



SLOVENSKI STANDARD
kSIST-TP FprCEN/TR 17876:2022
01-junij-2022

Izdelki za otroke - Tricikli - Varnostne zahteve in preskusne metode

Child care articles - Tricycles - Safety requirements and test methods

Artikel für Säuglinge und Kleinkinder - Dreiräder - Sicherheitstechnische Anforderungen und Prüfverfahren

iTeh STANDARD
PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: **FprCEN/TR 17876**

[kSIST-TP FprCEN/TR 17876:2022](https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022)

ICS:

97.190

Otroška oprema

2022

Equipment for children

kSIST-TP FprCEN/TR 17876:2022

en

**iTeh STANDARD
PREVIEW
(standards.iteh.ai)**

[kSIST-TP FprCEN/TR 17876:2022](https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022)

<https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022>

TECHNICAL REPORT
RAPPORT TECHNIQUE
TECHNISCHER BERICHT

FINAL DRAFT
FprCEN/TR 17876

May 2022

ICS

English Version

Child care articles - Tricycles - Safety requirements and test methods

Artikel für Säuglinge und Kleinkinder - Dreiräder -
Sicherheitstechnische Anforderungen und
Prüfverfahren

This draft Technical Report is submitted to CEN members for Vote. It has been drawn up by the Technical Committee CEN/TC 252.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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 Technical Report. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a Technical Report.

[kSIST-TP FprCEN/TR 17876:2022](https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022)

<https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022>



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents	Page
European foreword.....	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 General requirements and test conditions.....	8
5 Samples.....	8
5.1 General.....	8
5.2 Tolerances for test equipment.....	8
5.3 Test conditions.....	8
5.4 Determination of the <i>protected volume</i>	8
5.4.1 <i>Protected volume of seat</i>	8
5.5 Determination of the <i>junction line</i>	10
6 Test equipment.....	12
6.1 Test masses	12
6.1.1 General.....	12
6.1.2 Test mass A.....	12
6.1.3 Test mass <i>B</i>	13
6.1.4 Test mass <i>D</i>	13
6.2 Test probes.....	14
6.2.1 Finger probes.....	14
6.2.2 Conical probes.....	16
6.3 Angle measuring device.....	16
6.4 Bite tester.....	18
6.5 Test surface	19
6.6 Rectangular stops.....	19
6.7 Irregular surface test equipment	19
6.7.1 Obstacles	19
6.7.2 Articulating arms (see Annex B).....	20
7 Mechanical hazards (see A.4)	21
7.1 Protective function (see A.4.2)	21
7.1.1 Suitability of <i>CTP</i>	21
7.1.2 <i>Restraint system</i> and fasteners.....	22
7.2 Entrapment hazards (see A.4.3)	23
7.2.1 Holes and openings	23
7.3 Hazards from moving parts (see A.4.4).....	24
7.3.1 General.....	24
7.3.2 <i>Shearing hazards</i> (see A.4.4).....	24
7.3.3 <i>Crushing hazards</i> , requirement	25
7.3.4 Wheels.....	25
7.3.5 <i>Locking mechanism(s)</i>	25
7.4 Entanglement and strangulation hazards.....	28
7.5 Choking and ingestion hazards.....	28

7.5.1	Requirements.....	28
7.5.2	Bite test.....	28
7.6	Suffocation hazards (see A.5).....	29
7.6.1	Internal lining of the <i>seat</i>	29
7.6.2	Plastic packaging.....	30
7.7	Hazardous edges and protrusions (see A.6).....	30
7.8	Parking and braking devices (see A.7).....	30
7.8.1	Requirements.....	30
7.8.2	Test methods.....	30
7.9	Stability (see A.8).....	32
7.9.1	Stability of <i>CTP</i>	32
7.10	Structural integrity (see A.9).....	34
7.10.1	Strength and durability of attachment devices for <i>seat</i> and backrest.....	34
7.10.2	Irregular surface test.....	35
7.10.3	Handle strength.....	36
8	Durability of marking.....	38
9	Product information.....	38
9.1	General.....	38
9.2	Marking of product.....	38
9.3	Purchase information (A.10).....	39
9.4	Instructions for use.....	39
Annex A (informative)	Rationales.....	42
Annex B (informative)	Examples of articulated arms to maintain the <i>CTP</i> on the rig for the irregular surface test.....	46
Annex C (informative)	Examples of moving parts of the canopies inside 100 mm from the pivot point.....	48
Annex D (Informative)	Translation of Warnings in different European languages.....	51
Bibliography	64

FprCEN/TR 17876:2022 (E)

European foreword

This document (FprCEN/TR 17876:2022) has been prepared by Technical Committee CEN/TC 252 “Child care articles”, the secretariat of which is held by AFNOR..

