 14502-1:2005

01-november-2005

Dvigala (žerjavi) – Oprema za dvigovanje oseb – 1. del: Viseče košare

Cranes - Equipment for lifting persons - Part 1:Suspended baskets

Krane - Einrichtungen zum Heben von Personen - Teil 1: Hängende Personenaufnahmemittel

Appareils de levage a charge suspendue - Equipements pour le levage de personnes -
Partie 1 : Nacelles suspendues (standards.iteh.ai)

Ta slovenski standard je istoveten z: ^{SIST EN 14502-1:2005} EN 14502-1:2005
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ICS:

53.020.30	Pribor za dvigalno opremo	Accessories for lifting equipment
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14502-1

September 2005

ICS 53.020.30

English Version

Cranes - Equipment for lifting persons - Part 1: Suspended baskets

Appareils de levage à charge suspendue - Équipements pour le levage de personnes - Partie 1 : Nacelles suspendues

Krane - Einrichtungen zum Heben von Personen - Teil 1: Hängende Personenaufnahmemittel

This European Standard was approved by CEN on 25 May 2005.

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 Central Secretariat 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 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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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Foreword

This European Standard (EN 14502-1:2005) has been prepared by Technical Committee CEN/TC 147 "Cranes", 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 March 2006, and conflicting national standards shall be withdrawn at the latest by March 2006.

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 document.

To select a suitable set of crane standards for a given application see Annex B.

NOTE Some of the standards listed are in preparation.

This European Standard is one part of EN 14502. Other parts are as follows:

— EN 14502-2: Elevating control station

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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EN 14502-1:2005 (E)**Introduction**

Suspended baskets for use in lifting operations are lifting interchangeable equipment in the sense of the Council Directive (98/37/EC) on the approximation of the laws of the Member states relating to machinery (The Machinery Directive).

This European Standard is a harmonized standard to provide one means of conforming to the essential health and safety requirements of the Machinery Directive. The standard deals exclusively with the health and safety requirements related to the design of the suspended basket itself. However, whilst it does not specify the requirements for particular types of crane when they are to be used with suspended baskets, it does provide information about the equipment necessary to be fitted on cranes for the safe use of the baskets.

This European Standard is a type C standard as stated in EN ISO 12100-1:2003.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

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 in accordance with the provisions of this type C standard.

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1 Scope

This European Standard applies to baskets suspended on cranes which are designed and built in accordance with harmonized standards dealing with the lifting of persons.

This European Standard does not cover the controls for the movement of the basket.

NOTE 1 If baskets are intended to be suspended from other cranes, specific national regulations may apply.

This European Standard is not applicable to:

- lifts for crane drivers;
- moveable cabins;

This European Standard deals with all significant hazards, hazardous situations and events relevant to suspended baskets, when used as intended and under conditions foreseen by the manufacturer (see Clause 4).

NOTE 2 Specific requirements for particular types of crane are given in the appropriate European Standard for the particular crane type.

The significant hazards covered by this document are identified in Clause 4.

This European Standard is not applicable to suspended baskets which are manufactured before the date of publication by CEN.

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2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 795, *Protection against falls from a height — Anchor devices — Requirements and testing*

EN 818-4, *Short link chain for lifting purposes — Safety — Part 4: Chain slings — Grade 8*

EN 13411-1, *Terminations for steel wire ropes — Safety — Part 1: Thimbles for steel wire rope slings*

EN 13411-2, *Terminations for steel wire ropes — Safety — Part 2: Splicing of eyes for wire rope slings*

EN 13411-3, *Terminations for steel wire ropes — Safety — Part 3: Ferrules and ferrule-securing*

EN 13414-1, *Steel wire rope slings — Safety — Part 1: Slings for general lifting service*

EN 13586:2004, *Cranes — Access*

EN ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)*

EN 14502-1:2005 (E)**3 Terms and definitions**

For the purposes of this European Standard, the terms and definitions given in EN ISO 12100-1:2003 and the following apply.

3.1**suspended basket**

arrangement designed for the lifting of persons by a crane

4 List of significant hazards

Table 1 contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk.

NOTE Numbering of hazards follows Annex A of EN 1050:1996.

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Table 1 — List of significant hazards, hazardous situations and hazardous events

N°	Hazards	Relevant clause(s) in this standard
1e)	Inadequacy of the mechanical strength	5.2, 5.3
1.1	Crushing hazard	5.6
1.6	Impact hazard	5.6
2.2	Contact of persons with parts which have become live under faulty conditions (indirect contact)	7.4
8.1	Unhealthy postures or excessive effort	5.1
8.3	Neglected use of personal protection equipment	5.8
17	Falling or ejected objects or fluids	5.1.4
19	Slip, trip and fall of persons (related to machinery)	5.4, 5.5, 5.6
27.1.5	Inadequate holding devices / accessories	5.3
27.1.6	Collision of more than one machine	7.2
28.1	Electrical hazards from lightning	7.1
34.1	Inadequate mechanical strength – inadequate working coefficients	5.2, 5.3
35	Falling of persons from person carrier	5.5, 5.6, 5.8

5 Safety requirements and / or protective measures

5.1 General requirements

Machinery shall conform to the safety requirements and / or protective measures of this clause. In addition, the machine shall be designed according to the principles of EN ISO 12100-1 and EN ISO 12100-2, for hazards relevant but not significant which are not dealt with by this document.

5.1.1 Suspended baskets shall be manufactured from material specified as being incombustible.

5.1.2 Those parts of the suspended basket where persons are intended to stand shall have a minimum free standing height of 2 m.

