

MÄNGUASJADE OHUTUS. OSA 1: MEHAANILISED JA
FÜÜSIKALISED OMADUSED

Safety of toys - Part 1: Mechanical and physical
properties

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Safety of toys - Part 1: Mechanical and physical properties

Sécurité des jouets - Partie 1: Propriétés mécaniques et physiques

Sicherheit von Spielzeug - Teil 1: Mechanische und physikalische Eigenschaften

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European foreword

This document (EN 71-1:2014+A1:2018) has been prepared by Technical Committee CEN/TC 52 “Safety of toys”, the secretariat of which is held by DS.

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of an identical text or by endorsement, at the latest by November 2018, and conflicting national standards shall be withdrawn at the latest by November 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document includes Amendments 1, 2 and 3 approved by CEN on 22 January 2018.

This document supersedes A1 EN 71-1:2014. A1

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.



This European Standard 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 2009/48/EC.

For relationship with EU Directive 2009/48/EC, see informative Annex ZA, which is an integral part of this European Standard.

This European Standard constitutes the first part of the European Standard on safety of toys.

This European Standard, *Safety of toys*, consists of the following parts:

- *Part 1: Mechanical and physical properties* [the present document];
- *Part 2: Flammability;*
- *Part 3: Migration of certain elements;*
- *Part 4: Experimental sets for chemistry and related activities;*
- *Part 5: Chemical toys (sets) other than experimental sets;*
- *Part 7: Finger paints — Requirements and test methods;*
- *Part 8: Activity toys for domestic use;*
- *Part 9: Organic chemical compounds — Requirements;*
- *Part 10: Organic chemical compounds — Sample preparation and extraction;*
- *Part 11: Organic chemical compounds — Methods of analysis;*
- *Part 12: N-Nitrosamines and N-nitrosatable substances;*
- *Part 13: Olfactory board games, cosmetic kits and gustative games;*
- *Part 14: Trampolines for domestic use.*

NOTE 1 In addition to the above parts of EN 71, the following documents have been published:  Deleted text  the CEN Technical Report CEN/TR 15071, *Safety of toys — National translations of warnings and instructions for use in EN 71*, and the CEN Technical Report CEN/TR 15371, *Safety of toys — Replies to requests for interpretation of EN 71-1, EN 71-2, and EN 71-8*.

NOTE 2 Different legal requirements may exist in non-EU countries.

The following significant editorial and technical changes have been implemented in this new edition:



Clause/Paragraph/ Table/Figure	Change
1	The scope has been expanded to include certain flying toys and toy slings and toy catapults supplied with projectiles
2	Addition of reference to EN 14682, <i>Safety of children's clothing — Cords and drawstrings on children's clothing — Specifications</i>
3	Changes to existing definitions and inclusion of new definitions
4.17	Complete revision of the requirements
4.17.2	New requirements for leading parts including suction cups
4.17.3	Introduction of the principle of using kinetic energy density in assessing projectiles with stored energy. New requirements for impact resistance. New requirements for improvised projectiles
4.17.4	New requirements for toy catapults and projectiles propelled by an elastic band. New requirement for certain projectiles without stored energy
4.26	New requirements for toys in disguise costumes
4.27	New requirements for flying toys, including requirements for rotors and propellers and certain remote controlled flying toys
5.4	Complete revision of the requirements for cords
5.4.2	This clause addresses toys for children under 18 months. Separation and clarification of requirements for cord or chains with the potential to tangle, and other cords. Addition of requirements for two cords or chains with the potential to tangle
5.4.3	This clause addresses toys for children 18 months and over. Separation and clarification of requirements for cord or chains with the potential to tangle, and other cords. Addition of requirements for two cords or chains with the potential to tangle
5.4.6	Clarification of requirements for electrical cables
5.4.9	Includes new requirements for toys intended to be attached to a cradle, cot or perambulator
5.15	Inclusion of new requirements for sledges with cords for pulling
7	Changes to the requirements for warnings
7.23	A requirement for a warning for toys intended to be attached to a cradle, cot or perambulator

8	Updates to test methods related to projectile toys, flying toys, cords and toy scooters
8.4.2.4	A new tension test for projectiles with suction cups
8.4.2.5	A new wall impact test for projectiles
8.22, 8.23, 8.27	Changes to the test methods and the test loads for toy scooters
8.40	Clarification of the methods to measure the length of cords and chains
8.41	New test method for the assessment of the tangle potential of two cords or chains
8.42	A new test for the determination of projectile range
A.58	New rational for flying toys and propellers



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, 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This European Standard aims at reducing as far as possible those hazards which are not evident to users; it does not cover inherent hazards (e.g. instability of two-wheeled scooters, sharp needles in a sewing kit, etc.) that are obvious to children or the persons in charge of them. Assuming that the toys are used in the intended manner they should not present any further hazard to children for whom they are intended (according to Directive 2009/48/EC “intended for use by” means that a parent or supervisor shall reasonably be able to assume by virtue of the functions, dimensions and characteristics of a toy that it is intended for use by children of the stated age group”). Allowance should also be made for foreseeable use, bearing in mind the behaviour of children who do not generally share the same degree of care as the average adult user.

As a general rule, toys are designed and manufactured for particular ages of children. Their characteristics are related to the age and stage of development of the children, and their use presupposes certain aptitudes.

Accidents are frequently due to a toy either being given to a child for whom it is not intended, or being used for a purpose other than that for which it was designed. Great care should therefore be taken when choosing a toy or game; account should be taken of the mental and physical development of the child who will be using it.

The requirements of this European Standard do not release parents or carers from their responsibility of watching over the child while he or she is playing.

1 Scope (see A.2)

This European Standard specifies requirements and methods of tests for mechanical and physical properties of toys.