This document is currently submitted to the Vote on TR.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[kSIST-TP FprCEN/TR 17876:2022](https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022)
<https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022>

Introduction

This Technical Report has been produced to provide safety guidance for designers, manufacturers, suppliers and users of children's tricycle providing a passive transportation function. These guidelines have been drafted to address potential hazards associated with the transportation function of tricycles. Where there are similar hazards to those associated with wheeled child conveyances, these have been identified. Requirements and test methods which are given in **EN 1888-1:2018 + A1:2022** and are appropriate to the transportation function of tricycles have been included, adapted as necessary, in this document.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[kSIST-TP FprCEN/TR 17876:2022](https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022)

<https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022>

1 Scope

This document covers children's tricycles providing a passive transportation function.

A tricycle is considered to provide a passive transportation function when it provides a pushing handle and a sufficient support for the child's back: i.e. the minimum length of the backrest is 250 mm (when measured in accordance with 6.1.1.2 of this technical report), and includes any of the below pushchair features:

- A restraint system for the child,
- Bumper bar
- Possibility to semi-recline or recline the child's seat
- Reversible child's seat
- Footrest
- A system for overriding front wheel steering for the child and parent

NOTE 1: Toys or the toy functions of Convertible Tricycle Pushchairs are covered by Directive 2009/48/EC.

Products sold as pushchairs are excluded from the scope of this document, as they are covered by EN 1888-1.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 71-1:2014, + A1: 2018, Safety of toys — Part 1: Mechanical and physical properties

3 Terms and definitions

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

3.1 convertible tricycle pushchair
a vehicle designed for use by a child in at least two modes, the first being primarily for play and learning to steer and pedal; and the second to transport a child, similar in intent and purpose to a pushchair

Note: referred to *CTP* throughout the document

3.2 chassis
wheeled framework with a removable or fixed handle(s) for pushing, pulling and steering, designed to accommodate and transport a *seat* (s)

3.3 seat
structure which may or may not be adjustable to achieve a reclining or recumbent position designed to support one child

3.4**protected volume**

volume accessible by the child (occupant) when sitting in the convertible tricycle pushchair, where specific safety requirements are necessary

3.5**junction line**

intersection of the seating surface and the backrest

3.6**restraint system**

system to restrain the child within the *CTP*

Note to entry: a surrounding rim or bumper bar is not considered as a restraint system

3.7**crotch restraint**

device positioned between the child's legs to prevent the child from sliding forwards

3.8**harness anchorage point**

device suitable for the attachment of an additional child's harness

3.9**footrest**

support for the feet or a foot other than pedals, used when sitting

3.10**shearing hazard**

hazard due to the movement of components relatively one to another resulting in a scissoring action

3.11**crushing hazard**

hazard due to the movement of components relatively one to another resulting in a compression action

3.12**folding system**

assembly of moving parts which enables the *CTP* or parts thereof to be changed from an erected position to a folded position under the control of the carer

3.13**locking mechanism**

assembly of components consisting of one or more *locking device(s)* and *one or more operating device(s)*

3.14**locking device**

mechanical component that maintains part(s) of the vehicle erected in the position of use (e.g. latch(es), hooks, over centre lock...) which could be deactivated or activated by action(s) on the *operating device*

3.15**operating device**

part of the *locking mechanism(s)* designed to be activated by the carer through one or several positive action(s)

FprCEN/TR 17876:2022 (E)

3.16

automatic locking device

device that engages with no additional voluntary action by the carer, when the *CTP* is erected to its position of use

3.17

parking device

device to maintain the *CTP* in a stationary position

4 General requirements and test conditions

NOTE Words in *italics* are defined in Clause 3 (Terms and definitions). Additional information on the background and rationale for various requirements is given in Annex A.

5 Samples

5.1 General

Tests should be carried out in the order of the clauses given in this European Technical Report, unless otherwise stated. Each test should be carried out only using one sample, unless otherwise stated.

CTP should comply with all applicable requirements in any possible arrangement in accordance with the manufacturer's instructions.

