



BSI Standards Publication

Safety of toys

Part 9: Safety aspects related to mechanical and physical properties —
Comparison of ISO 8124-1, EN 71-1 and ASTM F963

National foreword

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Technical Report

ISO/TR 8124-9

Safety of toys —

Part 9:

Safety aspects related to mechanical and physical properties — Comparison of ISO 8124-1, EN 71-1 and ASTM F963

Sécurité des jouets —

*Partie 9: Aspects de sécurité relatifs aux propriétés mécaniques
et physiques — Comparaison entre l'ISO 8124-1, l'EN 71-1 et
l'ASTM F963*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 181, *Safety of toys*.

This third edition cancels and replaces the second edition (ISO/TR 8124-9:2020), which has been technically revised. The main changes are as follows:

Clause	Change
Clause 1	Modified the standards “ISO 8124-1:2018, EN 71-1:2014+A1:2018 and ASTM F963-17” to “ISO 8124-1:2022, EN 71-1:2014+A1:2018 and ASTM F963-23”.
5.1	Modified Table 3 , “Defined terms”, update the order and numbering of the definition.
5.2	Modified 5.2.3 “Ball”, 5.2.15 “Protective cap, cover or tip” and 5.2.16 “Pull or push toy”. Added 5.2.18 “Removable component” and 5.2.20 “Tabletop, floor, or crib toy”.
6.3	Modified Table 27 , “Parameters for reasonably foreseeable abuse tests”, updated the parameters for torque test and tension test. Modified Table 28 , “impact medium specifications for the drop test”, deleted the hardness requirement in ISO 8124-1. Added 6.3 h) comparison of tension test method of ISO 8124-1, EN 71-1 and ASTM F963.
6.4	Modified 6.4.3 , updated the expanding materials requirements of ISO 8124-1.
6.5	Modified Table 36 “Small parts exemptions”, indicated that small parts exemption does not include removable components such as pen caps in ISO 8124-1.
6.12	Modified Table 55 “Plastic film thickness measurement gauge comparison”, updated the diameter of measuring surface and compression force of plastic film thickness measurement gauge in ISO 8124-1.
6.13	Modified Table 64 “Test methods and equipment used for testing of fixed loops, nooses and tangled loops”, updated the figure of head probe for cords and elastics in ASTM F963.
6.16	Modified Table 73 “Differences of the test method for stability testing”, updated the scope of stability testing in EN 71-1 and exemption of stability testing in ASTM F963. Modified Table 77 “Differences in test methods for dynamic strength test”, updated test method of dynamic strength test.
NOTE The technical changes referred to above include the significant technical changes from the revised document, but this is not an exhaustive list of all modifications from the previous version.	

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Clause	Change
6.17	Modified 6.17.2 "Ventilation", added options to ventilation requirements in ISO 8124-1 and ASTM F963.
6.19	Modified Table 86 "Differences of requirements for description and dimensions of the improvised projectiles", deleted temperature and humidity requirement for storage of improvised projectiles in ASTM F963.
6.21	Modified Table 95 "Differences in warnings for aquatic toys", updated content and location of warnings.
6.23	Modified 6.23.2 "Braking system", added the operating position of the braking systems.
6.24	Modified Table 101 "Comparison of the test to determine the maximum design speed of electrically driven ride-on toys". Added new speed limitations for electrically driven ride-on toys in ISO 8124-1.
6.25	Modified 6.29 "Percussion caps", added the warning that only use percussion caps recommended by the manufacturer in EN 71-1.
6.27	Modified Table 113 "Comparison of the acoustic requirements", added relevant toy categories in accordance with updates to reference standards. Modified Table 114 "Measurement parameter", added relevant toy types in accordance with updates to reference standards.
6.29	Added 6.38 "Functional toys".
6.30	Modified 6.39 "Toys intended to come into contact with food", added requirements for toys intended to come into contact with food in ISO 8124-1 and ASTM F963.
6.38	Added 6.40 "Inflatable toys".
6.39	Modified Table A.1 , "Index of requirements by EN 71-1".
6.40	Modified Table B.1 , "Index of requirements by ASTM F963-23".
Annex A	Modified the standards "ISO 8124-1:2018, EN 71-1:2014+A1:2018 and ASTM F963-17" to "ISO 8124-1:2022, EN 71-1:2014+A1:2018 and ASTM F963-23".
Annex B	Modified Table 3 , "Defined terms", updated the order and numbering of the definition
NOTE The technical changes referred to above include the significant technical changes from the revised document, but this is not an exhaustive list of all modifications from the previous version.	

A list of all parts in the ISO 8124 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The purpose of this document is to compare and contrast the identified versions of ASTM F963-23, EN 71-1:2014+A1:2018 and ISO 8124-1:2022. This document focuses on the contents of ASTM F963-23, EN 71-1:2014+A1:2018 and ISO 8124-1:2022 as they relate to mechanical and physical properties including scope, definitions, general requirements, warnings and test methods.

For ease of use and readability, ISO 8124-1:2022, Clause 4 is listed in [Clause 6](#). For example, ISO 8124-1:2022, 4.3 relates to [6.4](#).

This document is an overview and, therefore, does not cover the entirety of all the differences among ISO 8124-1, ASTM F963-23 and EN 71-1. In addition, this document is not intended to be relied on to fully understand conformity with ASTM F963-23, EN 71-1:2014+A1:2018 and ISO 8124-1:2022 or the requirements within them. In the case of any discrepancies in the comparisons presented, refer to the relevant clauses of the referenced standards.

The index of requirements in EN 71-1 is given in [Annex A](#).

The index of requirements in ASTM F963-23 is given in [Annex B](#).

Safety of toys —

Part 9:

Safety aspects related to mechanical and physical properties — Comparison of ISO 8124-1, EN 71-1 and ASTM F963

1 Scope

This document consists of a comparison of the mechanical and physical requirements covered by the following toy safety standards:

- a) ISO: ISO 8124-1:2022;
- b) Europe (CEN): EN 71-1:2014+A1:2018;
- c) USA: ASTM F963-23.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Comparison of scopes

The scope of applicable toy products covered in ISO 8124-1, EN 71-1 and ASTM F963 is generally similar, as shown in [Table 1](#).

Table 1 — Scope

ISO 8124-1	EN 71-1	ASTM F963
The requirements in this document apply to all toys, i.e. any product designed or clearly intended for use in play by children under 14 years of age.	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 NOTE “The words “whether or not exclusively” have been added to the definition to indicate that the product does not have to be exclusively intended for playing purposes in order for it to be considered as a toy, but it can have other functions as well. For example, a key-ring with a teddy bear attached to it is considered as a toy, or a sleeping bag in the shape of a soft filled toy”.	This specification covers requirements and contains test methods for toys intended for use by children under 14 years of age.

[Table 2](#) illustrates the differences in the product types which are exempted from the scopes of ISO 8124-1, EN 71-1 and ASTM F963.

Table 2 — Exemptions

ISO 8124-1	EN 71-1	ASTM F963
Bicycles, except for those considered to be toys, i.e. those having a maximum saddle height of 435 mm	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 (see Note 1)	Bicycles
Slingshots	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. (see Note 2) Toy slings and toy catapults supplied with projectiles are covered by this standard	Sling shots
Darts with metal points	Products and games using sharp-pointed missiles, such as sets of darts with metallic points (see Note 1)	Sharp-pointed darts
Public playground equipment	Playground equipment intended for public use (see Note 2)	Playground equipment
^a Labelling of Hazardous Art Materials Act. NOTE 1 For the purpose of EN 71-1, these product types are not considered as toys. There are guidance documents issued by CEN to assist in the classification of toys. NOTE 2 EN 71-1 does not apply to these toys.		

