SLOVENSKI STANDARD
SIST EN 14344:2005

01-januar-2005

Izdelki za otroke –Otroški sedeži za kolesa –Varnostne zahteve in preskusne metode

Child use and care articles - Child seats for cycles - Safety requirements and test methods

Artikel für Säuglinge und Kleinkinder - Kindersitze für Fahrräder - Sicherheitstechnische Anforderungen und Prüfverfahren

Article de puériculture - Sieges enfants pour bicyclettes - Exigences de sécurité et méthodes d'essai

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Foreword

This document (EN 14344:2004) 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of an identical text or by endorsement, at the latest by February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

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

1 Scope

This document specifies requirements for child seats for cycles, which are intended to be mounted on pedal cycles and electrically power assisted bicycles, in order to transport children with a weight from 9 kg up to 22 kg (approximately 9 months up to 5 years) and who are capable of sitting unaided.

NOTE Some European countries have special legislation for child seats for cycles. Compliance with this document may not meet this legislation.

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

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

EN 1811, *Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin*.

EN ISO 1043-1, *Plastics – Symbols and abbreviated terms – Part 1: Basic polymers and their special characteristics (ISO 1043-1:2001)*.

EN ISO 1043-2, *Plastics – Symbols and abbreviated terms – Part 2: Fillers and reinforcing materials (ISO 1043-2:2000)*.

ISO 4628-3, *Paints and varnishes – Evaluation of degradation of coatings – Designation of quantity and size of defects, and of intensity of uniform changes in appearance – Part 3: Assessment of degree of rusting.*

ISO 9227, *Corrosion tests in artificial atmospheres – Salt spray tests*.

ISO 11243, *Cycles – Luggage carriers for bicycles – Concepts, classification and testing*.

3 Terms and definitions

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

3.1
seat
child seat intended to be mounted on a cycle

3.2
front seat
child seat intended to be mounted on a cycle in front of the rider (between handlebar and rider)

3.3
rear seat
child seat intended to be mounted on a cycle behind the rider

3.4
reclining seat
front or rear seat that can transport a child either in an upright or in a reclined sitting position

3.5
integral guard
guard that is part of, or pre-assembled with, another essential and major part of the seat (for example a footrest) and cannot be removed or can be removed by the use of tools only

3.6
additional guard
guards that are always provided with the seat, but do not satisfy the definition of an integral guard

3.7
central plane
vertical plane on which lies the centre line of the cycle, seat and the measuring instrument

3.8
reference plane
horizontal plane defined on the seat measuring instrument, above the lowest points of the main sitting area of the seat

3.9
attachment system
structure to attach the child seat to the cycle

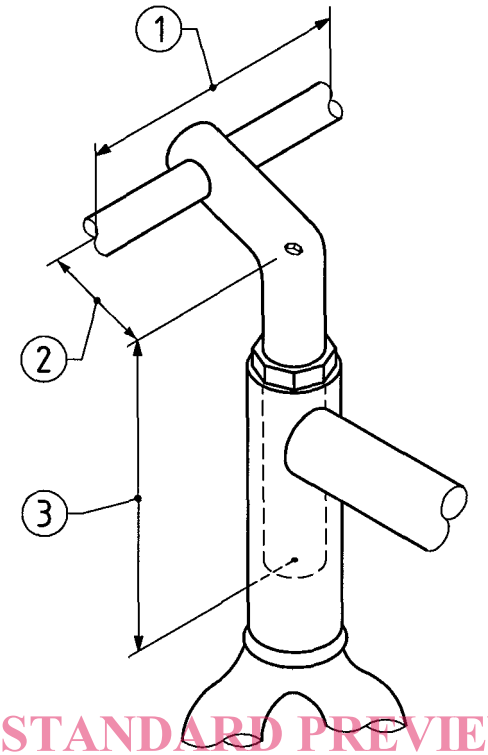
3.10
footrest
structure to support the child's foot

3.11
accessibility zone
zones that are likely to be reached by the hands or toes of the child in the seat

3.12
handlebar and handlebar stem assembly (see Figure 1)
1 handlebar – that is held by rider

2 extension – part of the handlebar stem that positions the handlebar in front of the steering axis

3 quill – part of some designs of the handlebar stem, that is co-axial with the steering axis and that fits partly into the fork steering tube



Key

1 handlebar
2 extension
3 quill

Figure 1 — Handlebar and handlebar stem assembly

3.13
restraint system
device designed to keep the child sitting in a safe position in the seat

3.14
crotch restraint
device designed to pass between the child's legs to prevent the child from sliding forward

4 Classification

Seats are classified according to the weight of the child carried and their mounting position on the cycle (see Table 1).

Table 1 — Classification of seats

Type of seat	Weight/capacity range kg	
	9 – 15	9 – 22
Rear seat	A15	A22
Front seat between handlebar and rider	C15	Not permitted
Front seat in front of handlebar	Not permitted	Not permitted

EXAMPLE Designation of a seat to be mounted behind the rider (A), maximum load 15 kg (15) : Child seat A15.

5 General requirements and test conditions

5.1 Principle of the most onerous condition

Where a test calls for a seat to be mounted on a cycle, the tester shall refer to the purchase information (see 13) and instructions for use (see 14). It is allowed to use any cycle that is suitable according to this information. Each test shall be conducted with the seat in the most onerous condition for that test.