This European Standard applies to toys for children, toys being any product or material designed or intended, whether or not exclusively, for use in play by children of less than 14 years. It refers to new toys taking into account the period of foreseeable and normal use, and that the toys are used as intended or in a foreseeable way, bearing in mind the behaviour of children.

It includes specific requirements for toys intended for children under 36 months, children under 18 months and for children who are too young to sit up unaided. According to Directive 2009/48/EC “intended for use by” means that a parent or supervisor shall reasonably be able to assume by virtue of the functions, dimensions and characteristics of a toy that it is intended for use by children of the stated age group. Therefore, for the purpose of this European Standard, e.g. *soft-filled toys* with simple features intended for holding and cuddling are considered as toys intended for children under 36 months.

NOTE Information relating to the age grading of toys and, in particular, which toys are intended for children under 36 months and which toys are not, can be found in A1 Deleted text A1 CEN/CENELEC Guide 11 and the European Commission’s Guidance Documents.

This European Standard also specifies requirements for *packaging*, marking and labelling.

This European Standard does not cover musical instruments, sports equipment or similar items but does include their toy counterparts.

This European Standard does not apply to the following toys:

- playground equipment intended for public use;
- automatic playing machines, whether coin operated or not, intended for public use;
- toy vehicles equipped with combustion engines (see A.2);
- toy steam engines;

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- toy slings and toy catapults, supplied without *projectiles*;
- *flying toys* incorporating rotor blade(s) which are capable of spinning approximately horizontally, each blade being greater than 175 mm in length, measured from the centre of rotation to the blade tip, and with an overall mass of the *flying toy* greater than 50 g.

Toy slings and toy catapults supplied with *projectiles* are covered by this standard. A1

A1 Deleted text A1

This European Standard does not cover electrical safety aspects of toys. These are covered by EN 62115.

Furthermore, it does not cover the following items which, for the purpose of this European Standard, are not considered as toys:

- a) decorative objects for festivities and celebrations;

- b) products for collectors, provided that the product or its *packaging* bears a visible and legible indication that it is intended for collectors of 14 years of age and above; examples of this category are:
 - 1) detailed and faithful scale models (see A.2);
 - 2) kits for the assembly of detailed scale models;
 - 3) folk dolls and decorative dolls and other similar articles;
 - 4) historical replicas of toys;
 - 5) reproductions of real fire arms;
- c) sports equipment including roller skates, inline skates, and skateboards intended for children with a body mass of more than 20 kg;
- d) bicycles with a *maximum saddle height* of more than 435 mm, measured as the vertical distance from the ground to the top of the seat surface, with the seat in a horizontal position and with the seat pillar set to the minimum insertion mark;
- e) *scooters* and other means of transport designed for sport or which are intended to be used for travel on public roads or public pathways;
- f) electrically driven vehicles which are intended to be used for travel on public roads, public pathways, or the pavement thereof;
- g) aquatic equipment intended to be used in deep water, and swimming learning devices for children, such as swim seats and swimming aids;
- h) puzzles with more than 500 pieces;
- i) guns and pistols using compressed gas, with the exception of water guns and water pistols;
- j) bows for archery over 120 cm long;
- k) fireworks, including percussion caps which are not specifically designed for toys;
- l) products and games using sharp-pointed missiles, such as sets of darts with metallic points;
- m) functional educational products, such as electric ovens, irons or other *functional products*, as defined in EU Directive 2009/48/EC, operated at a nominal voltage exceeding 24 V which are sold exclusively for teaching purposes under adult supervision;
- n) products intended for use for educational purposes in schools and other pedagogical contexts under the surveillance of an adult instructor, such as science equipment;
- o) electronic equipment, such as personal computers and game consoles, used to access interactive software and their associated peripherals, unless the electronic equipment or the associated peripherals are specifically designed for and targeted at children and have a play value on their own, such as specially designed personal computers, key boards, joy sticks or steering wheels;
- p) interactive software, intended for leisure and entertainment, such as computer games, and their storage media, such as CDs;
- q) babies' soothers;
- r) child-appealing luminaires;
- s) electrical transformers for toys;
- t) fashion accessories for children which are not for use in play (see A.2);

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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 71-8, *Safety of toys - Part 8: Activity toys for domestic use*

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EN 14682, *Safety of children's clothing - Cords and drawstrings on children's clothing - Specifications*

EN 15649-2:2009+A2:2013, *Floating leisure articles for use on and in the water — Part 2: Consumer information*

EN 15649-3:2009+A1:2012, *Floating leisure articles for use on and in the water — Part 3: Additional specific safety requirements and test methods for Class A devices*

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EN 50332-1, *Sound system equipment: Headphones and earphones associated with personal music players - Maximum sound pressure level measurement methodology - Part 1: General method for "one package equipment"*

EN 61672-1, *Electroacoustics - Sound level meters - Part 1: Specifications (IEC 61672-1)*

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

EN ISO 3744, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Engineering methods for an essentially free field over a reflecting plane (ISO 3744)*

EN ISO 3745, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Precision methods for anechoic rooms and hemi-anechoic rooms (ISO 3745)*

EN ISO 3746, *Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure - Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746)*

EN ISO 4287, *Geometrical product specifications (GPS) - Surface texture: Profile method - Terms, definitions and surface texture parameters (ISO 4287)*

EN ISO 6508-1, *Metallic materials - Rockwell hardness test - Part 1: Test method (ISO 6508-1)*

EN ISO 11201, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201)*

EN ISO 11202, *Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202)*

ISO 4593, *Plastics — Film and sheeting — Determination of thickness by mechanical scanning*

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

IEC/TS 60318-7, *Electroacoustics — Simulators of human head and ear — Part 7: Head and torso simulator for acoustic measurement of hearing aids*