Table 2 (continued)

ISO 8124-1	EN 71-1	ASTM F963
Compressed air- and gas-operated guns and pistols	Guns and pistols using compressed gas, with the exception of water guns and water pistols (see Note 1)	Non-powder guns
Kites (except for the electric resistance of their strings, which is included)	—	Kites (except for electric resistance of kite strings and handheld lines over 6 ft (1,8 m) long, attached to flying devices intended for use as playthings)
Model kits, hobby and craft items, in which the finished item is not primarily of play value	—	Hobby and craft items in which the finished item is not primarily of play value Model kits in which the finished item is not primarily of play value
Sporting goods and equipment, camping goods, athletic equipment, musical instruments and furniture; however, toys which are their counterparts are included. Note It is recognized that there is often a fine distinction between, for example, a musical instrument or a sporting item and its toy counterpart. The intention of the manufacturer or distributor, as well as normal use and reasonably foreseeable abuse, determines whether the item is a toy counterpart or not.	Sports equipment including roller skates, inline skates, and skateboards intended for children with a body mass of more than 20 kg	Sporting goods, camping goods, athletic equipment, musical instruments, juvenile products, and furniture However, toys that are their counterparts are covered. (It is recognized that there is often a fine line between, for example, a musical instrument or a sporting item and its toy counterpart. The intention of the producer or distributor, as well as normal use and reasonably foreseeable abuse, determines whether the item is a toy counterpart.)
Models of aircraft, rockets, boats and land vehicles powered by combustion engines; however, toys which are their counterparts are included	Toy vehicles equipped with combustion engines (see Note 2)	Powered models of aircraft, rockets, boats, and land vehicles; however, toys that are their counterparts are covered
Collectible products not intended for children under 14 years of age	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; 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	—
Holiday decorations that are primarily intended for ornamental purposes	Decorative objects for festivities and celebrations (see Note 1)	—
Aquatic equipment intended to be used in deep water, swimming-learning devices and flotation aids for children such as swim-seats and swim-aids	Aquatic equipment intended to be used in deep water, and swimming learning devices for children, such as swim seats and swimming aids (see Note 1)	—

^a Labelling of Hazardous Art Materials Act.

NOTE 1 For the purpose of EN 71-1, these product types are not considered as toys. There are guidance documents issued by CEN to assist in the classification of toys.

NOTE 2 EN 71-1 does not apply to these toys.

Table 2 (continued)

ISO 8124-1	EN 71-1	ASTM F963
Toys installed in public places (e.g. Arcades and shopping centres)	Automatic playing machines, whether coin operated or not, intended for public use (see Note 2)	—
Puzzles for specialists, for example those with more than 500 pieces and those without a picture	Puzzles with more than 500 pieces (see Note 1)	—
Fireworks including percussion caps, except percussion caps specifically designed for toys	Fireworks, including percussion caps which are not specifically designed for toys (see Note 1)	—
Products containing heating elements intended for use under the supervision of an adult in a teaching context	Products intended for use for educational purposes in schools and other pedagogical contexts under the surveillance of an adult instructor, such as science equipment (see Note 1)	—
Steam engines	Toy steam engines (see Note 2)	—
Video toys that can be connected to a video screen and operated at a nominal voltage greater than 24 V	—	—
Babies' pacifiers (dummies)	Babies' soothers (see Note 1)	—
Faithful reproductions of firearms	Reproductions of real fire arms (see Note 1)	—
Electric ovens, irons or other functional products operated at a nominal voltage greater than 24 V	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 (see Note 1)	—
Bows for archery with an overall relaxed length exceeding 120 cm	Bows for archery over 120 cm long (see Note 1)	—
Fashion jewellery for children	Fashion accessories for children which are not for use in play (see Note 1)	—
—	Scooters and other means of transport designed for sport or which are intended to be used for travel on public roads or public pathways	Non-powered scooters (see Consumer Safety Specification F2264) Recreational powered scooters and pocket bikes (see Consumer Safety Specification F2641)
—	Electrically driven vehicles which are intended to be used for travel on public roads, public pathways, or the pavement thereof (see Note 1)	—

^a Labelling of Hazardous Art Materials Act.

NOTE 1 For the purpose of EN 71-1, these product types are not considered as toys. There are guidance documents issued by CEN to assist in the classification of toys.

NOTE 2 EN 71-1 does not apply to these toys.

Table 2 (continued)

ISO 8124-1	EN 71-1	ASTM F963
—	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 (see Note 1)	—
—	Interactive software, intended for leisure and entertainment, such as computer games, and their storage media, such as CDs (see Note 1)	—
—	Child-appealing luminaires (see Note 1)	—
—	Electrical transformers for toys (see Note 1)	—
—	—	Tricycles
—	—	Crayons, paints, chalks, and other similar art materials in which the material itself or the finished item is not primarily of play value, except that all art materials, whether or not a component of a toy, shall comply with LHAMA ^a , in accordance with 4.29.1 to 4.29.3.
—	—	Constant air inflatables
^a Labelling of Hazardous Art Materials Act. NOTE 1 For the purpose of EN 71-1, these product types are not considered as toys. There are guidance documents issued by CEN to assist in the classification of toys. NOTE 2 EN 71-1 does not apply to these toys.		

5 Comparison of terms and definitions

5.1 General

Table 3 provides the terms that are defined in ISO 8124-1, EN 71-1 and ASTM F963.

Table 3 — Defined terms

ISO 8124-1	EN 71-1	ASTM F963
3.1 accessible	3.1 accessible	3.1.2 accessible
3.2 aquatic toy	3.3 aquatic toy	3.1.4 aquatic toy
3.3 arrow	3.2 arrow	3.1.5 arrow
3.4 A-weighted equivalent sound pressure level (L_{pAeq})	3.72 time-averaged emission sound pressure level	3.1.1 A-weighted equivalent sound pressure level (L_{Aeq})
3.5 backing	3.5 backing	—
3.6 ball	3.6 ball	3.1.7 ball
3.7 battery-operated toy	—	3.1.11 battery-operated toy
3.8 burr	3.7 burr	3.1.12 burr

Table 3 (continued)

ISO 8124-1	EN 71-1	ASTM F963
3.9 chain	3.9 chain	—
3.10 close-to-the-ear toy	3.11 close-to-the-ear toy	3.1.14 close-to-the-ear toy
3.11 collapse	3.12 collapse	3.1.16 collapse
3.12 cord	3.13 cord	3.1.20 cord
3.13 cord with the potential to tangle	3.15 cord or chain with the potential to tangle	3.1.90 tangle or form a loop
3.14 crushing	3.16 crushing	3.1.22 crushing
3.15 C-weighted peak sound pressure level (L_{pCpeak})	3.50 peak emission sound pressure level	3.1.13 C-weighted peak sound pressure level (L_{Cpeak})
3.16 dart	3.17 dart	—
3.17 discharge mechanism	3.18 discharge mechanism	3.1.25 discharge mechanism
3.18 driving mechanism	3.19 driving mechanism	—
3.19 edge 3.19.1 curled edge 3.19.2 hemmed edge 3.19.3 rolled edge	3.20 edge	3.1.23 curled edge 3.1.42 hemmed edge 3.1.77 rolled edge
3.20 elastic	3.21 elastic material	3.1.27 elastic
3.21 electrical cable	3.22 electrical cable	—
3.22 expanding material	3.24 expanding material	3.1.28 expanding material
3.23 explosive action	—	3.1.29 explosive action
3.24 fastener	3.25 fastening	3.1.31 fastener
3.25 feathering	—	3.1.32 feathering
3.26 fixed loop	3.28 fixed loop	—
3.27 flash	—	3.1.33 flash
3.28 flying toy	3.29 flying toy	—
3.29 folding mechanism	—	3.1.34 folding mechanism
3.30 free flight	3.30 free flight	3.1.35 free flight
3.31 functional magnet	3.33 functional magnet in electrical or electronic components of toys	—
3.32 functional toy	3.34 functional product 3.35 functional toy	—
3.33 fuzz	3.36 fuzz	3.1.36 fuzz
3.34 glass	—	—
3.35 hand-held toy	3.37 hand-held toy	3.1.37 hand-held toy
3.36 harm	—	—
3.37 hazard	—	3.1.38 hazard
3.38 hazardous projection	—	3.1.66 projection, hazardous
3.39 hazardous sharp edge	—	3.1.26 edge, hazardous
3.40 hazardous sharp point	—	3.1.58 point, hazardous
3.41 hinge-line clearance	3.38 hinge line	3.1.43 hinge-line clearance
3.42 lap joint	3.46 overlap joint	3.1.45 lap joint
3.43 large and bulky toy	3.39 large and bulky toy	3.1.46 large and bulky toy
3.44 leading edge	3.40 leading part	3.1.48 leading edge(s)
3.45 magnetic component	3.41 magnetic component	3.1.39 hazardous magnet 3.1.40 hazardous magnetic component

