SLOVENSKI STANDARD
SIST EN 1930:2002

01-maj-2002

Izdelki za otroke - Varnostne pregrade - Varnostne zahteve in preskusne metode

Child care articles - Safety barriers - Safety requirements and test methods

Artikel für Säuglinge und Kleinkinder - Kinderschutzgitter Sicherheitstechnische Anforderungen und Prüfverfahren

Articles de puériculture - Barrières de sécurité - Exigences de sécurité et méthodes d'essai

Ta slovenski standard je istoveten z: **EN 1930:2000**

ICS:

97.190	Otroška oprema	Equipment for children

SIST EN 1930:2002 **en**

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 1930

August 2000

ICS 97.190

English version

Child care articles - Safety barriers - Safety requirements and test methods

Articles de puériculture - Barrières de sécurité - Exigences de sécurité et méthodes d'essai

Artikel für Säuglinge und Kleinkinder - Kinderschutzgitter - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 21 August 1999.

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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, 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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 1930:2000 E

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 252 "Child use and care articles", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by February 2001, and conflicting national standards shall be withdrawn at the latest February 2001.

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 European standard specifies the safety requirements and test methods for child safety barriers for domestic use which are designed to be fitted across openings which limits the child's access within the home to prevent young children up to 24 months of age passing through, but which can be removed or opened by older persons able to operate the locking mechanism.

This European standard does not apply to devices designed to be fitted across windows and the like.

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.

EN 71-1:1998, *Safety of toys - Part 1 : Mechanical and physical properties.*

EN 71-2:1994, *Safety of toys - Part 2 : Flammability.*

EN 71-3:1995, *Safety of toys - Part 3 : Migration of certain elements.*

3 Terms and definitions

For the purposes of this European Standard, the following definitions apply :

3.1
safety barrier
device which limits the child's access within the home

3.2
removable component
any component(s) which may be detached from the safety barrier without the use of a tool

3.3
opening system
means of allowing passage through the opening, which may be achieved by :

a) removing the whole barrier from the opening ;

b) means of opening the barrier or a section of it.

3.4
hinged section
device which allows the barrier to be opened without removing the fixed element of the safety barrier

4 General test conditions

4.1 Tolerances

Unless otherwise stated all test equipment shall have an accuracy as follows :

- forces: ± 5 % ;
- masses: ± 0,5 % ;
- dimensions: ± 0,5 mm ;
- time: ± 1 s.

4.2 Conditioning

Before any of the tests are commenced, the item shall be old enough to ensure that it has developed its full strengtl At least four weeks in normal indoor conditions shall have elapsed between manufacture and testing in the case (glued joints and the like.

The tests shall be carried out in indoor ambient conditions with a temperature of (23 ± 1) °C and a relative humidity of (50 ± 5) %.

4.3 Assembly

The safety barrier shall be tested as delivered.

If of knock-down type, it shall be assembled according to the instructions supplied with the safety barrier. If the safety barrier can be assembled or combined in different ways, the most onerous combination shall be used for testing.

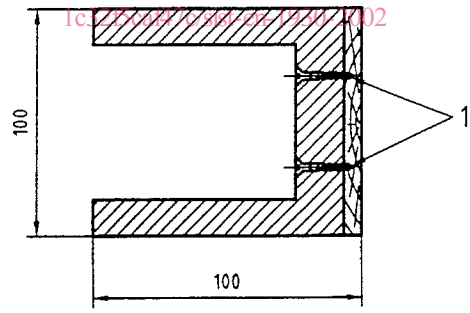
4.4 Setting up for testing in test frame

Before commencement of all tests, set up the safety barrier in accordance with manufacturer's instructions, including any extensions, in a rigid test frame opening to the maximum width for which the safety barrier is recommended. The test frame shall be rigid, to avoid variations due to absorption of energy by the frame itself

4.4.1 Test frame

A steel frame with attachable planed beech pads as shown in Figure 1 which shall have a coefficient of μ = 0,25 to 0,35.