5.2 Tolerances for test equipment

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

- forces $\pm 5\%$;
- masses $\pm 0,5\%$;
- dimensions $\pm 0,5\text{ mm}$;
- timing $\pm 1\text{ s}$;
- angles $\pm 0,5^\circ$.

5.3 Test conditions

The *CTP* should be conditioned at a temperature of $(23 \pm 5)^\circ\text{C}$ for at least 2 h prior to tests. All tests should be carried out at a temperature of $(23 \pm 10)^\circ\text{C}$ unless otherwise specified.

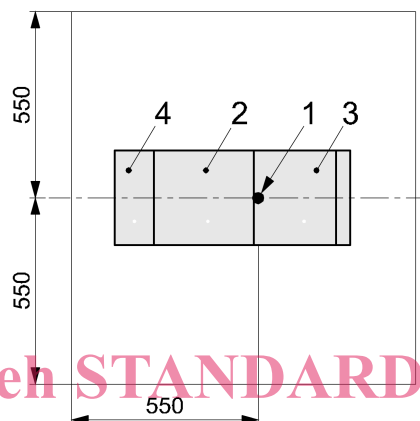
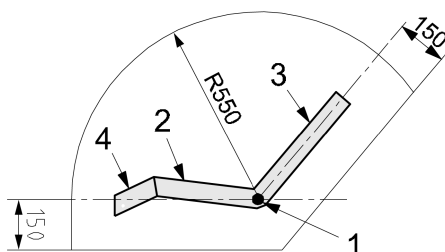
For *CTPs* fitted with inflatable tyres, the tyre pressure should be adjusted according to manufacturer's instructions for use before conducting the entire test procedure. If a tyre is punctured during the test procedure, the tyre should be replaced, and the test procedure continued.

5.4 Determination of the *protected volume*

5.4.1 *Protected volume of seat*

The *protected volume of seat* should be determined in accordance with Figure 1 below.

Dimensions in millimetres



iTeh STANDARD
PREVIEW
(standards.iteh.ai)

Key

- 1 origin from which the *protected volume* has been defined (mid-point of the *junction line*, on the uncompressed upper surface of the *seat*)
- 2 *seat*
- 3 *back rest*
- 4 *leg rest*

<https://standards.iteh.ai/catalog/standards/sist/0fc24d8e-3fc2-4efc-8f06-fe57297b3feb/ksist-tp-fprcen-tr-17876-2022>

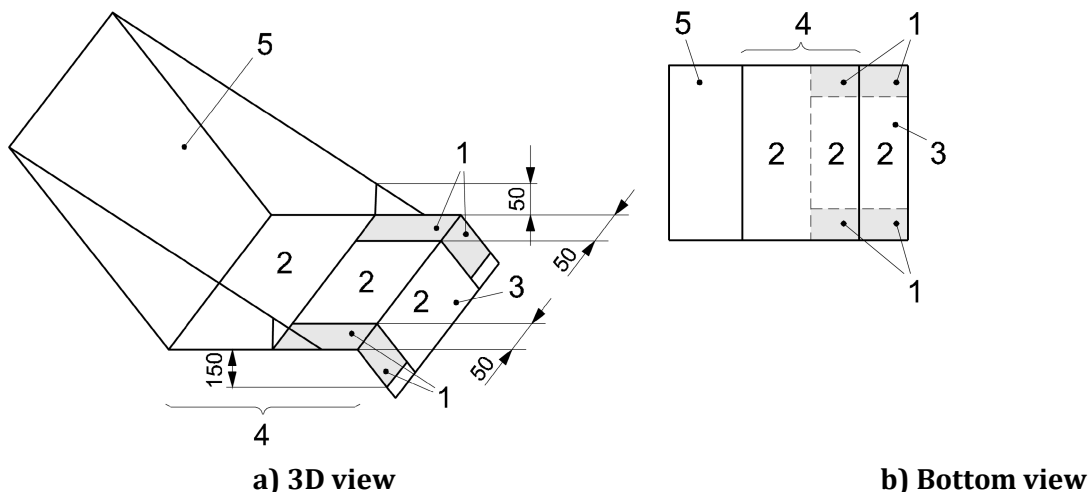
Figure 1 — Protected volume for seat

The space located behind the backrest is excluded from the *protected volume*.

Where a *CTP* is suitable for two or more children the space located behind the backrest should be considered if it enters another *protected volume*.