Table 3 (continued)

ISO 8124-1	EN 71-1	ASTM F963
3.46 magnetic or electrical experimental set	3.42 magnetic/electrical experimental set	3.1.49 magnetic/electrical experimental set
3.47 marble	marble is covered by the definition of "balls" in EN 71-1	3.1.50 marble
3.48 maximum A-weighted sound pressure level (L_{AFmax})	3.43 maximum emission sound pressure level	3.1.52 maximum A-weighted sound pressure level (L_{AFmax})
3.49 noose	3.45 noose	—
3.50 normal use	—	3.1.54 normal use
3.51 packaging	3.47 packaging	3.1.56 packaging
3.52 paper	3.48 paper	A5.2.6 paper (applied to flammability requirement)
3.53 paperboard	3.49 paperboard	—
3.54 play furniture	—	—
3.55 pompom	—	3.1.59 pompom
3.56 projectile	3.53 projectile	3.1.63 projectile
3.57 projectile toy with stored energy	3.54 projectile toy with stored energy	3.1.64 projectile toy with stored energy
3.58 projectile toy without stored energy	3.55 projectile toy without stored energy	3.1.65 projectile toy without stored energy
3.59 protective cap, cover or tip	—	3.1.67 protective cap or cover 3.1.68 protective tip
3.60 pull or push toy	3.56 pull-along or push toy	3.1.69 push or pull toy
3.61 rattle	3.57 rattle	3.1.70 rattle
3.62 reasonably foreseeable abuse	—	3.1.71 reasonably foreseeable abuse
3.63 reference box	—	3.1.72 reference box
3.64 remote-controlled flying toy	3.59 remote controlled flying toy	—
3.65 removable component	3.58 removable component	3.1.73 removable component
3.66 resilient material	—	—
3.67 ribbon	3.60 ribbon	—
3.68 rigidity	—	3.1.75 rigid
3.69 risk	—	—
3.70 simulated protective equipment	—	3.1.81 simulated protective equipment
3.71 soft-filled toy, stuffed toy	3.61 soft-filled toy	3.1.82 soft-filled toy/stuffed toy
3.72 splinter	3.62 splinter	3.1.83 splinter
3.73 spring 3.73.1 helical spring 3.73.1.1 compression helical spring 3.73.1.2 extension helical spring 3.73.2 spiral spring	3.63 spring 3.63.1 helical spring 3.63.2 compression spring 3.63.3 extension spring 3.63.4 spiral spring	3.1.41 helical spring 3.1.18 compression spring 3.1.30 extension spring 3.1.84 spiral spring
3.74 squeeze toy	3.64 squeeze toy	3.1.85 squeeze toy
3.75 steady-state sound	—	3.1.86 steady-state sound (noise)
3.76 strap	3.65 strap	3.1.87 strap
3.77 floor, tabletop and crib toy	3.68 table-top or floor toy	3.1.89 tabletop, floor, or crib toy
3.78 tangled loop	3.69 tangled loop	—
3.79 tape	3.70 tape	—
3.80 teether	3.71 teether	3.1.91 teether

Table 3 (continued)

ISO 8124-1	EN 71-1	ASTM F963
3.81 tool	3.73 tool	3.1.17 common household tool
3.82 toy	—	3.1.92 toy
3.83 toy bag	3.74 toy bag	—
3.84 toy bicycle	3.75 toy bicycle	—
3.85 toy chest	—	3.1.93 toy chest
3.86 toy scooter	3.77 toy scooter	—
3.87 yo-yo ball	3.81 yo-yo ball	3.1.95 yo yo elastic tether toy
—	3.4 asphyxiation	—
—	3.8 cap-firing toy	—
—	3.10 choking	—
—	3.14 crack	—
—	3.23 emission sound pressure level	—
—	3.26 filling	—
—	3.27 fixed drive	—
—	3.31 free-wheeling mechanism	—
—	3.32 functional edge or point	—
—	3.44 maximum saddle height	—
—	3.51 percussion toy	—
—	3.52 plastic sheeting	—
—	3.66 suction cup	—
—	3.67 suffocation	—
—	3.76 toy catapult with projectiles	—
—	3.78 toy sling with projectiles	—
—	3.79 voice toy	—
—	3.80 wind toy	—
—	—	3.1.19 constant air inflatables
—	—	3.1.47 latex balloon
—	—	3.1.57 pinching
—	—	3.1.62 principal display panel
—	—	3.1.74 resilient leading edge
—	—	3.1.76 rigid leading edge
—	—	3.1.94 toy seat

5.2 Analysis of the main differences between the terms and definitions

5.2.1 Aquatic toy

EN 71-1 does not specifically exclude bathroom toys and beach balls as shown in [Table 4](#).

Table 4 — Aquatic toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.2 aquatic toy product, whether inflatable or not, intended to bear the mass of a child and used as an instrument of play in shallow water Note 1 to entry: Bathroom toys and beach balls are not considered aquatic toys	3.3 aquatic toy toy, whether inflatable or not, intended for use in shallow water and which is capable of carrying or supporting a child on the water	3.1.4 aquatic toy an article, whether inflatable or not, intended to bear the mass of a child and used as an instrument of play in shallow water. This does not include bath toys, beach balls, and United States Coast Guard-approved life saving devices

5.2.2 Asphyxiation and choking

EN 71-1 defines asphyxiation and choking. ISO 8124-1 does not provide definitions although these terms are mentioned in ISO 8124-1:2022, Annex E.

5.2.3 Ball

The definition of ball in ASTM F963 is somewhat narrower than the definitions in EN 71-1 and ISO 8124-1 because it requires meeting parameters for both shape and function. See [Table 5](#).

Table 5 — Ball definitions

ISO 8124-1	EN 71-1	ASTM F963
3.6 ball spherical, ovoid or ellipsoidal object, usually but not always designed or intended to be thrown, hit, kicked, rolled, dropped or bounced Note 1 to entry: This definition includes balls attached to a toy or article by a string, elastic cord or similar tether and also any multi-sided object formed by connecting planes into, and any novelty item of, a generally spherical, ovoid or ellipsoidal shape designed or intended to be used as a ball. Note 2 to entry: This definition does not include dice, or balls permanently enclosed inside pinball machines, mazes or similar outer containers. A ball is permanently enclosed if, when tested according to 5.24, it is not removed from the outer container.	3.6 ball spherical, ovoid or ellipsoidal object, usually but not always designed or intended to be thrown, hit, kicked, rolled, dropped or bounced Note 1 to entry: The term ball also includes any multisided object formed by at least 48 connecting planes into a generally spherical, ovoid or ellipsoidal shape.	3.1.7 ball any spherical, ovoid, or ellipsoidal object that is designed or intended to be thrown, hit, kicked, rolled, dropped, or bounced. The term “ball” includes any spherical, ovoid, or ellipsoidal object that is attached to a toy or article by means of string, elastic cord, or similar tether. The term “ball” also includes any multisided object formed by connecting planes into a generally spherical ovoid, or ellipsoidal shape that is designated or intended to be used as a ball. The term “ball” does not include dice, or balls permanently enclosed inside pinball machines, mazes, or similar outer containers. A ball is permanently enclosed if, when tested in accordance with 16 CFR 1500.53^[1], it is not removed from the outer container

5.2.4 Close-to-the-ear toy

In [Table 6](#), EN 71-1 defines a close-to-the-ear toy as one that is intended to be used within 2,5 cm of the ear.

