

	<b>Výrobky pre deti a na starostlivosť o deti. Pokyny na všeobecnú bezpečnosť. Časť 3: Mechanické riziká.</b>	<b>TNI CEN/TR 13387-3</b>  94 3000
--	---	--

Child use and care articles - General safety guidelines - Mechanical hazards

Táto technická normalizačná informácia obsahuje anglickú verziu CEN/TR 13387-3:2015.  
This Technical standard information includes the English version of CEN/TR 13387-3:2015.

Táto technická normalizačná informácia bola oznámená vo Vestníku ÚNMS SR č. 09/15

**121507**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2015  
Tento dokument a ani jeho časti sa nesmú rozmnožovať a rozširovať v akejkoľvek podobe  
a akýmkoľvek prostriedkami bez písomného povolenia ÚNMS SR.

English Version

## Child use and care articles - General safety guidelines - Mechanical hazards

This Technical Report was approved by CEN on 8 December 2014. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

## Contents

Page

European foreword .....	5
<b>1 Scope .....</b>	<b>6</b>
<b>2 Mechanical hazards - Safety philosophy .....</b>	<b>6</b>
<b>3 Terms and definitions .....</b>	<b>6</b>
<b>4 Accessibility of mechanical hazards .....</b>	<b>6</b>
4.1 General.....	6
4.2 Accessibility areas .....	7
4.3 Product information.....	8
<b>5 Entrapment hazards .....</b>	<b>9</b>
5.1 Introduction .....	9
5.2 Entrapment of head and neck .....	10
5.2.1 Rationale.....	10
5.2.2 Terms and definitions related to entrapment hazards.....	11
5.3 Requirements .....	12
5.4 Test equipment .....	12
5.4.1 Probe philosophy.....	12
5.4.2 Hip probe .....	12
5.4.3 Small head probe .....	13
5.4.4 Large head probe.....	14
5.4.5 Template for partially bound and V shaped openings.....	15
5.4.6 Selection and use of probes.....	16
5.5 Test methodology .....	17
5.5.1 Feet first openings.....	17
5.5.2 Head first openings .....	17
5.5.3 Partially bound, V and irregular shaped openings.....	17
5.6 Entrapment of fingers .....	19
5.6.1 Rationale.....	19
5.6.2 Requirements .....	20
5.6.3 Test equipment .....	20
5.6.4 Test Methodology .....	21
5.7 Rationale for entrapment of limbs, feet and hands .....	21
<b>6 Hazards from moving parts .....</b>	<b>22</b>
6.1 Rationale.....	22
6.2 General.....	22
6.3 Shearing hazards .....	22
6.3.1 Requirements .....	22
6.3.2 Test equipment .....	23
6.3.3 Test method.....	23
6.4 Requirements for crushing hazards .....	23
<b>7 Hazards with products designed to fold for storage and transportation. ....</b>	<b>23</b>
7.1 Rationale.....	23
7.2 Terms and definitions related to hazards with products designed to fold.....	23
7.3 Requirements .....	24
7.3.1 General.....	24
7.3.2 Unintentional release of locking mechanisms .....	24
7.3.3 Test methodology .....	24

<b>8</b>	<b>Hazards related to attachment mechanisms and opening and closing systems .....</b>	<b>24</b>
8.1	Rationale.....	24
8.2	Requirement.....	25
8.3	Test methodology.....	25
<b>9</b>	<b>Entanglement hazards .....</b>	<b>25</b>
9.1	Snagging hazards.....	25
9.1.1	Rationale.....	25
9.1.2	Requirements.....	25
9.1.3	Test Equipment.....	25
9.1.4	Test Methodology for loop and mass.....	27
9.2	Cords, ribbons and parts used as ties .....	28
9.2.1	Rationale.....	28
9.2.2	Requirements.....	28
9.2.3	Test methodology.....	29
9.3	Loops .....	29
9.3.1	Rationale.....	29
9.3.2	Requirements.....	29
9.3.3	Test methodology.....	29
<b>10</b>	<b>Choking hazards.....</b>	<b>30</b>
10.1	Introduction.....	30
10.2	Hazard due to small components .....	30
10.2.1	Rationale.....	30
10.2.2	Requirements.....	30
10.2.3	Test equipment (also used in 11.2.3).....	31
10.2.4	Test methodology (also in 11.2.4).....	33
10.3	Accessibility of filling materials .....	34
10.3.1	Rationale.....	34
10.3.2	Requirement.....	34
10.3.3	Test equipment .....	34
10.3.4	Test methodology.....	35
10.4	Airway obstruction .....	36
10.4.1	Rationale.....	36
10.4.2	Protective mechanisms of the airway .....	38
10.4.3	Requirements.....	38
10.4.4	Test equipment .....	38
10.4.5	Test methodology.....	39
<b>11</b>	<b>Suffocation hazards .....</b>	<b>39</b>
11.1	Introduction.....	39
11.2	Plastic decals and sheeting .....	40
11.2.1	Rationale.....	40
11.2.2	Requirements.....	40
11.2.3	Determination of hazard .....	40
11.2.4	Test equipment .....	40
11.2.5	Test methodology.....	41
11.3	Non air-permeable packaging .....	41
11.3.1	Rationale.....	41
11.3.2	Requirements - Packaging .....	42
11.3.3	Test equipment .....	42
11.3.4	Test methodology.....	42
<b>12</b>	<b>Ingestion hazards .....</b>	<b>42</b>
12.1	Rationale.....	42
12.2	Ingestion of small components .....	43
12.2.1	Requirements.....	43
12.2.2	Test equipment (Also used in 11.2.3) .....	43
12.2.3	Test methodology.....	45

