



# SLOVENSKI STANDARD

## SIST EN 16281:2013

01-februar-2013

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### Izdelki za zaščito otrok - Zapirala za okna in balkonska vrata, ki jih potrošniki namestijo za varnost otrok - Varnostne zahteve in preskusne metode

Child protective products - Consumer fitted child resistant locking devices for windows and balcony doors - Safety requirements and test methods

Kinderschutzprodukte - Von Verbrauchern anzubringende kindergesicherte Verriegelungsvorrichtungen für Fenster und Balkontüren - Sicherheitstechnische Anforderungen und Prüfverfahren

Articles pour la sécurité des enfants - Dispositifs de blocage des fenêtres et des portes de balcon à l'épreuve des enfants et à monter soi-même - Exigences de sécurité et méthodes d'essai

**Ta slovenski standard je istoveten z: EN 16281:2013**

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#### **ICS:**

91.060.50	Vrata in okna	Doors and windows
97.190	Otroška oprema	Equipment for children

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EUROPEAN STANDARD

EN 16281

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2013

ICS 91.060.50; 97.190

English Version

## Child protective products - Consumer fitted child resistant locking devices for windows and balcony doors - Safety requirements and test methods

Articles pour la sécurité des enfants - Dispositifs de blocage des fenêtres et des portes-fenêtres à l'épreuve des enfants et à monter soi-même - Exigences de sécurité et méthodes d'essai

Kinderschutzprodukte - Vom Verbraucher anzubringende kindersichernde Verschlussvorrichtungen für Fenster und Balkontüren - Sicherheitstechnische Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 10 November 2012.

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## Foreword

This document (EN 16281:2013) has been prepared by Technical Committee CEN/TC 398 “Child protective products”, the secretariat of which is held by ASI.

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of an identical text or by endorsement, at the latest by July 2013, and conflicting national standards shall be withdrawn at the latest by July 2013.

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**EN 16281:2013 (E)****1 Scope**

This European Standard specifies requirements and test methods for locking devices fitted by consumers for restricting the opening of windows and balcony doors by children younger than 51 months and intended to prevent the passage of young children.

Devices that only lock the window in its completely closed position are excluded from the scope of this standard.

NOTE Child resistant locking devices intended to be installed by professionals are beyond the scope of this standard; for such products refer to EN 13126-5.

**2 Normative references**

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

EN 71-1:2011, *Safety of toys — Part 1: Mechanical and physical properties*

EN ISO 4287, *Geometrical product specifications (GPS) — Surface texture: Profile method — Terms, definitions and surface texture parameters (ISO 4287)*

EN ISO 4892-2, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps (ISO 4892-2)*

EN ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T) (ISO 6508-1)*

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**3 Terms and Definitions**

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

**3.1 ball**  
spherical, ovoid, or ellipsoidal object, usually but not always designed or intended to be thrown, hit, kicked, rolled, dropped or bounced

Note 1 to entry: The term 'ball' also includes any multisided object formed by at least 48 connecting planes into a generally spherical, ovoid or ellipsoidal shape.

**3.2 burr**  
roughness, caused by not cleanly severing or finishing the material

**3.3 child resistant**  
difficult to be operated by children younger than 51 months

**3.4 cord style locking device**  
locking device made of a slender flexible material such as woven or knitted string, plastic textile tape or wire

### 3.5

#### locking device

device that limits the opening of a window or balcony door to a predetermined position

### 3.6

#### suction cup

means of temporarily attaching an object to a smooth surface made of soft, flexible, polymeric material, normally having a circular base which adheres to the surface when pressed against it, and in this way creates a vacuum

## 4 Requirements

### 4.1 Child protective functions

#### 4.1.1 General

The release mechanism of the locking device shall be protected against unintentional opening by young children. It shall either:

- a) require the use of a specifically designed removable device or removable tool (e.g. a key); or
- b) comply with the child panel test requirements in 4.1.2.

The removable device or removable tool shall be removable in the restricted and closed/locked position of the window or balcony door.

It is recommended that locking devices be capable of easy operation by adults including people with special needs.

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#### 4.1.2 Requirements concerning the child panel test

##### 4.1.2.1 General

The locking device shall comply with either 4.1.2.2 or 4.1.2.3.