Table 6 — Close-to-the-ear toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.10 close-to-the-ear toy toy that is intended to be used close to the ear, i.e. the sound-emitting part of such a toy is normally put against the ear of a child EXAMPLE Toy cellphones or toy telephones that emit sounds from the handpiece	3.11 close-to-the-ear toy toy clearly designed to emit sound, intended to be used within 2,5 cm of the ear Note 1 to entry: Examples of close-to-the-ear toys are toy telephones and toy rifles with a loudspeaker in the stock	3.1.14 close-to-the-ear toy a toy that is intended to be used close to the ear, that is, the sound-emitting part of such a toy is normally put against the ear of a child (example—toy telephones that emit sounds from the earpiece) 3.1.14.1 Discussion—While these toys may be held in the hand(s), they are distinguished from “hand-held” toys, as defined in 3.1.37, by their typical use distance.

5.2.5 Cord

ISO 8124-1 and EN 71-1 define cord as flexible textile or non-textile material. in ISO 8124-1 and EN 71-1 also clarify that electrical cables used for connecting a toy to a supply of electricity or to a piece of electronic equipment which is not itself a toy or part of a toy are not considered to be cords, while accessible electric wires (e.g. between a battery box and a sound source in a soft filled toy) which are not electrical cables are, however considered to be cords. ASTM F963 does not include “chain” and “certain weak and long springs” in the definition of cord. See [Table 7](#).

Table 7 — Cord definitions

ISO 8124-1	EN 71-1	ASTM F963
3.12 cord narrow piece of flexible textile or non-textile material, the length of which is significantly greater than the thickness and width EXAMPLE Elastic material, monofilament polymeric material, tape, ribbon, rope, straps, chains, woven and twisted material and string, as well as certain weak and long springs Note 1 to entry: Electrical cables are not considered to be cords. Accessible electrical wires (e.g. between a battery box and a sound source in a soft-filled toy) which are not electrical cables are, however, considered to be cords	3.13 cord narrow piece of flexible textile or non-textile material of which the length is significantly greater than its thickness and width EXAMPLE examples of cords include elastic material, monofilament polymeric material, tape, ribbon, rope, strap, woven and twisted material and string as well as certain weak and long springs Note 1 to entry: Electrical cables are not considered to be cords. Accessible electrical wires (e.g. between a battery box and a sound source in a soft filled toy) which are not electrical cables are however considered to be cords	3.1.20 cord a length of slender, flexible material including monofilaments, woven and twisted cord, rope, plastic textile tapes, ribbon, and those fibrous materials commonly called string

5.2.6 Elastic

ISO 8124-1 and EN 71-1 do not specify the conditions for recovery from elongation. See [Table 8](#).

Table 8 — Elastic definitions

ISO 8124-1	EN 71-1	ASTM F963
3.20 elastic material or item that is stretchable when subjected to an external force and which is able to recover or nearly recover its original length or shape when the force is removed	3.21 elastic material material or item that is stretchable when subjected to an external force and which is able to recover or nearly recover its original length or shape when the force is removed	3.1.27 elastic material that will recover its former size and shape essentially and instantaneously after being elongated at least 10 % at a testing speed of not less than 20 in (510 mm)/min

5.2.7 Hand-held toy

The definition in EN 71-1 includes exemptions for toys with certain hand-held features, such as close-to-the-ear toys, rattles, squeeze toys, cap-firing toys, wind toys, voice toys and percussion toys. ISO 8124-1 and ASTM F963 include cap-firing toys. See [Table 9](#).

Table 9 — Hand-held toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.35 hand-held toy toy that is intended to be used or operated while being held in the hand EXAMPLE Toy tools, small electronic games, stuffed animals, dolls, musical toys and cap-firing toys	3.37 hand-held toy toy clearly designed to emit sound, intended to be held in the hand but excluding close-to-the-ear toys, rattles, squeeze toys, cap-firing toys, wind toys, voice toys and percussion toys NOTE 1 to entry: Examples of hand-held toys are clicking toys, toy tools, and toys guns	3.1.37 hand-held toy a toy that is intended to be used or operated while being held in the hand. Examples include toy tools, small electronic games, stuffed animals, dolls, musical toys, and cap-firing toys. 3.1.37.1 Discussion—This definition does not include close-to-the-ear toys, as defined in 3.1.14.
NOTE The definition in ISO 8124-1 and ASTM F963 is exclusively applied to acoustic requirements on toys designed to emit sound.		

5.2.8 Hazard

ISO 8124-1 provides examples of hazards. See [Table 10](#).

Table 10 — Hazard definitions

ISO 8124-1	EN 71-1	ASTM F963
3.37 hazard potential source of harm Note 1 to entry: The term hazard can be qualified in order to define its origin or the nature of the expected harm (i.e. electric shock hazard, crushing hazard, cutting hazard, toxic hazard, fire hazard or drowning hazard)	— NOTE 1 It is stated in clause 7.2 of EN 71-1 defines the hazard as a potential source of harm.	3.1.38 hazard any characteristic of a toy that presents an unreasonable risk of injury or illness during normal use or as a result of reasonably foreseeable abuse

5.2.9 Large and bulky toy

The definition of large and bulky toy in ASTM F963 does not include any consideration of the toy's mass (4,5 kg or more), while mass is one of the factors that can define a toy as large and bulky in ISO 8124-1 and EN 71-1. See [Table 11](#).

Table 11 — Large and bulky toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.43 large and bulky toy toy that has a projected base area of more than 0,26 m² or a volume of more than 0,08 m³ calculated without regard to minor appendages, or a mass of 4,5 kg or more Note 1 to entry: The base area for toys having permanently attached legs is measured by calculating the area enclosed by straight lines connecting the outermost edge of each leg of the perimeter	3.39 large and bulky toy toy that has a projected base area of more than 0,26 m² or a volume of more than 0,08 m³ calculated without regard to minor appendages, or a mass of 4,5 kg or more Note 1 to entry: The base area of a toy having permanently attached legs is the area enclosed by straight lines connecting the outermost edge of each leg of the perimeter	3.1.46 large and bulky toy toy that has a projected base area of more than 400 in² (0,26 m²) or a volume of more than 3ft³ (0,08 m³) calculated without regard to minor appendages NOTE 2 The base area for toys having permanently attached legs is measured by calculating the area enclosed by straight lines connecting the outermost edge of each leg of the perimeter
NOTE In ASTM F963, consideration of toy mass is made during the application of the drop test		

5.2.10 Marble

Marble is defined in ASTM F963 and ISO 8124-1. EN 71-1 does not define marble; however, marble is covered by EN 71-1's definition of ball. See [Table 12](#).

Table 12 — Marble definitions

ISO 8124-1	EN 71-1	ASTM F963
3.47 marble sphere made of hard material, such as glass, agate, marble or plastic, which is used in various children's games, generally as a playing piece or marker. Note 1 to entry: This definition does not include marbles permanently enclosed inside pinball machines, mazes or similar outer container. A marble is permanently enclosed if, when tested according to 5.24, it is not removed from the outer container.	—	3.1.50 marble a sphere made of a hard material, such as glass, agate, marble, or plastic, that is used in various children's games, generally as a playing piece or marker. The term "marble" does not include a marble permanently enclosed in a toy or game. A marble is permanently enclosed if, when tested in accordance with 16 CFR 1500.53[11], it is not removed from the toy or game

5.2.11 Paper

In ISO 8124-1 and EN 71-1, paper is defined as sheet formed by irregularly intervened cellulose fibres with a mass per unit area of 400 g/m² or less. ASTM F963-23, Annex 5 has a definition for paper, but no numerical parameters are included. Paper is also described in several clauses of ASTM F963. See [Table 13](#).

