



**SLOVENSKI STANDARD**  
**SIST EN 12790:2009**

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**SIST EN 12790:2003**

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**Izdelki za otroke - Sklopne zibelke**

Child use and care articles - Reclined cradles

Artikel für Säuglinge und Kleinkinder - Kinderliegesitze

Articles de puériculture - Transats

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**Child use and care articles - Reclined cradles**

Articles de puériculture - Transats

Artikel für die Säuglinge und Kleinkinder - Kinderliegesitze

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

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## Foreword

This document (EN 12790:2009) 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of an identical text or by endorsement, at the latest by September 2009, and conflicting national standards shall be withdrawn at the latest by September 2009.

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.

This document supersedes EN 12790:2002.

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

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## 1 Scope

This standard specifies safety requirements and the corresponding test methods for fixed or folding reclined cradles intended for children up to a weight of 9 kg or who are unable to sit up unaided.

This standard applies also to car seats complying with ECE 44 that can be used as reclined cradles according to manufacturer's instructions.

This standard does not apply to reclined cradles when used as swings.

If a reclined cradle has several functions or can be converted into another function the relevant European standards apply to it (see Annex B).

## 2 Normative references

The following referenced documents are indispensable for the application of this document. 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, *Safety of toys – Part 1: Mechanical and physical properties*

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

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

EN ISO 868, *Plastics and ebonite – Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*

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ISO 48, *Rubber, vulcanized or thermoplastic – Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 7619-1, *Rubber, vulcanized or thermoplastic – Determination of indentation hardness – Part 1: Durometer method (Shore hardness)*

ISO 7619-2, *Rubber, vulcanized or thermoplastic – Determination of indentation hardness – Part 2: IRHD pocket meter method*

## 3 Terms and definitions

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

### 3.1

#### **reclined cradle**

article intended to accommodate a child in a reclined position

NOTE Reclined cradles may be static, rocking or bouncing and may have an adjustable backrest and/or seat.

#### 3.1.1

##### **static reclined cradle**

article not intended to bounce or rock

#### 3.1.2

##### **rocking reclined cradle**

article intended to allow the child to rock

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## 3.1.3

**bouncing reclined cradle**

article intended to allow the child to bounce due to the flexibility of the frame or any other mechanical means

## 3.2

**restraint system**

system to restrain the child within the reclined cradle

## 3.3

**crotch restraint**

device designed to pass between the child's legs to prevent the child from sliding forward

## 3.4

**carrying handle**

component to enable the reclined cradle with the child in it to be carried by hand

## 3.5

**junction line**

intersection of the seat and the backrest

NOTE 1 See Figure 1a).

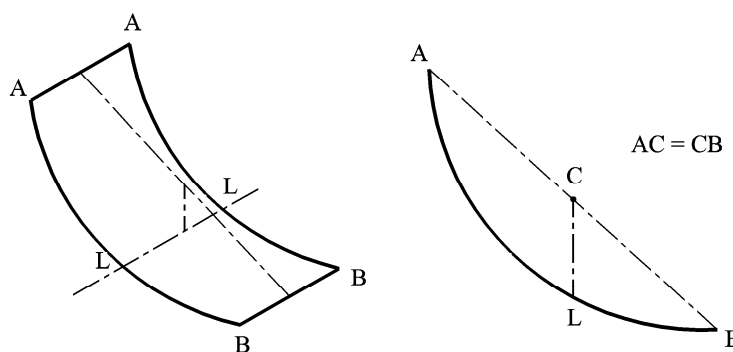
**Key**

LL Junction line

**Figure 1a) — Junction line**

NOTE 2 When the seat unit is in the form of a hammock, then a theoretical junction line, "LL", is determined as shown in Figure 1b). For these products the junction line will vary when the backrest is adjusted in different positions.





### Key

LL Junction line

CL Vertical projection of C on the hammock

Figure 1b) — Junction line for reclined cradles in form of a hammock

## 4 Properties of materials

### 4.1 Chemical properties

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Surfaces of parts located within the inner and upper surface that support the child shall be made using materials which in their soluble state have a metal content not exceeding the following values:

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- Antimony: 60 mg/kg;
- Arsenic: 25 mg/kg;
- Barium: 1 000 mg/kg;
- Cadmium: 75 mg/kg;
- Chromium: 60 mg/kg;
- Lead: 90 mg/kg;
- Mercury: 60 mg/kg;
- Selenium: 500 mg/kg.

The test procedure is defined in EN 71-3.

Where a surface is coated with a multi-layer of paint or similar coating, the test sample shall not include any of the base material.

### 4.2 Flammability

There shall be no parts of the reclined cradle which can give rise to surface flash, when tested in accordance with EN 1103.

**EN 12790:2009 (E)****5 Construction****5.1 Shrinkage**

After cleaning and drying twice in accordance with the manufacturer's instructions, any resulting shrinkage in the fabric covering materials shall not prevent removable fabrics from being refitted.

**5.2 Finger entrapment**

When tested in accordance with 6.3 there shall be no holes, openings or gaps greater than 7 mm and less than 12 mm unless the depth of penetration of the appropriate probe is less than 10 mm on the inner and upper surface which supports the child.

The test shall be carried out with the product in any intended position of use.

Restraint systems are excluded from this requirement.

**5.3 Moving parts**

To avoid the risk of shearing and crushing once the reclined cradle is assembled for normal use the distance between two parts which move relative to each other shall be less than 5 mm or more than 12 mm throughout the entire movement.

