



**SLOVENSKI STANDARD**  
**SIST EN 16232:2013**  
**01-september-2013**

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**Izdelki za otroke - Gugalnice za dojenčke**

Child use and care articles - Infant swings

Artikel für Säuglinge und Kleinkinder - Babyschaukeln

Articles de puériculture - Transats balancelle

**Ta slovenski standard je istoveten z: EN 16232:2013**

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EUROPEAN STANDARD

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**Child use and care articles - Infant swings**Articles de puériculture - Balancelles suspendues pour  
enfant

Artikel für Säuglinge und Kleinkinder - Babyschaukeln

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**EN 16232:2013 (E)****Foreword**

This document (EN 16232:2013) 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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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.

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## 1 Scope

This European Standard specifies safety requirements and the corresponding test methods for infant swings intended for children up to a weight of 9 kg or unable to sit up unaided.

If an infant swing has several functions or can be converted into another function, the relevant European Standards apply to it.

Swings falling under the scope of EN 71-8 are excluded from the scope of this European Standard.

See rationale in A.1.

## 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 71-3:1994, *Safety of toys — Part 3: Migration of certain elements*

EN 1103 *Textiles — Fabrics for apparel — Detailed procedure to determine the burning behaviour*

EN 61558-2-7, *Safety of power transformers, power supplies, reactors and similar products — Part 2-7: Particular requirements and tests for transformers and power supplies for toys (IEC 61558-2-7)*

EN 61558-2-16, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units (IEC 61558-2-16)*

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1)*

EN 61672-2, *Electroacoustics — Sound level meters — Part 2: Pattern evaluation tests (IEC 61672-2)*

EN 62115:2005, *Electric toys — Safety (IEC 62115:2003, modified + A1:2004)*

EN ISO 3746:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:2010)*

## 3 Terms and definitions

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

### 3.1

#### **infant swing**

stationary unit with a frame and mechanism that enables a child unable to sit up unaided to be swung

### 3.2

#### **junction line**

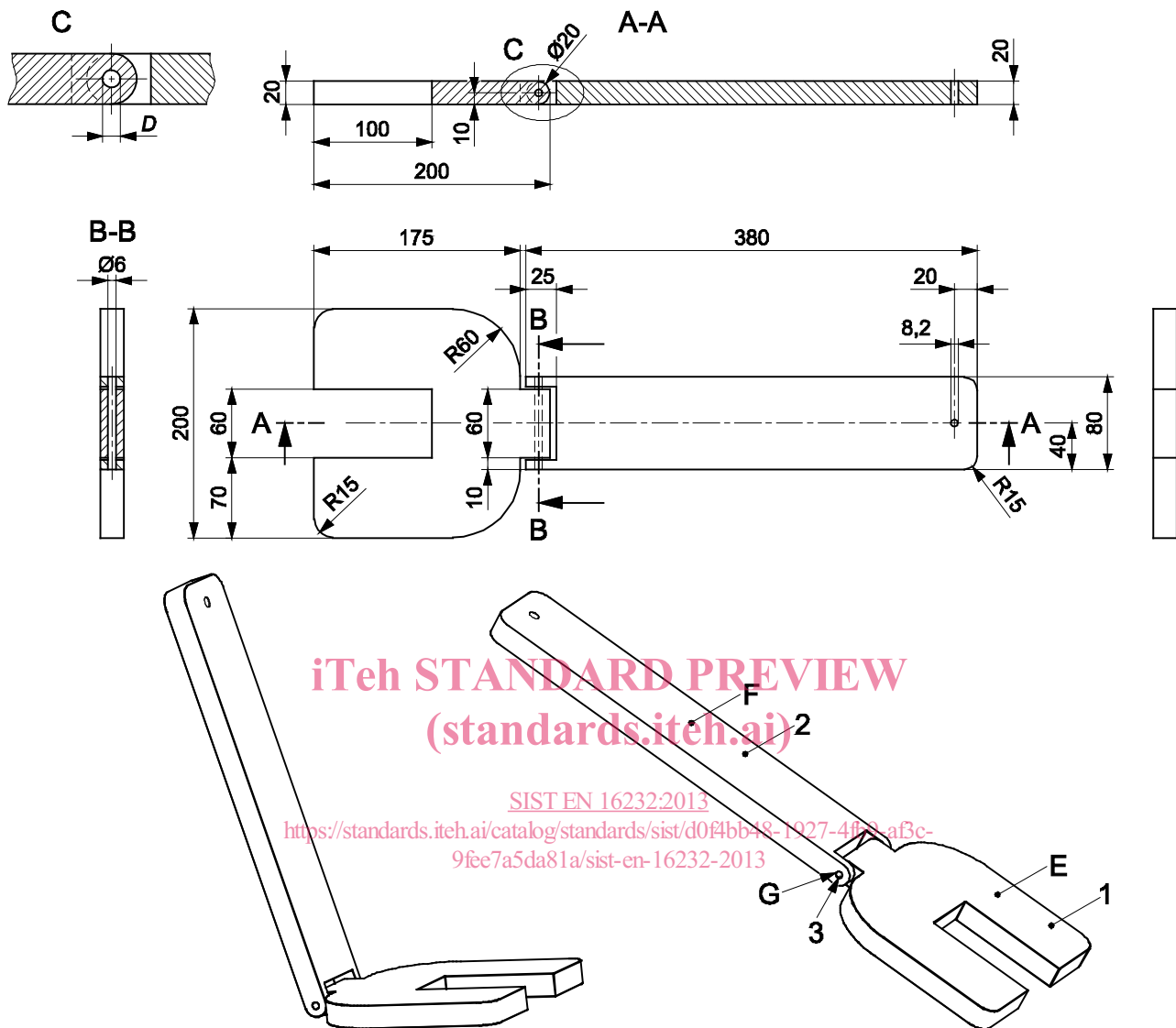
intersection of the seat and the backrest