Table 13 — Paper definitions

ISO 8124-1	EN 71-1	ASTM F963
3.52 paper sheet formed by irregularly intervened cellulose fibres with a mass per unit area of 400 g/m² or less Note 1 to entry: If paper with polymeric lamination, or other treatments which can be resistant to wetting, no longer presents the same properties as paper, then it is not treated as such	3.48 paper sheet formed by irregularly intervened cellulose fibres with a mass per unit area of 400 g/m² or less A.26 in the EN 71-1: It should be noted that some paper and paperboard components have polymeric lamination, thick coatings like varnish, or other treatments which may mean they are more resistant to wetting with an increased potential choking hazard as a result	A5.2.6 paper a thin, flat, single layer of material produced by the compression of fibers. The fibers are usually composed of cellulose. Examples of paper products are traditional playing cards, newspaper, magazines, and construction paper. Examples of products that are not paper are cardboard, and paperboard (multiple layers of paper bonded together)

5.2.12 Pompom

In ISO 8124-1, the definition of pompom includes substantially spherical, ovoid or ellipsoidal shapes, while ASTM F963 only references a spherical shape. ISO 8124-1 notes that tassels with long strands are not considered pompoms and provides images for reference. EN 71-1 does not include a definition for pompoms. See [Table 14](#).

Table 14 — Pompom definitions

ISO 8124-1	ASTM F963
3.55 pompom lengths or strands of fibre, yarn or thread clamped or secured and tied in the centre, and brushed up to form a substantially spherical, ovoid or ellipsoidal shape as well as substantially spherical-, ovoid- and ellipsoidal-shaped attachments made of stuffed materials Note 1 to entry: See Figure 7 for examples of pompoms Note 2 to entry: Tassels with long strands are not considered pompoms (see Figure 8)	3.1.59 pompom lengths or strands of fiber, yarns, or threads clamped or secured and tied in the center, and brushed up to form a spherical shape. Also included are spherical shaped attachments made of stuffed material

5.2.13 Projectile

The definition of projectile in ISO 8124-1 and ASTM F963 states that a projectile does not include self-propelled flying toys. See [Table 15](#).

Table 15 — Projectile definitions

ISO 8124-1	EN 71-1	ASTM F963
3.56 projectile object without capacity for self-propulsion, intended to be launched into free flight Note 1 to entry: The definition does not include self-propelled flying toys such as remote-controlled helicopters and wind-up airplanes unless the capacity for self-propulsion is from self-contained compressed gas and/or liquid (e.g. rockets)	3.53 projectile object intended to be launched, thrown or released into free flight or trajectory in the air Note 1 to entry: This includes objects where the travel is ultimately constrained by means of a tether (e.g. pop-gun)	3.1.63 projectile an object intended to be launched into a free flight 3.1.63.1 Discussion This does not include self-propelled flying toys such as remote control helicopters and wind-up airplanes. (See Rationale for additional explanation)

5.2.14 Projectile toy with stored energy

Compared to EN 71-1, the definition of projectile toy with stored energy in ISO 8124-1 and ASTM F963 provides additional detail regarding the discharge mechanism. See [Table 16](#).

Table 16 — Projectile toy with stored energy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.57 projectile toy with stored energy toy with a projectile launched by means of a discharge mechanism capable of storing energy independent of the user and incorporating a release mechanism Note 1 to entry: Release mechanisms should operate following at least one single discrete activation by the user. Note 2 to entry: Toy rockets and similar toys propelled by a chemical reaction or compressed gases (e.g. air) where the energy can be stored independent of the user are considered as projectile toys with stored energy. For example, in a rocket propelled by a mixture of vinegar and baking soda, the user initiates the reaction by mixing the two substances but no longer has control of the actual launching. The rocket will launch when the pressure build up overcomes the force that holds the rocket onto the launch platform	3.54 projectile toy with stored energy toy with a projectile launched by means of a discharge mechanism capable of storing energy independent of the user and incorporating a release mechanism	3.1.64 projectile toy with stored energy toy with a projectile launched by means of a discharge mechanism capable of storing energy independent of the user and typically requiring at least one discrete action by the user to launch the projectile 3.1.64.1 Discussion This includes toy rockets and similar toys propelled by a chemical reaction or compressed gasses (for example, air) where the energy can be stored independent of the user. For example, in a rocket propelled by a mixture of vinegar and baking soda, the user initiates the reaction by mixing the two substances but no longer has control of the actual launching. The rocket will launch when the pressure build up overcomes the force that holds the rocket onto the launch platform

5.2.15 Protective cap, cover or tip

ASTM F963 provides definitions for the terms protective cap or cover (see ASTM F963-23, 3.1.67) and protective tip (see ASTM F963-23, 3.1.68). ISO 8124-1 combines them into one definition, listed as a protective cap, cover or tip. EN 71-1 does not specifically define these terms but uses the phrase “protective components”. See [Table 17](#).

Table 17 — Protective cap, cover or tip definitions

ISO 8124-1	EN 71-1	ASTM F963
3.59 protective cap, cover or tip component that is attached to a potentially hazardous edge or projection to reduce the risk of injury	—	3.1.67 protective cap or cover a component that is attached to a potentially hazardous edge or projection to reduce the possibility of injury 3.1.68 protective tip a component that is attached to the impacting end of a projectile to minimize injury if it should impact on the body, and also to prevent damage to the projectile upon striking a target, provide a means of attaching the projectile to the target as in the case of suction cups, or prevent damage to inanimate objects

5.2.16 Pull or push toy

In EN 71-1, pull-along or push toy is defined as a toy on which movement is imparted by the user, for example, by pulling it by a cord or pushing it by means of a rigid extension, while in ISO 8124-1 and ASTM F963, push or pull toy is defined as a toy with a cord, tether or handle attached to the toy and where the toy is intended for use on the floor or ground with the child in a standing or upright position, typically walking,

while pushing or pulling the toy. The definition of push or pull toy in ISO 8124-1 and ASTM F963 provides more details than EN 71-1.

In addition, ISO 8124-1 clarifies that toys intended for children aged 36 months and over are not regarded as pull or push toys. See [Table 18](#).

Table 18 — Pull or push toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.60 pull or push toy toy with a cord, tether or handle attached to the toy and where the toy is intended for use on the floor or ground with the child in a standing or upright position, typically walking, while pushing or pulling the toy Note 1 to entry: Toys intended for children aged 36 months and over are not regarded as pull or push toys	3.56 pull-along or push toy toy on which movement is imparted by the user for example by pulling it by a cord or pushing it by means of a rigid extension	3.1.69 push or pull toy a toy with a cord, tether, or handle attached to the toy and where the toy is intended for use on the floor or ground with the child in a standing/upright position, typically walking, while pushing or pulling the toy

5.2.17 Rattle

There is a difference in the applicable age range for rattles across in ISO 8124-1, EN 71-1 and ASTM F963.

ASTM F963 is applicable for toys intended for children under 18 months, while ISO 8124-1 and EN 71-1 are applicable for toys intended for “children who are too young to sit up unaided” with the clarification, in the annexes of ISO 8124-1 and EN 71-1 that children normally start to sit up unaided between five and ten months of age. See [Table 19](#).

Table 19 — Rattle definitions

ISO 8124-1	EN 71-1	ASTM F963
3.61 rattle toy that is clearly designed to emit sound when shaken, typically intended for children who are too young to sit up unaided	3.57 rattle toy, intended for children who are too young to sit up unaided, that is clearly designed to emit sound when shaken or activated by the child or another person	3.1.70 rattle a toy that is clearly designed to emit sound when shaken and typically intended for children under 18 months

5.2.18 Removable component

The definitions in ISO 8124-1 and EN 71-1 are similar, while ASTM F963 includes not only components intended to be removed but also those that are likely to be removed by a child during normal use. See [Table 20](#).

Table 20 — Removable component definitions

ISO 8124-1	EN 71-1	ASTM F963
3.65 removable component part or component that is intended to be removed from the toy without the use of tools	3.58 removable component part or component which is intended to be removed from the toy without the use of tool	3.1.73 removable component a component of a toy which is intended or likely to be removed by the child during normal use

5.2.19 Squeeze toy

There is a difference in the applicable age range for squeeze toys across ISO 8124-1, EN 71-1 and ASTM F963, as shown in [Table 21](#). ASTM F963 and ISO 8124-1 are applicable for toys intended for children under 18 months, while EN 71-1 is applicable for toys intended for “children who are too young to sit up unaided”.