The space underneath the *seat* and underneath the leg rest is excluded from the *protected volume*, except for a 50 mm wide band measured from the outermost edge of the *seat*/leg rest sides where the *seat*/leg rest is not fitted with lateral protections of a height greater than 50 mm (textile or any rigid component) (see Figure 2).

Dimensions in millimetres



- Key**
- 1 space to be checked
 - 2 space not to be checked
 - 3 leg rest
 - 4 seat
 - 5 backrest

**iTeh STANDARD
PREVIEW**

Figure 2 —Effect of lateral protection on the determination of the *protected volume*

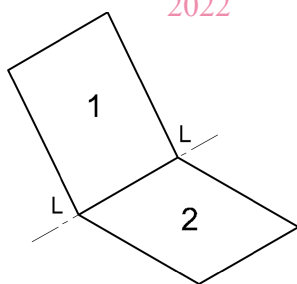
(standards.itteh.ai)

5.5 Determination of the *junction line*

The *junction line* should be determined as the intersection between the seating surface and the backrest as shown on Figure 3.

[ksist-tp FprCEN/TR 17876:2022](https://standards.ittehs.com/standards/ksist-tp-fprcen-tr-17876-2022)

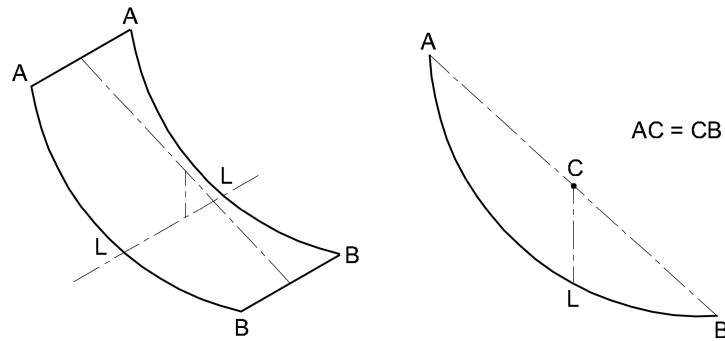
<https://standards.ittehs.com/standards/ksist-tp-fprcen-tr-17876-2022>



- Key**
- LL *junction line*
 - 1 backrest
 - 2 seat

Figure 3 — *Junction line*

When the *seat* is in the form of a hammock, then a theoretical *junction line*, “LL”, is determined as follows:

**Key**

LL junction line

LCL vertical projection of C on the hammock

Figure 4 — Junction line for seat in form of a hammock

NOTE The junction line can vary when the backrest is adjusted to different positions.

When the seat is of rigid material, then a theoretical junction line, "LL", is determined as follows:

**Key**

1 angle measuring device

2 seat

3 angle between the seating surface and the backrest

Figure 5 – Determination of junction line

Place the angle measuring device (5.3) described in Figure 11 at the centre of the seat as shown in Figure 5 and move it towards the centre line of the seat unit until both parts of the device give the smallest angle along the seat and the backrest unit. When the smallest angle is reached (seat angle measurement device shall not be oriented in a negative angle) the axis of the device corresponds to the junction line.