## 4 Test equipment

### 4.1 Articulated test mass

9 kg articulated test mass made of steel (see Figure 1).

Dimensions in millimetres



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#### Key

- 1 part to be placed onto the seat surface
- 2 part to be placed onto the backrest surface
- 3 hinge pin made of steel
- E mass:  $(4\,495 \pm 50)$  g
- F mass:  $(4\,501 \pm 50)$  g
- G mass of hinge axle:  $(17 \pm 0,5)$  g, length: 79,5 mm

Mass tolerance:  $(9 \pm 0,1)$  kg

Dimensions tolerance:  $\pm 2$  mm

All edges shall be chamfered.

Figure 1 — Articulated test mass

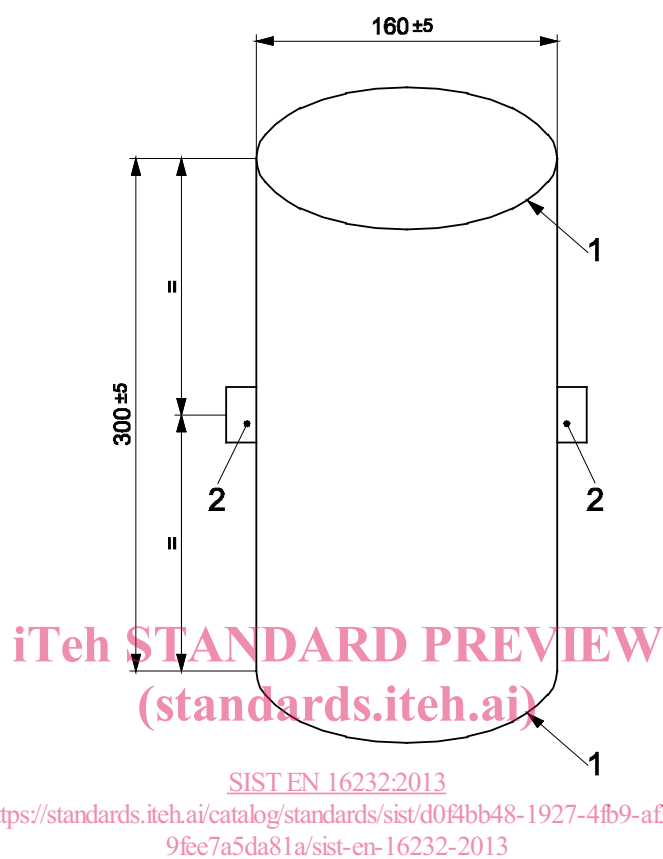
#### 4.2 Test mass A

Test mass A is a rigid cylinder  $(160 \pm 5)$  mm in diameter and  $(300 \pm 5)$  mm in height, having a mass of  $(9^{+0,01}_0)$  kg and with its centre of gravity in the centre of the cylinder. All edges shall have a radius of  $(5 \pm 1)$  mm.



Two anchorage points shall be provided. These shall be positioned  $(150 \pm 2,5)$  mm from the base and at  $180^\circ$  to each other around the circumference (see Figure 2).

Dimensions in millimetres



**Key**

- 1 radius:  $(5 \pm 1)$  mm