The definition in EN 71-1 does not discuss the ability of the toy to recover its original shape when released. See [Table 21](#).

Table 21 — Squeeze toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.74 squeeze toy hand-held pliable toy, usually incorporating a noise-making feature activated by forcing air through an opening when flexed or squeezed and which usually recovers its original shape when released	3.64 squeeze toy pliable toy, intended for children who are too young to sit up unaided, incorporating a sound-making feature activated by forcing air through an opening, clearly designed to emit sound when flexed or squeezed by the child or another person	3.1.85 squeeze toy a handheld pliable toy, intended for children under the age of 18 months, usually incorporating a noise-making feature activated by forcing air through an opening when flexed or squeezed, and which recovers to its original shape when released
NOTE ISO 8124-1:2022, 4.5.1.2 only applies to squeeze toys intended for children under 18 months.		

5.2.20 Tabletop, floor, or crib toy

Compared to ISO 8124-1 and EN 71-1, ASTM F963 provides the state of children while the tabletop, floor or crib toys are used by children. ASTM F963 points that the tabletop, floor or crib toy can remain stationary, be self-propelled, be user-propelled or any combination of these modes. See [Table 22](#).

Table 22 — Tabletop, floor, or crib toy definitions

ISO 8124-1	EN 71-1	ASTM F963
3.77 floor, tabletop and crib toy toy intended to be played with while it is attached to or resting on a floor, tabletop or crib	3.68 table-top or floor toy toy clearly designed to emit sound, intended to be used on a table, floor or another large surface Note 1 to entry: Examples of table-top or floor toys are toy cars, mechanical animals, and large and bulky toys.	3.1.89 tabletop, floor, or crib toy toys intended to be used atop a table, on the floor or ground, or on or attached to a crib; the child can be sitting or standing at the table; sitting, kneeling, or lying on the floor or ground; or sitting, lying, or standing in a crib while the toy is in use. 3.1.89.1 Discussion—These toys can remain stationary, be self-propelled, be user-propelled, or any combination of these modes. Examples of tabletop, floor, or crib toys include, but are not limited to, toy vehicles, stacking toys, games, large and bulky toys, and activity toys that attach to crib rails. This definition does not include push or pull toys, as defined in 3.1.69.

5.2.21 Toy scooter

In EN 71-1, a toy scooter is defined as a ride-on toy that is not intended for sport or to be used for travel on public roads or public pathways.

EN 71-1 only covers products powered by muscular action while ISO 8124-1 allows for power by other means. See [Table 23](#).

Table 23 — Toy scooter definitions

ISO 8124-1	EN 71-1	ASTM F963
3.86 toy scooter ride-on toy which is propelled by the muscular action of the user or other means and can be foldable or not, intended for children with a body mass of 50 kg or less and comprising at least one platform for standing, at least two wheels, and a steering system equipped with an adjustable or fixed-length steering tube	3.77 toy scooter ride-on toy, not intended for sport or to be used for travel on public roads or public pathways, which is propelled by the muscular action of the user and may be foldable or not, intended for children with a body mass of 50 kg or less: comprising at least one platform for standing, at least two wheels, and a steering system equipped with an adjustable or fixed-length steering tube	—

6 Comparison of requirements

6.1 General

This clause provides a comparison of the safety requirements in ISO 8124-1, EN 71-1 and ASTM F963. The structure of the comparison is based on the safety requirement clauses of ISO 8124-1 (e.g. 4.1), with each subclause (starting from 6.2) focusing on the main differences between ISO 8124-1, EN 71-1 and ASTM F963 for the corresponding requirement. Additionally, comparisons related to warnings and test methods are integrated into the relevant safety requirement subclauses.

6.2 Normal use

The clauses and subclauses for normal use requirements in ISO 8124-1, EN 71-1 and ASTM F963 are indicated in [Table 24](#).

Table 24 — Normal use clauses

ISO 8124-1	EN 71-1	ASTM F963
4.1.1 Normal use (see E.2)	1 scope	8.5 Normal use testing
5.23 Washable toys	A.26 General requirements for toys intended for children under 36 months (see 5.1)	8.5.1 Washable toys 8.5.1.1 Conditions for machine washing and tumble drying

The normal use testing in ASTM F963 provides more details than the testing specified in ISO 8124-1 and EN 71-1. Different requirements for normal use are shown in [Table 25](#).

Table 25 — Requirements for normal use

ISO 8124-1	EN 71-1	ASTM F963
All toys shall be tested in accordance with the relevant tests in 5.1 to 5.22 in order to ensure that risks as a result of normal wear and/or deterioration are minimized. Toys labelled as washable shall be subjected to washing in accordance with 5.23. After testing, the toy shall continue to conform to the relevant requirements of Clause 4.	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	Normal use testing. These tests are intended to simulate normal use conditions so as to ensure that hazards are not generated through normal wear and deterioration. The object of these tests shall be to simulate the normal play mode of the toy, and the tests are therefore unrelated to the reasonably foreseeable abuse tests of 8.6 – 8.13. The tests are intended to uncover hazards rather than to demonstrate the reliability of the toy. The fact that a mechanism or material of a toy fails during testing is relevant only if the failure creates a potential hazard. Toys shall be subject to appropriate tests to simulate the expected mode of use of the particular toy. For example, levers, wheels, catches, triggers, strings, wires, chains, and so on, that are intended to be actuated by a child shall be operated repeatedly. Spring or power-operated devices shall be tested similarly. The tests shall be conducted in an expected use environment. For example, toys intended for use in the bathtub shall be tested in soapy water, and toys intended for use in the sandbox shall be exposed to sand during testing. It is recognized that no specific requirements are defined here; it would not be possible in view of the wide range of toys covered by this specification. However, the manufacturer or distributor shall do enough testing to satisfy himself that normal use during the estimated lifetime of the toy is being simulated. The toy shall be inspected after such tests, and hazards such as points, sharp edges, and release of small parts shall be evaluated in accordance with the relevant requirements listed in Section 4

6.3 Reasonably foreseeable abuse

The subclauses for reasonably foreseeable abuse in ISO 8124-1, EN 71-1 and ASTM F963 are indicated in [Table 26](#).

Table 26 — Reasonably foreseeable abuse clauses

ISO 8124-1	EN 71-1	ASTM F963
4.2 Reasonably foreseeable abuse (see E.3) 5.24 Reasonably foreseeable abuse tests	—	8.6 Abuse testing
5.24.2 Drop test	8.5 Drop test (see 4.5, 4.6, 4.10.2, 4.14.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12 and 5.13)	8.7.1 Drop test
—	—	8.7.3 Tumble test for wheeled toys
5.14 Impact test for toys that cover the face	4.14.2 b) 8.7 Impact test (see 4.14.2)	8.7.4 Impact test for toys that cover the face
5.24.3 Tip-over test for large and bulky toys (see E.3)	8.6 Tip over test (see 4.10.2, 4.22, 4.23.2, 5.1, 5.10, 5.12 and 5.13)	8.7.2 Tipover test for large, bulky toys
5.33 Impact test for magnets	8.7 Impact test (see 4.5, 4.6, 4.10.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12, 5.13 and A.38)	8.25.4.6 Impact test (for magnet toy)

Table 26 (continued)

