SLOVENSKI STANDARD
SIST EN 13613:2002

01-september-2002

Oprema za ġporte na koleġļ kih - Rolke - Varnostne zahteve in preskusne metode

Roller sports equipment - Skateboards - Safety requirements and test methods

Rollsportgeräte - Skateboards - Sicherheitstechnische Anforderungen und Prüfverfahren

Equipement de sports a roulettes - Planches a roulettes - Exigences de sécurité et méthodes d'essais

Ta slovenski standard je istoveten z: **EN 13613:2001**

ICS:

97.220.40	Oprema za športe na prostem in vodne športe	Outdoor and water sports equipment

SIST EN 13613:2002 **en**

EUROPEAN STANDARD

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English version

Roller sports equipment - Skateboards - Safety requirements and test methods

Equipement de sports à roulettes - Planches à roulettes - Exigences de sécurité et méthodes d'essais

Rollsportgeräte - Skateboards - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 1 January 2001.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

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Contents

Foreword

This European Standard 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of an identical text or by endorsement, at the latest by July 2001, and conflicting national standards shall be withdrawn at the latest by July 2001.

Annex A is informative.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard specifies requirements for non-motorized skateboards which are supplied for use by one rider at a time.

The skateboards covered by this standard are graded by performance criteria for different categories of body weight.

Skateboards for use by a rider up to 20 kg does not belong to the scope of this European Standard. They are covered by EN 71-1.

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 71-1, *Safety of toys — Part 1: Mechanical and physical properties.*

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

3 Terms and definitions

For the purposes of this standard, the following terms and definitions apply:

3.1
skateboard

vehicle consisting of one or more connecting decks on two trucks and wheels on which the rider may propel him/herself and which can be steered by shifting his/her body weight

3.2
mid-steering setting
setting between the positions of the softest and hardest steering settings

3.3
softest steering setting
setting achieved when for example an action bolt is unscrewed so that the cushion is just relieved of any pressure from it

3.4
hardest steering setting
setting achieved when for example an action bolt is fully tightened so that the cushion is subjected to maximum pressure from it

4 Classification

4.1 Class A

Skateboards intended for use by a rider of more than 50 kg up to 100 kg mass.

4.2 Class B

Skateboards intended for use by a rider of more than 20 kg up to 50 kg.

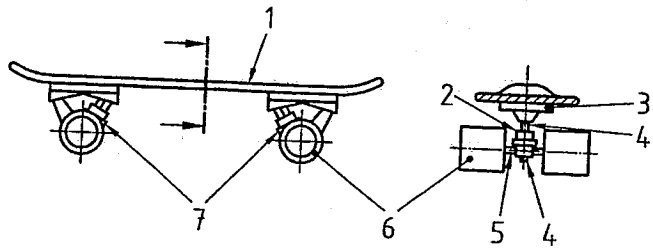
5 Construction

5.1 General

Typical components of a skateboard are illustrated in figure 1.

NOTE Figure 1 is only an example for reference.

General tolerances: EN 22768-v



Key
1 Deck
2 Cushion
3 Riser pad
4 Action bolt
5 Axle
6 Wheels
7 Trucks

Figure 1 — Components of a skateboard

5.2 Requirements

5.2.1 There shall be no projections above the upper surface of the deck with the exception of the

- domed headed bolts under class A and B
- retaining straps for connection of the feet to the bolt only for class A.

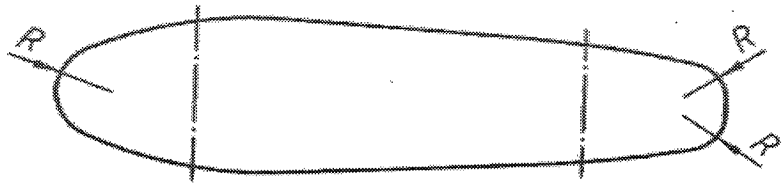
5.2.2 When tested in accordance with 6.8, it shall not be possible to touch, with the test cylinder (see 6.8.2), any projection which has a length greater than 10 mm and less than 100 mm^2 in area.

5.2.3 When the action bolt of the truck is fully tightened, no part of the action bolt shall be in contact with the underside of the deck.

5.2.4 If a part of the axles and means of securing the wheels shall project beyond the outer edge of the wheels than the axle and means of securing the wheels shall not project beyond the deck.

All edges on the skateboard which can come into contact with parts of the body during normal use shall be rendered safe, or shaped so that injuries cannot occur.

