



# SLOVENSKI STANDARD

## SIST EN 14502-1:2010

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Nadomešča:  
SIST EN 14502-1:2005

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

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

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

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

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**ICS:**

53.020.30      Pribor za dvigalno opremo      Accessories for lifting equipment

**SIST EN 14502-1:2010**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 14502-1**

May 2010

ICS 53.020.30

Supersedes EN 14502-1:2005

English Version

## Cranes - Equipment for the lifting of persons - Part 1: Suspended baskets

Appareils de levage à charge suspendue - Equipements  
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 16 April 2010.

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 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 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 and United Kingdom.

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## Foreword

This document (EN 14502-1:2010) 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 November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

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 14502-1:2005.

This European Standard is the first part of EN 14502. The other part is as follows:

EN 14502-2, *Cranes — Equipment for the lifting of persons — Part 2: Elevating control stations.*

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 and the United Kingdom.

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**EN 14502-1:2010 (E)****Introduction**

This European Standard deals with suspended basket for use in lifting operation of persons with machinery which is not designated for lifting of persons.

The use of such suspended basket is not covered by Machinery Directive 98/37/CE but by the regulations which apply to the user.

Care is necessary as the regulations which apply to the user are not the same in the various countries of the European Union. The national regulations are based on Directive 2009/104/EC, which gives minimum requirements.

The lifting of persons with machines not designed for that purpose is dealt with in annex II, article 3.1.2 of that directive, which prescribes:

*"Persons may be lifted only by means of work equipment and accessories provided for this purpose.*

*Without prejudice to Article 5 of Directive 89/391/EEC, exceptionally, work equipment which is not specifically designed for the purpose of lifting persons may be used to this effect, provided appropriate action has been taken to ensure safety in accordance with national legislation and/or practice laying down appropriate supervision.*

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*While workers are on work equipment designed for lifting loads the control position must be manned at all times. Persons being lifted must have reliable means of communication. In the event of danger, there must be reliable means of evacuating them."*

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The national legislation and/or practice, referred to in the second paragraph of section 3.1.2, may set out the conditions under which such exceptional use is permitted, the measures that must be taken to ensure the safety of the operation and technical requirements for the equipment used.

Such obligations apply to the users, but they also have implications for persons placing the equipment used for this purpose on the market in the country concerned since they must take account of the relevant legislation.

This standard is a technical document to help the designer of suspended baskets used with machines not designed for lifting of persons.

This standard was not prepared under a mandate given to CEN by the European Commission and cannot be considered as a means of conforming the Essential Requirements of the New Approach Machinery Directive 98/37/EC.

## 1 Scope

This European Standard applies to baskets suspended on cranes.

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

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).

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.

## 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+ A1:2008, *Cranes — Access*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **suspended basket**

arrangement designed for the lifting of persons by a crane

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## 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 suspended basket and which require action to eliminate or reduce the risk.

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

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

## 5 Safety requirements and/or protective measures

### 5.1 General requirements

- 5.1.1** Suspended baskets shall conform to the safety requirements and/or protective measures of 5.1.
- 5.1.2** Suspended baskets shall be manufactured from material specified as being incombustible.
- 5.1.3** Those parts of the suspended basket where persons are intended to stand shall have a minimum free standing height of 2 m.



**5.1.4** When the suspended basket is designed to be used in situations where falling objects can 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 with a diameter 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.

**5.1.5** 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.

## 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 rope slings or chain slings complying with EN 13414-1 or EN 818-4 respectively but with an enhanced safety factor of at least:

- a)  $8 \times$  (weight of basket + rated capacity) for chains; and
- b)  $10 \times$  (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.

Load lifting attachment(s) shall be fitted to the basket in such a way that they can only be removed with tools. This requirement does not apply to baskets intended for use on Container Handling cranes with a spreader where the twist locks are both mechanically blocked and controlled by an electrical switch manually operated by personnel in the basket.

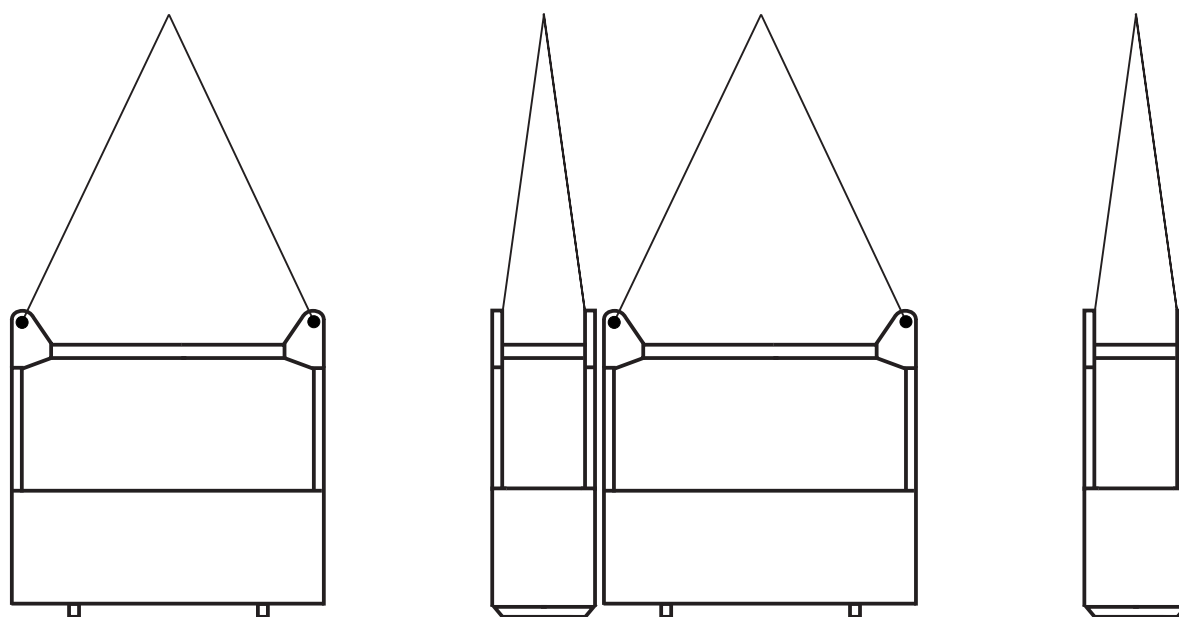


Figure 1 — Suspended basket of 2 m length or shorter