**NOTE** The minimum number of children required in the sequential test depends on how many children can open the child resistant mechanism. This number can be as low as 30.

##### 4.1.2.2 Test panel of 200 children

If the full test panel of 200 children is used when testing in accordance with 5.4, the following requirements shall be met:

- a) at least 85 % of the children in the test panel shall be unable to disengage the locking device within the first 5 min without a demonstration, and
- b) at least 80 % of the children in the test panel shall be unable to disengage the locking device within another 5 min after a demonstration has been given to those children unable to disengage the device in the first 5 min.

##### 4.1.2.3 Sequential test – less than 200 children

If the full test panel is not used when testing in accordance with 5.4, the result is obtained from completing Figure 1 and Figure 2 as follows:

- a) The result of the test is a failure if the child succeeds in disengaging the locking device.

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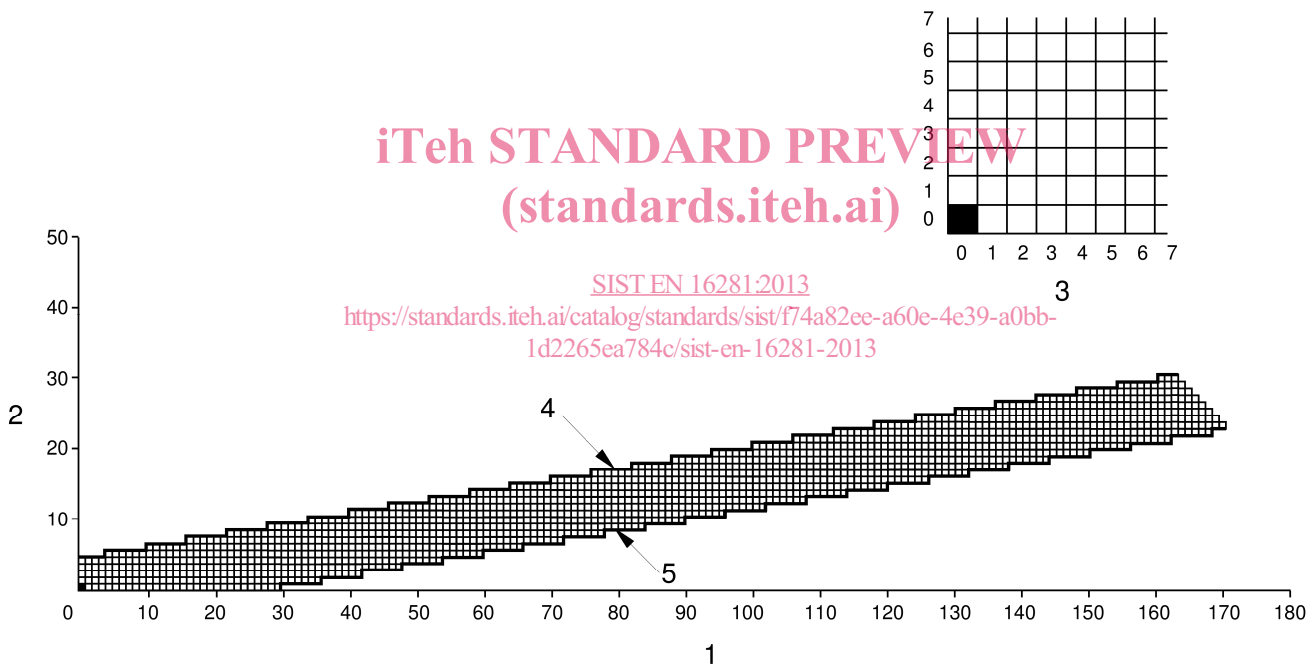
- b) As each result is obtained, it shall be plotted on the appropriate chart by filling in a square as follows:
- 1) Fill in a square immediately to the right of the previous result on Figure 1 if the child failed to disengage the locking device in the first 5 min, and on Figure 2 if the child failed to disengage the locking device in the second 5 min, i.e. if the result is a success.
  - 2) Fill in a square immediately above the previous result on Figure 1 and Figure 2 if the child succeeded in disengaging the locking device in the first 5 min, or only on Figure 2 if the child succeeded in disengaging the locking device in the second 5 min, i.e. if the result is a failure.

NOTE In the case of the first result to be plotted, the blanked out square is regarded as the "previous result".