5.2 Tolerances and test conditions

Unless otherwise stated the following tolerances shall be used :

All forces shall have an accuracy of ± 5%.

All masses shall have an accuracy of ± 1 %.

All dimensions shall have an accuracy of ± 1,0 mm.

All time measurements shall have an accuracy of ± 1s.

All angles shall have an accuracy of ± 1°.

All frequencies, amplitudes shall have an accuracy of ± 5 %.

The seat shall be conditioned at a temperature of (23 ± 5) °C for at least 2 h prior to test. All tests shall be carried out at a temperature of (23 ± 5) °C unless otherwise specified.

5.3 Order of tests

The test shall be carried out in the order that they appear in this document. All tests shall be performed on one seat.

6 Construction

6.1 Dimensions

6.1.1 Seating area and footrests

6.1.1.1 Requirements for seating area and footrests

The dimensions of the main child supporting areas of the seat shall comply with items a, b, c, d, e and f in Table 2, when measured in accordance with 6.1.1.3.

NOTE 1 The reference plane of this measuring instrument lies approximately 55 mm above the sitting area, and measurements are made at or relative to this plane. Dimensions c and d in Table 2 are therefore some 55 mm less than the full dimensions of these features, whereas the dimensions in f are greater by a similar amount.

NOTE 2 The items h, i and j are not requirements but necessary points for the measuring instrument.

NOTE 3 For item f : the length of the lower leg is adjustable.

Table 2 — Dimensions

Dimensions in millimetres

Items		Class of seat		
		A15	C15	A22
a	Seat width (inside)	230 ± 30	230 ± 30	250 ± 40
b	Seat length (front to back)	190 ± 30	190 ± 30	200 ± 30
c	Minimum height of backrest	385	160	400
d	Minimum height of seat side	65	45	85
e	Minimum footrest overall width × length	75 × 100	75 × 100	75 × 115
f	Minimum range of footrest adjustment (height)	180 – 250	180 – 220	180 – 290
g	Minimum length of seat side	105	105	105
h	Corresponding knee point settings	154 – 244	154 – 244	154 – 294
i	Maximum lower leg length	270	270	340
j	Half maximum foot length	80	80	100

6.1.1.2 Mounting method for measuring instrument

The dimensions of the seat shall be checked using the measuring instrument described in Annex A. Mount the seat on a cycle or similar fixture, with any padding supplied with the seat fitted in accordance with the manufacturer's instructions. Place the measuring instrument in the seat with the point A touching the centre of the lower backrest area. Load the measuring instrument with a mass of 5 kg centred above point C and adjust the orientation of the seat until the reference plane of the instrument becomes horizontal.

NOTE When measuring the padded areas it is permitted that the measuring instrument is loaded to compress any padding in a similar way to a child sitting in the seat.

6.1.1.3 Test method for seating area and footrest

Take measurements relative to the points on the reference plane of the measuring instrument as follows (see Figure A.2) :

a) measure the inside width of the seat, through point B ; check that this complies with the requirements given in Table 2, line a ;

b) slide the 60 mm by 15 mm diameter pillar along the thigh scale until it touches the edge of the seat. The seat length is the distance between the edge of this pillar and point A ; check that this complies with the requirements given in Table 2, line b ;

c) measure to the top centre of the backrest from point A. Take the linear distance between these two points using a calliper, or, if using the measuring instrument as shown, calculate from the vertical and horizontal displacement relative to point A ; check that this distance complies with the requirements given in Table 2, line c. If the child seat is fitted with an adjustable headrest measure to the top centre of the headrest, the headrest being in the lowest position ;

d) measure vertically above point B to a horizontal straightedge laid across the seat sides ; check that this distance complies with the requirement given in Table 2, line d ;

e) measure the maximum overall width and length of the area intended to support the child's foot, and check that the dimensions comply with the requirements, given in Table 2, line e ;

f) set the end of the thigh scale – the knee point E – to the shorter of the two distances h from point D, as specified in Table 2, line h. Adjust the footrest to its highest position. Using the leg and foot component of the measuring instrument with the heel against the back of the footrest, check that the distance from E to F is not more than the smaller value of f (given in Table 2, line f). Re-set the knee point to the longer of the two distances h, adjust the footrest to its lowest position and check that the distance E to F is not less than the larger value of f (given in Table 2, line f) ;

g) place a vertical straightedge on the reference plane touching the front edges of the seat sides. Check whether point C is between the straightedge and backrest of the seat.

6.1.1.4 Requirement for footrest adjustment

The height of the footrests shall be adjustable, either continuously or in steps of 40 mm or less, throughout a range of positions equal to or exceeding the range defined by 6.1.1.3 f).

6.1.1.5 Test method for footrest adjustment

Take the difference between the maximum and the minimum distances E to F found by the method stated in 6.1.1.3 f), and divide by the number of possible footrest positions minus one to find the average adjustment step. Check that this does not exceed the maximum specified in 6.1.1.4.

6.1.2 Centre of gravity mark for rear seats

6.1.2.1 Requirements for the centre of gravity mark for rear seats

Rear seats shall have a centre of gravity mark(s). This centre of gravity mark(s) shall be located on the same vertical and transverse plane as the centre of gravity for the seat with a child of maximum weight sat in it. When tested in accordance with 6.1.2.2 this centre of gravity mark shall be behind or no more than 10 mm in front of the theoretical centre of gravity.