Dimensions in millimetres



Key

1 Screws for attachment

Figure 1 - Test frame

Where appropriate tighten the locking mechanism designed for locking the safety barrier into place by the application of a force of 50 N ± 2 N applied tangentially to the hand grip point of the device.

All requirements in this standard shall apply to both sides of the barrier.

4.5 Cleaning and washing

Before testing, any fabrics used shall be cleaned or washed and dried twice in accordance with the manufacturer's instructions. Removable fabrics shall be capable of being refitted for cleaning or washing/drying.

5 Materials

5.1 Wood

Wood and wood based materials shall be free from decay and insect attack.

5.2 Chemical properties

Plastics, any coating of paint, varnish, lacquer or similar substance, parts consisting of dyed materials integral with the structure and parts consisting of dyed textiles which may come into contact with the child's mouth shall which in their soluble compound state have a metal content not exceeding the following amount :

- antimony : 60 mg/kg ;
- arsenic : 25 mg/kg ;
- barium : 1000 mg/kg ;
- cadmium : 75 mg/kg ;
- chromium : 60 mg/kg ;
- lead : 90 mg/kg ;
- mercury : 60 mg/kg ;
- selenium : 500 mg/kg.

Where a surface is coated with a multi layer paint or similar coating, the sample shall be taken down to the substrate.

The test procedure is defined in EN 71-3:1994.

5.3 Flammability of textiles, coated textiles, supports and plastic coverings

The flame propagation speed shall not exceed 30 mm/s when tested in accordance with 6.3 of EN 71-2:1994.

If the textile area is less than 5 % of the total barrier area, this requirement shall not apply.

6 Construction

6.1 Use of a tool

It shall be possible to remove a non-opening safety barrier without the use of a key or tool.

6.2 Connecting screws

Connecting screws for direct fastening, e.g. self tapping screws, shall not be used for the assembly of any components that are designed to be removed or loosened when dismantling the safety barrier.

6.3 Staples

All staples shall be loaded in shear and not proud of the surface.

6.4 Toys

Safety barriers shall not contain any features that could be used as a child's plaything/toy.

6.5 Small parts

6.5.1 Requirements

Any small component not intended to be detachable which becomes detached during the test defined in 6.5.2 shall not fit wholly within the small parts cylinder specified in EN 71-1:1998.

Any component intended to be removable shall not fit wholly within the small parts cylinder as specified in EN 71-1.

6.5.2 Test method

6.5.2.1 Apparatus

Means of applying forces up to at least 90N with an accuracy of ± 2 N, e. g. a spring balance or a dead weight arrangement.

Feeler gauge with thickness of (0,4 ± 0,02) mm, with the end to be inserted having a radius of approximately 3 mm.

6.5.2.2 Tension test

Establish if the component to be tested is grippable by inserting the feeler gauge between the component and the underlaying layer or body of the item at an angle between 0° and 10° from the surface. If the gauge can be inserted more than 2 mm the component is to be judged as grippable.

If the component is grippable ,affix a suitable clamp behind the component taking care not to damage the attachment mechanism or body of the item.

Apply a tensile force to the component to be tested through a clamp or by other suitable means.

Apply a force of :

- 50 N when the largest accessible dimension is less than or equal to 6 mm ;
- 90 N when the largest accessible dimension is greater than 6 mm.

Apply the force gradually over 5 s and maintain for 10 s.

Examine whether the component has become detached.

6.5.2.3 Torque test

If the component can be gripped between thumb and forefinger, apply a torque gradually to the component within a period of 5 s in a clockwise direction until either a rotation of 180° from the original position has been obtained, or a torque of 0,34 Nm is reached. Maintain the maximum rotation or required torque for 10 s. Permit the test component to return to a relaxed condition. Repeat this procedure in an anti-clockwise direction.

Projections, parts or assemblies that are rigidly mounted on an accessible rod or shaft designed to rotate together with the projections, parts or assemblies, shall be tested with the rod or shaft clamped to prevent rotation.