Moving parts can arise from:

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a) the movement of the reclined cradle; **(standards.iteh.ai)**

b) the movement of the body weight or action of the child using the reclined cradle;

c) a powered mechanism. <https://standards.iteh.ai/catalog/standards/sist/58c6a277-1e1d-4262-816a-fdc19402667f/sist-en-12790-2009>

Locking mechanisms and the base of the article and its functional parts for rocking and bouncing are excluded from this requirement.

**5.4 Edges, points and corners**

All accessible edges, corners and protruding parts on the reclined cradles inner and upper surface which supports the child shall be rounded or chamfered and free from burrs.

All surfaces shall be free from burrs and sharp edges.

**5.5 Small parts**

When tested in accordance with 6.4, any part that can be detached shall not fit wholly within the small parts cylinder.

Parts intended to be removed shall not fit wholly within the small parts cylinder.

**5.6 Cords, ribbons and parts used as ties**

Cords, ribbons and parts used as ties excluding restraint system shall have a maximum free length of 220 mm when stretched by a force of 25 N.

**5.7 Springs**

If the reclined cradle is fitted with springs, a protection is required when the space between two helical coils can become equal to or greater than 3 mm and smaller than 12 mm, when tested in accordance with 6.5.

## 5.8 Locking mechanism(s) for folding system

### 5.8.1 General

Reclined cradles which may be folded for storage or transportation purposes shall be fitted with locking mechanism(s) for the folding system.

Locking mechanism(s) is required to prevent a reclined cradle folding whilst the child is in the cradle and also during the process of a child being put in and taken out of the cradle.

### 5.8.2 Incomplete deployment

To avoid the hazard due to incomplete deployment, at least one locking mechanism shall engage automatically when the product is deployed for use in accordance with the manufacturer's instructions for use.

When tested in accordance with 6.6.1 the reclined cradle, with the non automatic locking mechanism(s) not fully engaged, shall not collapse or tip over.

### 5.8.3 Unintentional release of locking mechanism(s)

To avoid the hazards due to unintentional release, one of the following conditions shall be fulfilled:

- a) at least one locking mechanism requires an operating force greater than 50 N before and after testing in accordance with 6.6.3, or
- b) at least one locking mechanism is released by the use of a tool, or
- c) folding requires at least two consecutive actions, the first of which must be maintained while the second is carried out, or
- d) folding requires at least two independent and simultaneous actions.

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When tested in accordance with 6.6.2, the reclined cradle shall not collapse.

## 5.9 Reclining system

Any adjustment mechanism(s) for the reclining system shall not be positioned on the inner and upper surface which supports the child.

Reclined cradles with adjustable backrest or seat angle shall be fitted with a stop at the maximum reclined position to avoid inadvertent contact between the seat unit and the ground or any rigid part of the frame during testing in accordance with 6.7.

The reclining system shall still function after testing in accordance with 6.7.

During testing in accordance with 6.7, angles and distance H of the reclined cradle shall still satisfy the requirements of 5.10.

## 5.10 Angle and height of seat unit

Cradles, when tested in accordance with 6.8, shall comply with the following:

- the  $\alpha$  angle shall not be less than 90° in any position of use;
- the  $\beta$  angle shall be between 10° and 80°;
- the distance H shall always be greater than 15 mm.

The requirements for the angles shall be applied to the cradle in all its possible positions of use.

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The requirement for distance H is not applicable to car seats complying with ECE 44 and to rigid or "shell shaped" seats.

NOTE The requirement for H distance is intended to avoid the seat unit touching the floor.

**5.11 Locking mechanism(s) for carrying handle(s)****5.11.1 General**

The requirements of this clause do not apply to reclined cradles with flexible (e.g. fabric, etc.) carrying handles.

**5.11.2 Locking mechanism(s)**

Carrying handle(s) shall have one or more locking mechanisms which locks the handle(s) in the carrying position.

The locking mechanism(s) shall fulfill one of the following conditions:

- a) to release the locking mechanism, at least two consecutive actions are required, the second depending on the first being performed and maintained; or
- b) to release the locking mechanism, at least two separate and simultaneous actions shall be performed on two separate parts; or
- c) when tested in accordance with 6.9, in both directions, the reclined cradle shall return to its initial locked position.

**5.11.3 Incomplete deployment of the carrying handle(s)**

To avoid incomplete deployment of the handle(s) one of the following requirements shall be fulfilled:

- a) the carrying handle(s) is fitted with an automatic system that returns it to and locks it into its carrying position; or
- b) when tested in accordance with 6.10, with the handle in both directions, the reclined cradle shall not tip over; or
- c) when it is not locked in the carrying position, the carrying handle shall move to its lowest position under its own weight.

**5.12 Stability**

When tested in accordance with 6.11, the reclined cradle shall not tip over.

**5.13 Static strength**

After testing in accordance with 6.12, the reclined cradle shall still fulfil its intended functions.

**5.14 Durability of reclined cradles with carrying handle(s)**

The requirements of this clause apply to all reclined cradles with carrying handle(s).

After testing in accordance with 6.13 the reclined cradle shall not show any signs of damage and shall still fulfil its intended functions.

**5.15 Strength of carrying handle(s) locking mechanism(s)**

The requirements of this clause do not apply to reclined cradles with flexible (e.g. fabric, etc.) carrying handle(s).