- 2 two anchorage points

**Figure 2 — Test mass A**

### 4.3 Test mass B

Test mass B is a  $(150 \pm 30)$  mm by  $(200 \pm 30)$  mm rectangular shaped sand bag with a mass of  $(3 \pm 0,1)$  kg.

### 4.4 Small parts cylinder

Small parts cylinder for the assessment of small components, having dimensions in accordance with Figure 3.

Dimension in millimetres

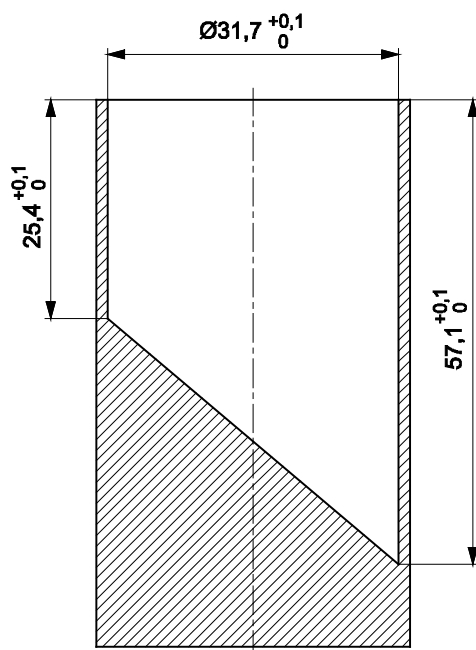


Figure 3 — Small parts cylinder

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#### 4.5 Feeler gauge

Gauge with a thickness of  $(0,4 \pm 0,02)$  mm and an insertion edge radius of  $(3 \pm 0,5)$  mm (see Figure 4).

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Dimensions in millimetres

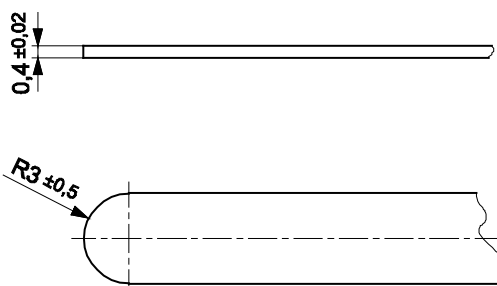


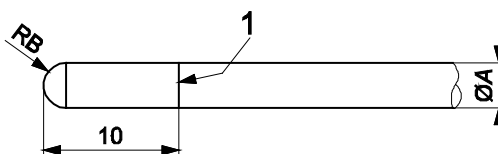
Figure 4 — Feeler gauge

#### 4.6 Test probes for finger entrapment

Probes made from plastics or other hard, smooth material of diameters  $(7_{-0,1}^0)$  mm and  $(12_{-0,1}^{+0,1})$  mm with a full hemispherical end that can be mounted on a force-measuring device, see Figure 5.

Mesh probe made from plastics or other hard, smooth material as shown in Figure 6.

