



**SLOVENSKI STANDARD**  
**SIST EN 13843:2003**

01-julij-2003

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Roller sports equipment - Inline-skates - Safety requirements and test methods

Rollsportgeräte - Inline-skates - Sicherheitstechnische Anforderungen und Prüfverfahren

Equipements de sports a roulettes - Patins a roues en ligne - Exigences de sécurité et méthodes d'essais

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**Ta slovenski standard je istoveten z: EN 13843:2003**

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**ICS:**

97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment
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**SIST EN 13843:2003**

**en**

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EUROPEAN STANDARD

EN 13843

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2003

ICS 97.220.40

English version

## Roller sports equipment - Inline-skates - Safety requirements and test methods

Equipements de sport à roulettes - Patins à roulettes en  
ligne - Exigences de sécurité et méthodes d'essais

Rollsportgeräte - Inline-skates - Sicherheitstechnische  
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 28 November 2002.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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 document (EN 13843:2003) has been prepared by the Technical Committee CEN/TC 136 "Sports, playground and other recreational equipment", the secretariat of which is held by DIN.

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 2003, and conflicting national standards shall be withdrawn at the latest by August 2003.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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## Introduction

Requirements for inline-skates from the orthopedic point of view such as lateral support or similar were not included in this standard because these requirements differ from user to user and therefore cannot be covered by a standard.

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## 1 Scope

This standard applies to inline-skates intended for users with a body mass of more than 20 kg and less than 100 kg.

It specifies safety requirements for inline-skates, specifications for test methods, marking and information supplied by the manufacturer to reduce the risk of injuries to both third parties and the user during their normal use.

Inline-skates for use by a user of less than 20 kg do not belong to the scope of this European Standard. They are toys.

This European Standard does not apply to roller skates according to EN 13899.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 22768-1, *General tolerances — Part 1: Tolerances for linear and angular dimensions without individual tolerance indications (ISO 2768-1:1989)*.

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## 3 Terms and definitions

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

### 3.1

#### **inline-skate**

roller sports equipment whose wheels are arranged inline and which can be attached

- a) to the users boot or shoe by means of straps
- b) as an integrated part of a boot or shoe
- c) as a detachable chassis of a purpose built boot or shoe

### 3.2

#### **binding element**

binding element for the attachment of the inline-skate to the user's foot or shoe

**EN 13843:2003 (E)****4 Requirements**

General tolerances: EN 22768-1.

**4.1 Classification of inline-skates****4.1.1 Class A**

Inline-skates intended for use by a user mass of more than 20 kg up to 100 kg.

**4.1.2 Class B**

Inline-skates intended for use by a user mass of more than 20 kg up to 60 kg and a length of the foot of no more than 260 mm.

**4.2 Safety requirements****4.2.1 Protruding components and edges**

All protruding components and edges on the inline-skate that can come into contact with body parts during normal use shall be deburred or constructed in such a way as to prevent injury.

The test is carried out according to 5.3.2.

**4.2.2 Binding elements**

Binding elements shall prevent unintentional disconnection from the user's foot.

This requirement is considered to be fulfilled if the correct functioning of the inline-skate is not impeded by broken, disconnected or loosened binding elements after the tests according to clause 5.

**4.2.3 Chassis****4.2.3.1 General**

The chassis consists of one or more supports, axles, wheels, bearings and fixings.

It shall withstand the impact loads, the constant load and the static load to which it is exposed during use. The chassis shall be attached to the shoe and/or shoe mounting in such a way as to be secured against unintentional loosening.

These requirements are considered to be fulfilled if the correct functioning of the inline-skate is not impeded by broken, disconnected or loosened binding elements after the tests according to clause 5.

**4.2.3.2 Axles**

The axles shall be attached and designed in such a way as to ensure that they cannot become loose, displaced or deformed during use. The wheels shall be secured on the axles against unintentional loosening. These requirements are considered to be fulfilled if the axles are not loosened, deformed or displaced to such an extent as to impair proper functioning, and the wheels have not become loose after the tests according to clause 5.

**4.2.3.3 Wheels**

The wheels shall be constructed from non-slip material. This requirement is considered to be fulfilled if a coefficient of adhesion  $\mu_o$  of least 0,30 is achieved in the test according to 5.3.4.



After the tests according to clause 5, the wheels shall not show tears. They shall further not have loosened or be deformed to the extent that a risk of their becoming blocked exists.

#### 4.2.3.4 Bearings

The bearings shall be laid out in such a way as to be functional after the tests according to clause 5. They shall be constructed in such a way as to permit servicing according to the user information without impairment of their operational safety.

#### 4.2.4 Starting and/or braking devices

If an inline-skate is equipped with a starting and/or braking device, this device shall be unbreakable and secured against loosening. It shall not cause an unintentional impediment of the inline-skates' motion.

These requirements are considered to be fulfilled if the test according to clause 5 did not cause a noticeable loosening of the starting and/or braking device.

The clearance between the starting and/or braking device and the ground is required to prevent unintentional braking. This requirement is considered to be fulfilled, if this clearance is at least 7 mm but not more than 17 mm.

#### 4.2.5 Self-locking fixings

Where self-locking nuts are used, the entire thread, including the locking section, shall be in contact with the bolt. Self-locking nuts and other self-locking fixings that are loosened several times for the purpose of modification or servicing, shall be suitable for this purpose. The user information shall indicate, when self-locking nuts and other self-locking elements can lose their effectiveness.

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## 5 Testing

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### 5.1 Test specimen

At least two pairs of the same type shall be tested. If the type contains a starting and/or braking device, one of the test specimen shall be equipped with this device.

### 5.2 Test conditions

Unless otherwise specified the inline-skates shall be conditioned and tested either at a temperature of  $(23 \pm 2)^\circ\text{C}$  and a relative humidity of  $(50 \pm 5)\%$  or at a temperature of  $(20 \pm 2)^\circ\text{C}$  and a relative humidity of  $(65 \pm 5)\%$ .

The tests are to be carried out according to 5.3 to 5.4.2.

### 5.3 Test specimen 1

#### 5.3.1 General

If the test specimen contains a starting and/or braking device, this specimen is to be used as test specimen 1.

#### 5.3.2 Protruding components and edges

Test by visual and tactile examination.

#### 5.3.3 Coefficient of adhesion of wheels

The wheel adhesion shall be tested by pulling a wheel along a steel plate with a fine brushed and degreased surface of arithmetical mean roughness  $R_a$  of 1,5 to 2,0  $\mu\text{m}$  (see Figure 1).