The locking device shall be deemed to have:

- passed the test as soon as the trail of filled squares passes below limit line 1 on both Figure 1 and Figure 2;
- failed the test as soon as the trail of filled squares passes above limit line 2 on either Figure 1 or Figure 2.

If neither occurs, the results shall be assessed in accordance with the requirements laid down in 4.1.2.2.

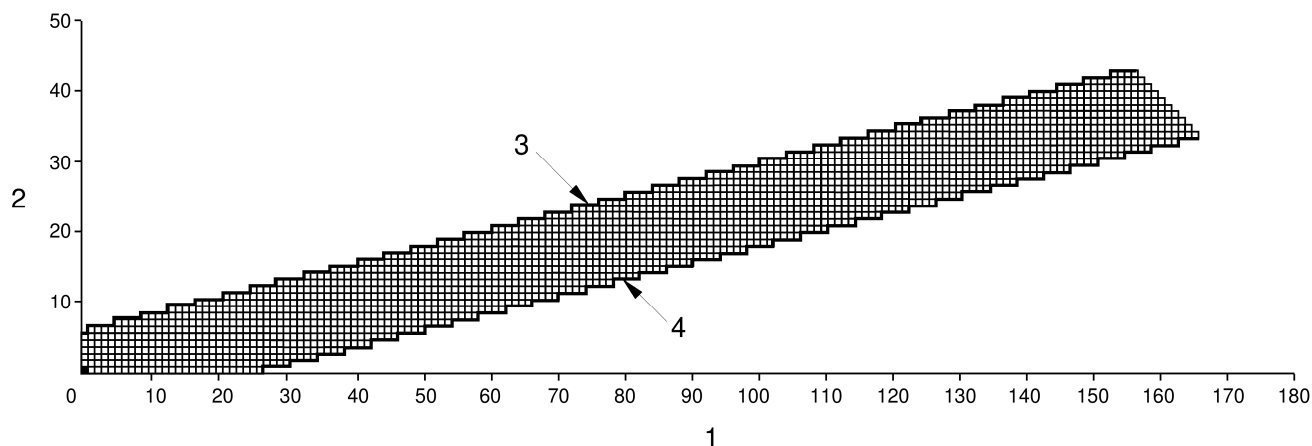


<b>Key</b>	1	number of locking devices not disengaged	4	limit line 2
	2	number of locking devices disengaged	5	limit line 1
	3	enlargement of chart scale		

Acceptable quality limit (AQL) = 5 %; limiting quality (LQ): 20 %;  $\alpha = \beta = 5$  %, where  $\alpha$  is the producer's risk;  $\beta$  is the consumer's risk.

**Figure 1 — Chart of a sequential child test procedure (before demonstration) for locking devices**





<b>Key</b>	1	number of locking devices not disengaged	3	limit line 2
	2	number of locking devices disengaged	4	limit line 1

Acceptable quality limit (AQL) = 5 %; limiting quality (LQ): 20 %;  $\alpha = \beta = 5$  %, where  $\alpha$  is the producer's risk;  $\beta$  is the consumer's risk.

NOTE For an enlargement of the chart scale, see Figure 1.

**Figure 2 — Chart of a sequential child test procedure (after demonstration) for locking devices**

#### 4.1.2.4 Full test

If a sequential procedure is not used and the full number of children is tested, the results shall be assessed in accordance with the requirements laid down in 4.1.2.2.

#### 4.1.2.5 Additional information to be recorded

Any other information deemed to be useful in assessing the interpretation of the result, such as the time required for children to disengage the window's locking device and, where appropriate, to engage it properly, the method used by children to disengage it, etc. shall be recorded.

## 4.2 Mechanical functions and structural integrity

The locking device should maintain its mechanical properties throughout its expected lifetime taking into account the relevant climate conditions.

The manufacturer shall indicate the type(s) of window or balcony doors (e.g. hinged or sliding) including the materials (e.g. aluminium, PVC, wood) for which the locking device is suitable. In particular, the manufacturer shall ensure that the fixing (e.g. screws) of the locking device is suitable for the recommended material(s).

Suction cups shall not be used for the fixing of the locking device.

When tested according to 5.5.2 to 5.5.7 none of the tested items or any part of the items shall be broken or have any visible cracks or permanent deformation or disengage. The devices shall be fully functional during and after the tests.