6 Test equipment

6.1 Test masses

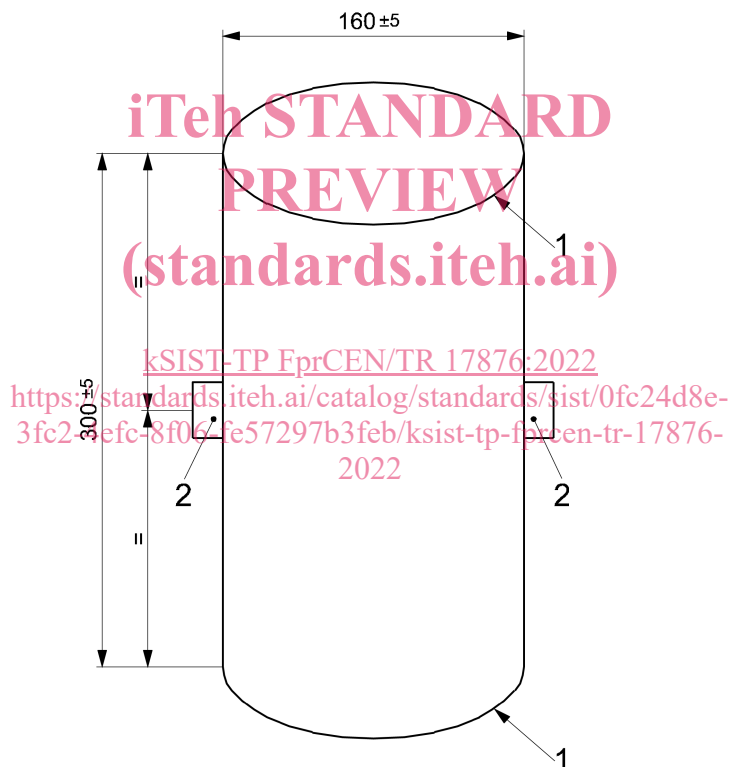
6.1.1 General

Any damage to fabric which may occur as a result of abrasion by the test masses during tests should be ignored. Damage can be minimized by using a convenient means of protection of negligible mass. Where damage is not caused by abrasion by the test masses it constitutes a structural failure.

Test masses may be fitted with additional handles for carrying purposes, as long as the centre of gravity is not changed, and mass remains within tolerances and the test procedure is not affected.

6.1.2 Test mass A

Test mass A is a rigid cylinder (160 ± 5) mm in diameter and (300 ± 5) mm in height, having a mass of ($9 + 0, 1/0$) kg and with its centre of gravity in the centre of the cylinder. All edges shall have a radius of (5 ± 1) mm. Two anchorage points shall be provided, positioned ($150 \pm 2,5$) mm from the base and at 180° to each other around the circumference as shown in Figure 6.



Key

- 1 radius: (5 ± 1) mm
- 2 two anchorage points

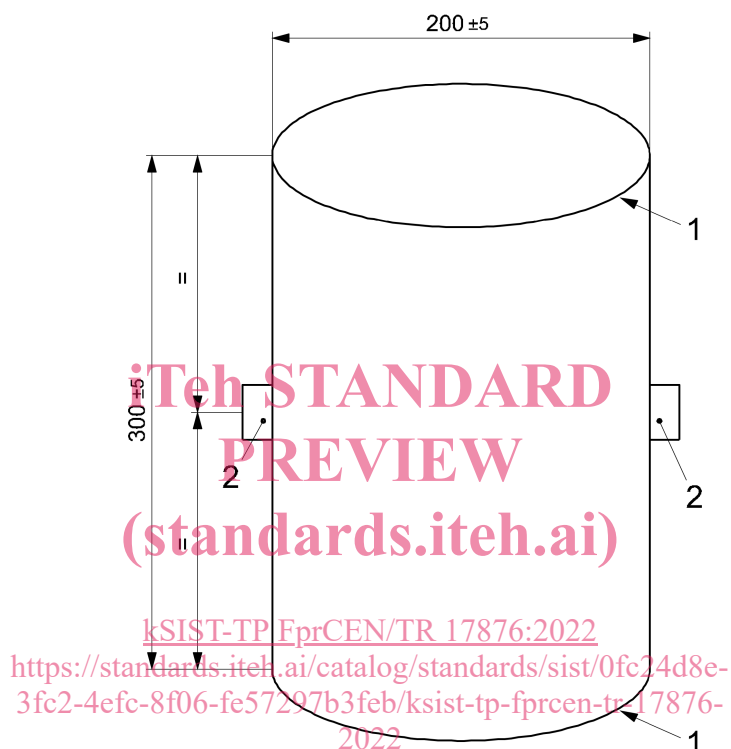
Figure 6 – Test mass A

6.1.3 Test mass *B*

Test mass *B* is a rigid cylinder (200 ± 5) mm in diameter and (300 ± 5) mm in height, having a mass of ($15 + 0, 1/0$) kg and with its centre of gravity in the centre of the cylinder. All edges should have a radius of (5 ± 1) mm. Two anchorage points should be provided, positioned ($150 \pm 2,5$) mm from the base and at 180° to each other around the circumference (see Figure 7).

The test mass may be fitted with additional handle for carrying purposes, as long as the centre of gravity is not changed, and mass remains within tolerances and the test procedure is not affected

Dimensions in millimetres



Key

- 1 radius: (5 ± 1) mm
- 2 two anchorage points

Figure 7 — Test mass *B*

6.1.4 Test mass *D*

Test mass *D* is made of a rigid material with a smooth finish and a total mass of ($9 \pm 0,1$) kg (see Figure 8).