**CEN/TR 13387-3:2015 (E)**

<b>13</b>	<b>Hazardous edges and projections .....</b>	<b>46</b>
13.1	Introduction .....	46
13.2	Edges .....	46
13.2.1	Rationale .....	46
13.2.2	Requirements - Edges on products and components .....	46
13.2.3	Test methodology .....	47
13.3	Rigid protruding parts .....	47
13.3.1	Rationale .....	47
13.3.2	Requirements .....	47
13.3.3	Test methodology .....	47
13.4	Points and wires .....	47
13.4.1	Rationale .....	47
13.4.2	Requirement .....	47
<b>14</b>	<b>Structural integrity .....</b>	<b>47</b>
14.1	Introduction .....	47
14.2	Material suitability .....	48
14.2.1	Rationale .....	48
14.2.2	Requirements .....	48
14.3	Strength and durability of the product .....	49
14.3.1	Rationale .....	49
14.3.2	Requirements .....	49
14.3.3	Test methodology .....	49
<b>15</b>	<b>Protective function .....</b>	<b>49</b>
15.1	Introduction .....	49
15.2	Barrier function .....	49
15.2.1	Rationale .....	49
15.2.2	Requirements .....	50
15.2.3	Test equipment - Hip probe .....	50
15.2.4	Test methodology .....	51
15.3	Restraint systems .....	51
15.3.1	Rationale .....	51
15.3.2	Terms and definitions related to restraint systems .....	52
15.3.3	Requirements .....	52
15.3.4	Test equipment .....	52
15.3.5	Test methodology .....	53
15.4	Footholds .....	54
15.4.1	Rationale .....	54
15.4.2	Requirements .....	54
15.4.3	Test equipment (Templates) .....	55
15.4.4	Determination of a foothold .....	55
15.4.5	Test methodology .....	57
<b>16</b>	<b>Hazard associated with stability .....</b>	<b>59</b>
16.1	Rationale .....	59
16.2	General requirement .....	59
	<b>Bibliography .....</b>	<b>60</b>

## European foreword

This document (CEN/TR 13387-3:2015) has been prepared by Technical Committee CEN/TC 252 “Child use and care articles”, the secretariat of which is held by AFNOR.

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 CEN/TR 13387:2004.

CEN/TR 13387 comprises the following five parts:

- Part 1: Safety philosophy and safety assessment
- Part 2: Chemical hazards
- Part 3: Mechanical hazards
- Part 4: Thermal hazards
- Part 5: Product information

CEN/TR 13387-3 should be used in conjunction with CEN/TR 13387-1.

This new edition of this Technical Report is a hazard based Technical Report. In comparison with the previous version, the main changes related to the section on Mechanical hazards are:

- Ageing and wear: Reworded;
- Accessibility of mechanical hazards: Reworded;
- Entrapment Hazards: Addition of a new finger probe and a hip probe;
- Hazards from moving parts: Moving parts separated into two main areas;
- Entanglement hazards: Improvement of the diagram for the ball and chain test; clarification of the clause for “Cords, ribbons and parts used as ties”;
- Suffocation hazards: Clarification of the clause for “Non air-permeable packaging”;
- Hazardous edges and projections: Drawings deleted;
- Protective function: Addition of a hip probe;
- Footholds: Reworded.

## **1 Scope**

This Technical Report provides guidance information on mechanical hazards that should be taken into consideration when developing safety standards for child use and care articles. In addition, these guidelines can assist those with a general professional interest in child safety.

## **2 Mechanical hazards - Safety philosophy**

This clause addresses the most widely known mechanical hazards and is intended to provide guidance when drafting standards for child use and care articles.

Anthropometric data and information on the abilities of children related to risks are given in Annex A of CEN/TR 13387-1:2015. When using these data for setting requirements, adequate safety margins should be considered. These data refer to static and not dynamic anthropometric data, therefore care should be taken if using these data for anything other than static situations when drafting standards.

When drafting standards, conditions of use should be considered, bearing in mind the behaviour of children. Also, it is to be considered whether the child is attended or unattended when using the product and also the child's access to hazardous features.

For each mechanical hazard a rationale is given, explaining the potential hazard to the child. Requirements, test equipment and test methods are also given. Where appropriate, these can be used when drafting standards.

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**