5.2.5 The corners and edges of the deck shall be rounded off and free from burr and sharp or protruding edges. The ends of the deck shall be rounded off with a minimum radius of 10 mm as shown in figure 2.



Key
R = minimum 10 mm

Figure 2 — Radius of the ends of the deck

5.2.6 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 information supplied by the manufacturer shall indicate, when self-locking nuts and other self-locking elements can loose their effectiveness.

5.2.7 When tested in accordance with 6.5, the coefficient of adhesion (μ_0) of the wheels shall be a minimum of 0,3.

5.2.8 When tested in accordance with 6.6, the wheel bearings shall not seize up or disintegrate.

5.2.9 When tested in accordance with 6.7, 6.9 and 6.10 no part of the skateboard shall break, there shall be no signs of functional damage and no fastening devices shall have worked loose.

6 Test methods

6.1 General

All tests shall be carried out on fully assembled skateboards at the mid-steering setting.

6.2 Test specimens

Two test specimens (two skateboards) of the same type shall be tested in accordance with the order described in 6.3.

6.3 Order of testing

6.3.1 Specimen A

The specimen shall be subjected to the test in the following order:

a) wheel adhesion test (see 6.5);

b) speed test (see 6.6);

c) endurance test (see 6.7).

6.3.2 Specimen B

The specimen shall be subjected to the test in the following order:

a) test of external design (see 6.8);

b) drop test (see 6.9);

c) impact test (see 6.10).

6.4 Conditioning and testing temperatures

Unless otherwise specified the skateboards shall be conditioned and tested either at a temperature of (23 ± 2) °C and a relative humidity of (50 ± 5) % or at a temperature of (20 ± 2) °C and a relative humidity of (65 ± 5) %.

6.5 Wheel adhesion test

6.5.1 Principle

The wheel adhesion is tested by pulling a wheel along a steel plate with a fine brushed and degreased surface of arithmetical mean roughness R_a 1,5 µm to 2,0 µm.

6.5.2 Apparatus

Steel plate, with a parallel lay and surface texture between R_a = 1,5 µm and R_a = 2,0 µm and two weights, each of 20 kg mass.

6.5.3 Procedure

Degrease the tyre surface of the wheels of the skateboard and the steel plate. Measure the mass of the skateboard. Load the skateboard with a mass of 20 kg over each axle and place it on the steel plate so that the lay is perpendicular to the force F to be applied. Apply force without shock to the trucks (see figure 3) and when the wheels are at the point of slipping, measure the applied force F.

6.5.4 Calculation of results

Calculate the coefficient of adhesion of the wheels μ_0 from equation (1):

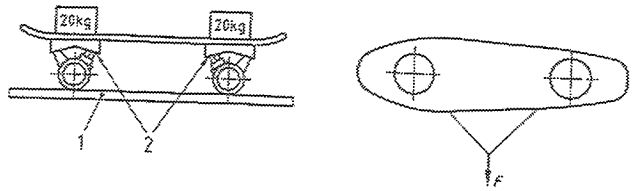
$$\mu_0 = \frac{F}{(40 + m) \cdot g} \qquad (1)$$

where

F is the force applied, in newtons;

m is the mass of the skateboard, in kilograms;

g is the acceleration due to gravity, i.e. 9,81 m/s^2.



Key
1 Steel plate
2 Point of application of force

Figure 3 — Adhesion test apparatus

6.6 Speed test

6.6.1 Principle

A loaded skateboard is driven at speed and the wheel bearings are examined for signs of damage.

6.6.2 Procedure

For skateboards class A, place a mass of 50 kg over the one axle set of wheels under test. Run the skateboard continuously at a speed of 20 km/h for 6 min.

For skateboards class B, place a mass of 40 kg over the one axle set of wheels under test. Run the skateboard continuously at a speed of 20 km/h for 3 min.

Note whether or not the wheel bearings seize up or disintegrate.

6.7 Endurance test

6.7.1 Principle

One set of wheels of a skateboard not tested in accordance with 6.6 is subjected to a simulation of normal wear and tear using a cylindrical ramp apparatus. The skateboard is then examined for any damage to its functionability.

6.7.2 Apparatus

The test is carried out on a drum rotating at a circumferential speed of 0,5 m/s.

The drum is fitted with ramps offset one to another and evenly spaced.

The distance between these ramps shall be such that the skateboard passes over one ramp in 1,5 s (see figure 4).