If a component which is attached by a screw thread becomes loosened during the application of the required torque, continue to apply the torque until the required torque is exceeded or the part disassembles or it becomes apparent that the part will not disassemble.

6.6 Structural integrity

Any parts of the barrier that are essential for its safe operation and safe condition shall be attached in such a manner that they cannot be displaced from a normal operating position or broken when a force of 90 N is applied in any direction to that part for (30 ± 1) s.

NOTE This requirement does not apply in the case of the displacement force needed to operate any locks, levers or any other device intended to be operated by the user.

6.7 Edges, projections and corners.

Edges, projections and corners, with the exclusion of non reachable parts in normal use, shall be chamfered, rounded or otherwise covered, in accordance with the examples given in Figure 2 a), b) or c) or, if arising from a wall thickness less than 4 mm shall comply with at least one of the following requirements :

- be folded, rolled or spiralled (see example in Figure 2 e)) ; or
- be protected with a plastic coating or other adequate means, (see example in Figure e)).

The upper edge of the barriers, however, shall comply with one of the examples as shown in Figure 2.

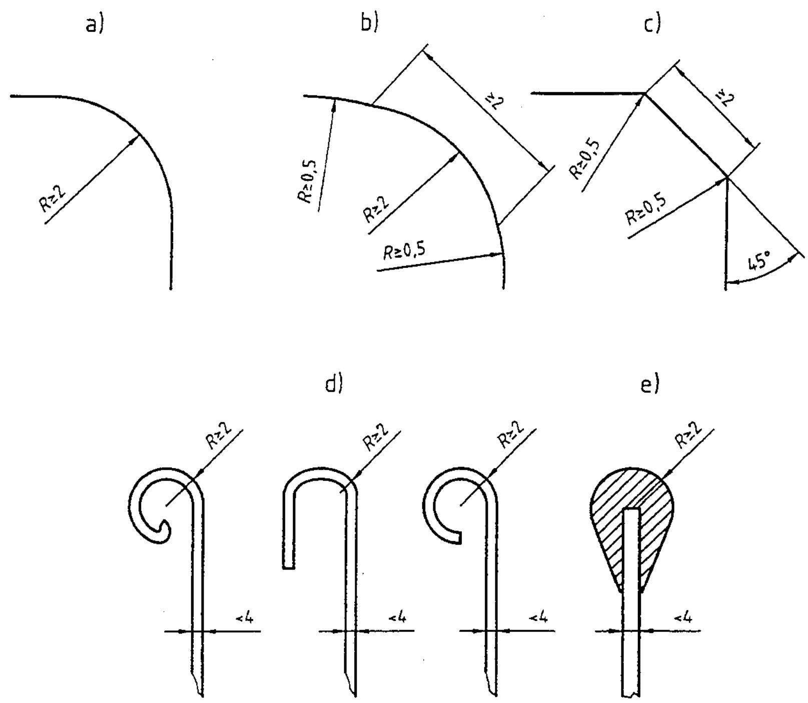


Figure 2 – Examples for minimum radii of edges and corners

The minimum radi shown in Figure 2 do not apply to small components such as hinges brackets and catches.

6.8 Height

6.8.1 Requirements

The minimum height between the top surface of the barrier and the floor when fitted in its lowest position shall be 650 mm.

During the tests in 6.8.2 this height shall always be equal to or greater than 650 mm.

6.8.2 Vertical static load tests

6.8.2.1 Apply a vertical downwards force of 250 N on the centre of the top rail of the barrier.

The structural integrity of the barrier shall be maintained. During the test the barrier shall comply with the requirements of 6.8.1.

6.8.2.2 Apply a vertical downward force of 250 N to the centre of the top surface of the bottom rail.

During the test the barrier shall comply with the requirements of 6.8.1.

6.9 Footholds

6.9.1 Requirements

There shall be a band of 650 mm high, extending across the full width of the barrier within which there shall be no footholds on either side of the barrier when tested in accordance with 6.9.2.