ISO 8124-1	EN 71-1	ASTM F963
5.24.4 Dynamic strength test for wheeled ride-on toys other than toy scooters	8.22 Dynamic strength (see 4.15.1.3)	8.21 Dynamic strength test for wheeled ride-on toys
5.24.5 Torque test	8.3 Torque test (see 4.6, 4.11, 4.14.2, 4.17, 4.18, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12, 5.13 and Clause 6)	8.8 Torque tests for removal of components
5.24.6 Tension test	8.4 Tension test (see A.37)	8.9 Tension test for removal of components
5.24.6.1 General procedure	8.4.2.1 General (see 4.6, 4.11, 4.14.2, 4.17, 4.18, 4.22, 4.23, 4.25, 5.1, 5.3, 5.10, 5.12, 5.13 and Clause 6)	—
5.24.6.2 Tension test for seams in soft-filled (stuffed) toys, beanbag-type toys, and other similar filled toys	8.4.2.2 Seams and materials (see 4.23.2 and 5.2)	8.9.1 Tension test for seams in stuffed toys and beanbag-type toys
5.24.6.3 Tension test for pom-poms	—	—
5.24.6.4 Tension test for protective components	8.4.2.3 Protective components (see 4.9 and 4.17.1)	—
5.24.6.5 Tension test for a projectile with a suction cup	8.4.2.4 Tension test for a projectile with a suction cup	8.9.2 Tension test for suction cups on projectiles
5.15.2 Wall impact test for projectiles	8.4.2.5 Wall impact test for projectiles (see A.22)	—
5.24.6.6 Perpendicular tension test for rotor blades	8.4.2.6 Perpendicular tension test for rotors and propellers	—
5.24.6.7 Tension test for rotor blades	8.4.2.7 Tension test for rotors and propellers	—
5.24.7 Compression test	8.8 Compression test (see 4.6, 4.14.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12, 5.13 and A.39)	8.10 Compression test 8.25.4.7 Compression test (for magnet toy)
5.24.8 Flexure test	8.13 Flexibility of metallic wires (see 4.8 and A.41)	8.12 Flexure test
5.20 Durability of mouth-actuated toys	8.17 Durability of mouth-actuated toys (see 4.11 and A.44)	8.13 Test methods for mouth-actuated toys and mouth-actuated projectile toys
5.34 Soaking test for magnets	8.9 Soaking test (see 4.11, 4.23.2, 5.1, 5.10 and 5.12)	8.25.4.1 Soaking test for magnets
—	—	8.11 Tests for tire removal and snap-in wheel and axle assembly removal

The main differences in specific parameters and methods for foreseeable abuse testing among ISO 8124-1, EN 71-1 and ASTM F963 are as follows.

- The reasonably foreseeable abuse test parameters in ISO 8124-1, EN 71-1 and ASTM F963 are determined according to the age grade of the toy, as shown in [Table 27](#). For the drop test, ISO 8124-1 and ASTM F963 include toy mass criteria; a toy is not subjected to this test if its mass exceeds the upper threshold. EN 71-1 does not include toy mass criteria for exemption from the drop test, however some clauses substitute the drop test with the tip over test [e.g. see [5.1 d](#)], when the toy is large and bulky, as defined in EN 71-1:2014+A1:2018, 3.39.
- ISO 8124-1 and EN 71-1 provide a method to determine if a component can be gripped by inserting the feeler gauge between the component and the underlying layer or body of the toy at an angle between 0° and 10° from the toy surface using a force of (10 ± 1) N. ISO 8124-1 and EN 71-1 state that if the gauge can be inserted more than 2 mm, the component shall be considered as grippable. There is no such

method in ASTM F963. ASTM F963 applies the tension test to any projection of a toy that a child can grasp with at least the thumb and forefinger or the teeth.

- c) Only ASTM F963 specifies a tumble test for wheeled toys.
- d) The soaking test in EN 71-1 is applied to toys with magnets, wooden toys, toys intended to be used in water and mouth-actuated toys. The soaking test in ISO 8124-1 and ASTM F963 is limited to toys with magnets.
- e) [Table 28](#) indicates the impact medium specifications for the drop test across ISO 8124-1, EN 71-1 and ASTM F963.
- f) The seam clamps specified in ISO 8124-1, EN 71-1 and ASTM F963 are very similar between the referenced standards, as shown in [Table 29](#). The key difference exists in whether washers or discs are affixed to the jaws of the clamp. The jaws in ASTM F963 have washers affixed to them, whereas the jaws in EN 71-1 and ISO 8124-1 have discs.
- g) The tip over test in ISO 8124-1 and EN 71-1 provides more detail than the test specified in ASTM F963. In ISO 8124-1 and EN 71-1 the value of force to be applied (≤ 120 N) and its position (1 500 mm or top edge of the toy) are specified. See [Table 30](#).
- h) EN 71-1 does not specify whether the force vector is parallel or perpendicular to the major axis of the test component during the tension test. ISO 8124-1 and ASTM F963 state that a tensile force parallel to the major axis of the test component is applied first, then a tensile force perpendicular to the major axis of the test component will be applied. ISO 8124-1 also points out that the force vector shall be kept substantially perpendicular to the original orientation of the test component during the tension test. ISO 8124-1 states that if the test component bends during this process, adjust the position of the gauge or toy constantly as the force is applied in order to keep the force vector substantially perpendicular to the original orientation of the test component.
- i) The tension test for suction cups on projectiles in ISO 8124-1 differs from EN 71-1 and ASTM F963 by having a zero value for the negative tolerance of the 57 mm clamping position. See [Table 31](#).

Table 27 — Parameters for reasonably foreseeable abuse tests

		0 to 18 months	18+ to 36 months	36+ to 96 months
Drop test	ISO 8124-1	10 × (138 ± 5) cm (< 1,4 kg)	4 × (93 ± 5 cm) (< 4,5 kg)	
	EN 71-1	5 × (850 ± 50) mm		
	ASTM F963	10 × 4,5 ft ± 0,5 in (137 cm) (< 1,4 kg)	4 × 3,0 ft ± 0,5 in (91 cm) (< 1,8 kg)	4 × 3,0 ft ± 0,5 in (91 cm) (< 4,5 kg)
Torque test ^a	ISO 8124-1	(0,45 ± 0,02) N·m		
	EN 71-1	0,34 N·m		
	ASTM F963	2 ± 0,2 in·lbf (0,23 N·m)	3 ± 0,2 in·lbf (0,34 N·m)	4 ± 0,2 in·lbf (0,45 N·m)

^a The tests in EN 71-1 are applicable to toys intended for children under 36 months or as specified by certain requirements.

Table 27 (continued)

		0 to 18 months	18+ to 36 months	36+ to 96 months
Tension test ^a	ISO 8124-1	General tension test (70 ± 2) N Tension test for seams (70 ± 2) N Tension test for pompoms (70 ± 2) N Tension test for protective components (70 ± 2) N Tension test for a projectile with a suction cup (70±2) N Perpendicular tension test for rotor blades (6 ± 0,5) N Tension test for rotor blades (90 ± 2) N		
	EN 71-1	The largest accessible dimension of the component to be gripped and tested is 6 mm or less (50 ± 2) N The largest accessible dimension of the component to be gripped and tested is greater than 6 mm (90 ± 2) N The component to be gripped is made entirely of paperboard (25 ± 2)N Tension test for seams (70 ± 2) N Tension test for protective components (60 ± 2) N Tension test for a foam shaft projectile with a suction cup that has a diameter the same as or less than the maximum diameter of the shaft/collar (60±2) N Perpendicular tension test for rotor and propellers (6 ± 0,5) N Tension test for rotor and propellers (90 ± 2) N		
	ASTM F963	10 ± 0,5 lbf (44,5 N)	15 ± 0,5 lbf (66,8 N)	15 ± 0,5 lbf (66,8 N)
Compression test ^a	ISO 8124-1	(114 ± 2,0) N		(136 ± 2,0) N
	EN 71-1	(110 ± 5) N		
	ASTM F963	20 ± 0,5 lbf (89,0 N)	25 ± 0,5 lbf (111,3 N)	30 ± 0,5 lbf (133,5 N)
Impact test	ISO 8124-1	Impact test for toys that cover the face: Drop a steel ball with a diameter of (16 ± 0,15) mm and mass of (16,9 ± 0,7) g from a height of (130 ± 0,5) cm		
		Impact test for magnets: Drop a metallic weight with a mass of (1 ± 0,02) kg, distributed over a diameter of (80 ± 2) mm, through a distance of (100 ± 2) mm		
	EN 71-1	Drop a metallic weight with a mass of (1 ± 0,02) kg, distributed over an area with a diameter of (80 ± 2) mm, through a distance of (100 ± 2) mm		
Flexure test ^a	ASTM F963	Impact Test for Toys that Cover the Face: Drop a 5/8-in (16-mm) diameter steel ball weighing 0,56 oz. (15,8 g) (with a tolerance of +0,03 (0,8 g, -0 oz) from a height of 50 in (1,3 m)		
		Impact Test for magnets: Drop a metallic weight with a mass of (1,0 ± 0,02) kg distributed over an area with a diameter of (80±2) mm through a distance of (100±2) mm		
	ISO 8124-1	(70 ± 2) N Wires and other metallic components intended to be bent: 30 cycles; Wires likely to be bent: 1 cycle.		
Flexure test ^a	EN 71-1	(70 ± 2) N Metallic wires and other metallic components intended to be bent: 30 cycles; Metallic wires likely to be bent: 1 cycle.		
	ASTM F963	10 ± 0,5 lbf (44,5 N)	15 ± 0,5 lbf (66,8 N)	15 ± 0,5 lbf (66,8 N)
		Wires or rods used as flexible skeletons: 30 cycles		

