

December 2006

ICS

Will supersede EN 12790:2002

English Version

Child use and care articles - Reclined cradles

Articles de puériculture - Transats

Artikel für Säuglinge und Kleinkinder - Kinderliegesitze

This draft European Standard is submitted to CEN members for second enquiry. It has been drawn up by the Technical Committee CEN/TC 252.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, 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 United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

[SIST EN 12790:2009](https://standards.iteh.ai/catalog/standards/sist/58c6a277-1e1d-4262-816a-fdc19402667f/sist-en-12790-2009)

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



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Definitions	5
4 Properties of materials.....	7
4.1 Chemical properties	7
4.2 Flammability.....	7
5 Construction.....	8
5.1 Shrinkage.....	8
5.2 Entrapment	8
5.2.1 Finger entrapment	8
5.3 Moving parts.....	8
5.4 Edges, points and corners.....	8
5.5 Small parts.....	8
5.6 Cords, ribbons and parts used as ties	8
5.7 Springs.....	9
5.8 Locking mechanism(s) for folding system	9
5.8.1 General.....	9
5.8.2 Unintentional release of locking mechanism(s).....	9
5.8.3 Incomplete deployment.....	9
5.9 Reclining system	9
5.10 Angle and height of seat unit	9
5.11 Locking mechanism(s) for carrying handle(s).....	10
5.11.1 General.....	10
5.11.2 Locking mechanism(s).....	10
5.11.3 Incomplete deployment of the carrying handle(s)	10
5.12 Stability	10
5.13 Static strength.....	10
5.14 Durability of reclined cradles with carrying handle(s).....	10
5.15 Strength of carrying handle(s)	11
5.16 Slippage of the reclined cradle.....	11
5.17 Restraint system	11
5.17.1 General.....	11
5.17.2 Strength of the restraint system	11
5.17.3 Slippage of the restraint system	11
5.18 Marking	11
6 Test methods.....	11
6.1 General.....	11
6.2 Test equipment	12
6.2.1 Test mass A.....	12
6.2.2 Test mass B.....	13
6.2.3 Small parts cylinder.....	15
6.2.4 Feeler gauge.....	15
6.2.5 Test equipment for handle strength test.....	16
6.2.6 Test probes.....	17
6.2.7 Test equipment for handle locking mechanism strength test	17
6.2.8 Test surface for the stability test	18
6.2.9 Measurement device for the α angle	19
6.3 Test method for entrapment	19
6.3.1 Test method for finger entrapment.....	19
6.4 Test method for small parts.....	20

6.4.1	Assessment of child's ability to grip components	20
6.4.2	Torque test	20
6.4.3	Tensile test	20
6.5	Test method for springs.....	20
6.6	Test method for locking mechanisms	21
6.6.1	Test method for incomplete deployment	21
6.6.2	Test method for unintentional release of locking mechanisms	21
6.6.3	Test method for the durability of the locking mechanisms	21
6.7	Test method for the reclining system.....	21
6.8	Test method for the measurement of angles and height of seat unit.....	22
6.8.1	Test method for the measurement of angles.....	22
6.8.2	Test method for the measurement of height H.....	23
6.9	Reclined cradle tipping resistance test.....	23
6.10	Reclined cradle tipping resistance test from the floor	24
6.11	Test method for durability of reclined cradles with carrying handle(s).....	26
6.12	Handle locking mechanism(s) strength test.....	26
6.13	Test method for stability	28
6.14	Test method for static strength.....	28
6.15	Test method for slippage of the reclined cradle	28
6.16	Test method for the slippage of the restraint system.....	29
6.17	Test method for the strength of the restraint system.....	29
6.18	Durability of marking.....	29
7	Product information	29
7.1	General.....	29
7.2	Marking of the product.....	30
7.3	Purchase information.....	30
7.4	Instructions for use	31
8	Non-permeable packaging.....	31
Annex A (informative)	A-deviations.....	32
Annex B (informative)	Relevant standards and recommendations for multi purpose reclined cradles.....	33

SIST EN 12790:2009

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

Foreword

This document (prEN 12790:2006) has been prepared by Technical Committee CEN/TC 252 “Child use and care articles”, the secretariat of which is held by AFNOR.