When tested in accordance with 5.5.4, test probe A defined in 5.2.8 shall not be able to pass through the opening between sash and frame.

NOTE Ideally, the locking device would automatically re-engage when closing the window after having been completely disengaged. However, at this point in time this is not a requirement. It may become a requirement in future.

**EN 16281:2013 (E)****4.3 Small parts**

Any small component, which is removable or becomes detached when tested according to 5.5.8, shall not fit wholly within the small parts cylinder described in 5.2.4.

Specifically designed removable devices or removable tools (e.g. keys) are exempt from the requirement.

**4.4 Small balls**

Any small ball, which is removable or becomes detached when tested according to 5.5.9, shall not entirely pass through the small ball template described in 5.2.6.

**4.5 Sharp edges**

There shall be no accessible edges that present an unreasonable risk of injury.

- a) Edges of metal or glass are considered as potentially hazardous sharp edges if they are sharp as determined according to 5.5.10. If the edges fail the test, they shall be assessed to determine whether they present an unreasonable risk of injury, taking into account the foreseeable use of the device. Regardless of the manner in which the edges are finished, they shall be tested according to 5.5.10.

NOTE Edges may be folded, rolled or spiralled in order to make them inaccessible or protected by a coating of plastic or other similar material.

- b) In overlap joints, the edge of the sheet metal shall conform to item a) when the sheet metal has a thickness of 0,5 mm or less and the clearance to the underlying surface is greater than 0,7 mm.
- c) Edges of metal including fastenings (e.g. screw heads) and rigid polymeric material shall be free from burr capable of causing wounds or abrasion.

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Flashings on pliable polymeric materials, e.g. polyolefins, are not considered as burr.

**4.6 Purchase information**

The following information shall be visible at the point of sale:

- Information on which types and sizes of windows and window materials the product is intended for, including e.g. inward/outward hinged window, vertical/horizontal slider, etc.
- For locking devices only intended for specific makes and models of windows and balcony doors, these makes and models shall be specified.
- If applicable (i.e. where a child panel test has been used to ensure the child protective functions), a WARNING “Some children will be able to operate the child resistant mechanism, especially children around 4 years and above”.
- This product is child-resistant and complies with EN 16281.

**4.7 User instructions**

The product information and user instructions shall be presented in the official language(s) of the country of sale.

Information concerning safe mounting and use of the product shall be provided. These instructions shall include at least the following:

- Name or trade mark of the manufacturer, importer or organisation responsible for its sale and contact details including postal address, web and email addresses.
- Instruction: “Read these instructions carefully before mounting and using the locking device. The child protective function of the locking device may be affected if you do not follow the instructions. Keep the instructions for future reference”.
- Information on which types and sizes of windows and window materials the product is intended for including a simple diagram showing e.g. inward/outward hinged window, vertical/horizontal slider, etc.
- For locking devices only intended for specific makes and models of windows and balcony doors, these makes and models shall be specified.
- Precise and understandable instructions on how and where to mount the locking device to ensure the intended child protective function including appropriate figures.
- Instruction to check the locking device prior to use.
- WARNING “Replace the device if any part is broken, torn or missing”.
- If applicable, a WARNING “This locking device does not automatically lock again after it has been completely released”.
- If applicable (i.e. where a child panel test has been used to ensure the child protective functions), a WARNING “Some children will be able to operate the child resistant mechanism, especially children around 4 years and above”.
- If applicable, a WARNING “Keep the removable key/tool used to operate the locking device easily available to adults and older children in case there is a need to fully open the window in an emergency, such as during a fire. However, the key/tool should not be accessible to young children. In particular, do not leave the key/tool in or attached to the locking device”.
- Any other information for safe usage.

#### 4.8 Marking of the product

Products shall be labelled as “Child resistant locking device for windows and balcony doors in accordance with EN 16281”. The label may be placed on the packaging.

### 5 Test methods

#### 5.1 General test conditions

The locking device shall be mounted according to the manufacturer's instructions.

If nothing else is given, forces during the tests shall be applied in the most onerous direction.

The tests shall be carried out in indoor conditions with a temperature of  $(23 \pm 5) ^\circ\text{C}$ .

Forces, masses and dimensions shall be measured with an uncertainty of measurement not exceeding  $\pm 2 \%$  unless stated otherwise.