Dimensions in millimetres



Key (dimensions in millimetres)

Probe type	7mm probe	12mm probe
Diameter A	$7 \begin{smallmatrix} 0 \\ -0,1 \end{smallmatrix}$	$12 \begin{smallmatrix} +0,1 \\ 0 \end{smallmatrix}$
Radius RB	$3,5 \pm 0,2$	$6 \pm 0,2$
1 line scribed around circumference showing depth of penetration		

Figure 5 — Test probes with hemispherical end

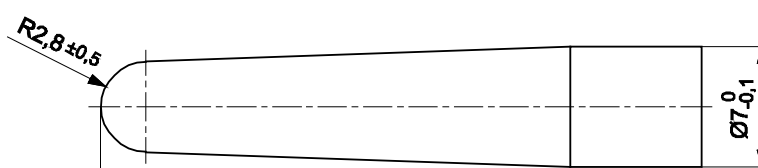


Figure 6 — Test probe for mesh

#### 4.7 Test surface for static slippage SIST EN 16232:2013

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Rigid plane covered with uncoated tempered float glass with a smooth surface and thickness of  $(6 \pm 0,5)$  mm, inclined at angle of  $(12 + 0,5/0)^\circ$  to the horizontal.

#### 4.8 Test surface for stability

Test surface, inclined at  $(15^\circ + 0,5/0)^\circ$  to the horizontal, covered with aluminium oxide paper of grade 80.

#### 4.9 Test equipment for sound level measurement

The instrumentation system, including the microphone and cable, shall meet the requirements of a type 1 or type 2 instrument specified in EN 61672-1 and EN 61672-2.

When measuring high peak emission sound pressure levels, the microphone and the entire instrumentation system shall have the capability of handling linear peak levels at least up to 125 dB.

### 5 General requirements and test conditions

#### 5.1 Product conditioning

Before testing, any fabrics used shall be cleaned or washed and dried twice in accordance with the manufacturer's instructions.

#### 5.2 Test conditions

The tests shall be carried out in ambient conditions of  $(20 \pm 5)$  °C.

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The tests are designed to be applied to infant swings that are fully assembled and ready for use in accordance with the manufacturer's instructions. If the infant swing can be assembled or adjusted in different ways, the most onerous combinations shall be used for each test.

If the infant swing has any battery-powered mechanism, it shall be tested using new non-rechargeable alkaline batteries; if the infant swing is supplied with its own rechargeable battery pack, it shall be tested with the battery pack fully charged in accordance with the instructions for use.

The batteries used are those with the voltage and size specified on the infant swing or in the instructions.

Lithium batteries or rechargeable batteries shall not be used unless their use is recommended in the instructions.

If the infant swing fails to withstand a test and this could be due to a defective battery, the test shall be repeated with a new set of batteries.

**5.3 Application of forces**

The forces in the static load tests shall be applied sufficiently slowly to ensure that negligible dynamic force is applied.

**5.4 Tolerances**

Unless otherwise stated, the accuracy of the test equipment shall be:

- Forces:  $\pm 5\%$  of the nominal force;
- Masses:  $\pm 0,5\%$  of the nominal mass;
- Dimensions:  $\pm 0,5$  mm of the nominal dimension;
- Angles:  $\pm 0,5^\circ$  of the nominal angle;

The tests are described in terms of the application of forces. Masses can however be used. The relationship  $10\text{ N} = 1\text{ kg}$  may be used for this purpose.

Unless otherwise specified, the test forces may be applied by any suitable device which does not adversely affect the results.

**5.5 Order of tests**

Unless otherwise stated in the test methods, the tests shall be carried out on the same infant swing in the order listed in this standard.

**6 Chemical hazards – migration of certain elements**

The migration of synthetic or natural elements from coatings of paint, varnish, lacquer, polymer and similar coatings on exterior surfaces shall not exceed the following amounts:

Antimony:	60 mg/kg
Arsenic:	25 mg/kg
Barium:	1 000 mg/kg
Cadmium:	75 mg/kg
Chromium:	60 mg/kg