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5.1.3 When the suspended basket is designed to be used in situations where falling objects may be a hazard, the basket shall be provided with a roof. Any aperture in the roof of the basket shall have dimensions which shall not allow a sphere of 20 mm to pass through.

As a minimum the roof of the basket shall be able to withstand the impact of a steel ball weighing 7 kg, falling from a height of 2 m, without plastic deformations exceeding 50 mm.

5.1.4 Suspended baskets shall be protected against corrosion.

5.2 Strength calculations

When calculating the rated capacity of the suspended basket the weight of each person shall be taken as at least 80 kg plus at least 40 kg of equipment for each person. The loading considered shall be increased with a factor of at least 2 when used in the design calculation. The strength of all parts of the basket structure should be based on the design rules listed in Annex A.

5.3 Load lifting attachments

5.3.1 Suspended baskets shall be attached to the crane hook with flexible load lifting attachment(s) consisting of steel wire ropes according to EN 13414-1 or chains according to EN 818-4 having a safety factor of at least:

8 x (weight of basket + rated capacity) for chains, and

10 x (weight of basket + rated capacity) for steel wire ropes including the end termination.

NOTE Examples of suspended baskets and flexible load lifting attachments are shown in Figures 1 to 3.

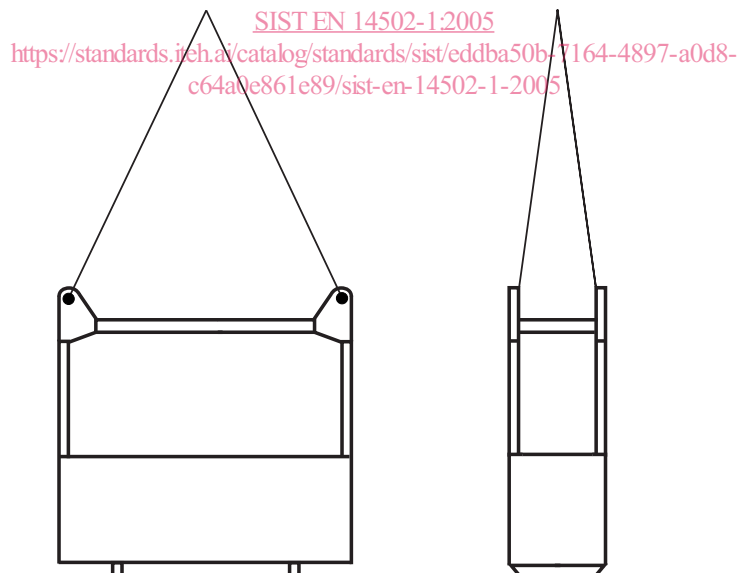
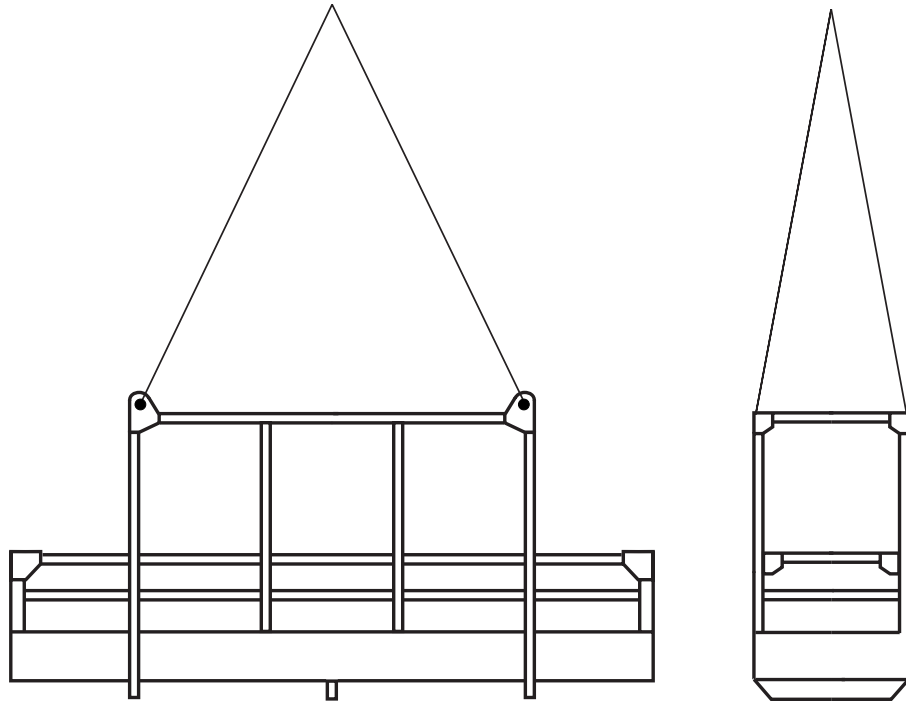


Figure 1 — Suspended basket of 2 m length or shorter



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Figure 2 — Suspended basket longer than 2 m
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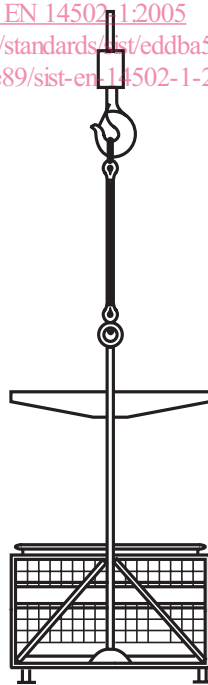


Figure 3 — Suspended basket with single suspension