This document is currently submitted to the second CEN Enquiry.

This document will supersede EN 12790:2002.

iTeh Standards (<https://standards.iteh.ai>) Document Preview

[SIST EN 12790:2009](https://standards.iteh.ai/catalog/standards/sist/58c6a277-1e1d-4262-816a-fdc19402667f/sist-en-12790-2009)

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

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 unable to sit up unaided.

Car seats complying with ECE44 that can be used as reclined cradles shall comply with this standard.

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 it shall comply with the relevant European standards (see Annex B).

2 Normative references

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

EN 1103 *Textiles – Burning behavior – Fabrics for apparel – Detailed procedure to determine the burning behavior of fabrics for apparel*

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

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

ISO 48, *Rubber, vulcanised 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)*

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

3 Definitions

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

3.1

reclined cradle

article intended for accommodate a child in a reclined position.

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

3.1.1

static

article not intended to bounce or rock

3.1.2

rocker

article intended to allow the child to rock

3.1.3

bouncer

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

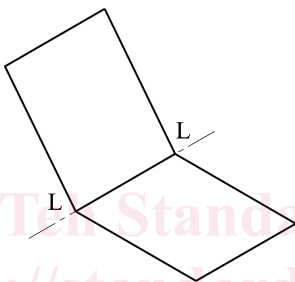
carrying handle

component allowing the reclined cradle to be carried by hand

3.5

junction line

a) intersection of the seat and the backrest, (see Figure 1a))



iTech Standards
(<https://standards.iteh.ai>)
Document Preview

Key

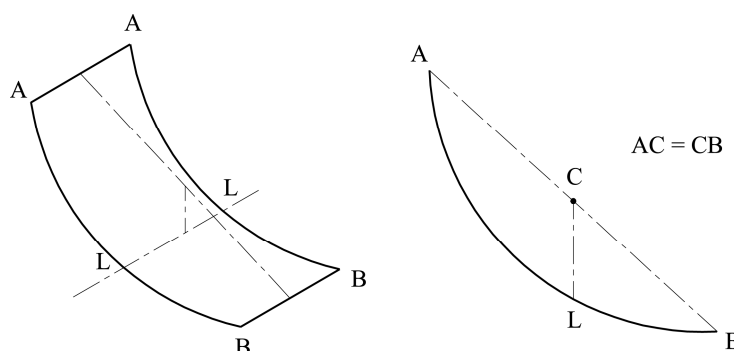
L) Junction line

SIST EN 12790:2009

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

Figure 1a – Determination of the junction line

- b) when the seat unit is in the form of a hammock, then a theoretical junction line, "L", is determined as shown in figure 1b).



Key

- L) Junction line
CL vertical projection of C on the hammock

Figure 1b - Determination of the junction line for reclined cradles in form of a hammock

4 Properties of materials

4.1 Chemical properties

When tested in accordance EN71-3 the migration of certain elements shall not exceed the limits below:

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 of paint or similar coating, the test sample shall not include any of the substrate.

4.2 Flammability

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

5 Construction

5.1 Shrinkage

The following requirements shall be fulfilled after washing or cleaning and drying the fabrics 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 Entrapment

5.2.1 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:

- a) the movement of the reclined cradle;
- b) the movement of the body weight or action of the child using the reclined cradle;
- c) a powered mechanism

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.

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 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 50N 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.

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

5.8.3 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 non automatic locking mechanism(s) for the folding system is not fully engaged, the reclined cradle shall not collapse or tip over when tested in accordance with 6.6.1.

5.9 Reclining system

Adjustment mechanism(s) shall not be positioned on the reclined cradle 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 that avoids inadvertent contact between the seat unit and the ground or any rigid part of the frame during the test in accordance with 6.7.

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

During the test 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 α angle shall be not less than 90° in any position of use;