^a The tests in EN 71-1 are applicable to toys intended for children under 36 months or as specified by certain requirements.

Table 28 — Impact medium specifications for the drop test

	ISO 8124-1	EN 71-1	ASTM F963
Impact medium composition	Vinyl composition tile of approximately 3 mm nominal thickness laid over concrete of at least 64 mm thickness	4 mm thick steel plate with a 2 mm thick coating and placed on a non-flexible horizontal surface	The impact medium shall consist of a 1/8 in (3 mm) nominal thickness of vinyl composition tile conforming to the requirements of Specification F1066, Types 1, 2, or 3, over at least a 2,5 in (64 mm) thickness of concrete
Hardness	—	(75 ± 5) Shore A	—
Area	≥ 0,3 m ²	—	≥ 3 ft ² (0,3 m ²)

Table 29 — Seam clamps

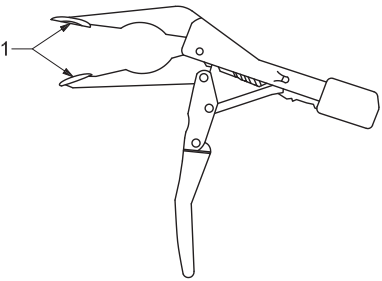
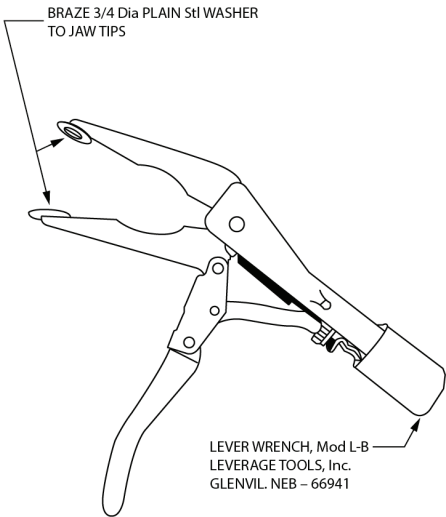
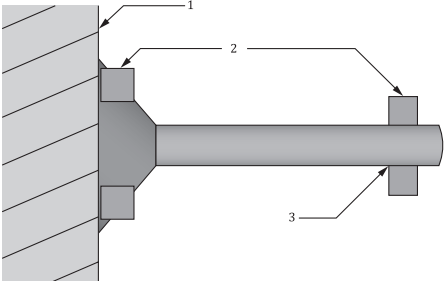
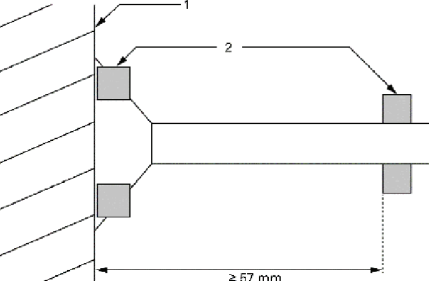
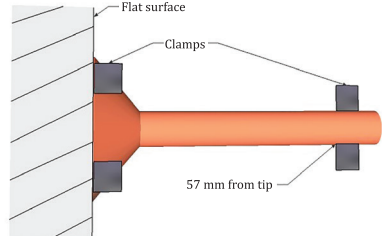
ISO 8124-1	EN 71-1	ASTM F963
Clamps with jaws to which discs with a diameter of 19 mm are attached  Key 1 flat discs	Clamps with jaws to which discs with a diameter of 19 mm are affixed	Clamps with jaws to which are attached 3/4 in (19 mm) diameter washers 

Table 30 — Tip over tests

ISO 8124-1	EN 71-1	ASTM F963
Place the toy on a horizontal surface. Attempt to tip it over by pushing it slowly past its centre of balance three times, one of which shall be in its most onerous position	Place the toy on a horizontal surface and attempt to tip it over by pushing the toy slowly past its centre of balance three times, one of which shall be in its most onerous position	Toys shall be tested for impact by tipping over three times, one of which is in the worst attitude by pushing the sample slowly past its center of balance onto the impact medium
Gradually apply a force, which is not to exceed 120 N, in a horizontal direction and 1 500 mm above the horizontal surface or at the top edge of the toy for toys less than 1 500 mm in height	By gradually applying a force, which is not to exceed 120 N, in a horizontal direction and 1 500 mm above the horizontal surface or at the top edge of the toy for toys less than 1 500 mm in height	
A non-resilient step with a height of (25 ± 2) mm shall be positioned such that it prevents sliding or rolling of the toy during the test	A non-resilient step with a height of (25 ± 2) mm shall be positioned such that it prevents sliding or rolling of the toy during the test	

Table 31 — Clamping position for projectiles with suction cup

ISO 8124-1	EN 71-1	ASTM F963
Attach a clamp on the shaft such that the edge of the clamp is at a point (57_0^{+1}) mm or the maximum distance (if less than 57 mm) from the contact surface of the projectile  Key 1 flat surface 2 clamps 3 57 mm from tip	The distance from the end of the suction cup to the front edge of the clamp shall be (57_0^{+5}) mm or the maximum distance (if less than 57 mm)  Key 1 flat surface 2 clamps	Place a clamp on the shaft such that the edge of the clamp is at a point (57 ± 1) mm or the maximum distance (if less than 57 mm) from the tip of the projectile 

6.4 Material

6.4.1 General

The subclauses in ISO 8124-1, EN 71-1 and ASTM F963 specifying requirements related to material properties are outlined in [Table 32](#).

Table 32 — Clauses related to material properties

ISO 8124-1	EN 71-1	ASTM F963
4.3 Material 4.3.1 Material quality (see E.4)	4.1 Material cleanliness (see A.3) 5.2 Soft-filled toys and soft-filled parts of a toy (see A.27)	4.1 Material quality 4.3.7 Stuffing materials
4.3.2 Expanding materials (see E.5) 5.21 Expanding materials	4.6 Expanding materials (see A.7) 8.14 Expanding materials (see 4.6)	4.40 Expanding materials 8.30 Expanding materials – Test method
4.6.1 Accessible sharp edges of glass or metal	4.5 Glass (see 5.7 and A.6) 5.7 Glass and porcelain (see 4.5 and A.6)	4.7.1 Potentially hazardous sharp metal and glass edges are defined in 16 CFR 1500.49[11]

6.4.2 Fillings

For toys intended for children under 36 months, EN 71-1 requires that fillers shall not contain any hard and sharp contaminants such as pieces of metal, nails, needles and splinters. ASTM F963 also requires that loose fillers for stuffed toys shall be free of objectionable matter originating from insect, bird, rodent, or other animal infestation and of contaminants, such as splinters, glass and metal chips to the extent possible in good manufacturing practice. ISO 8124-1 requires that all materials shall be visually clean and free from infestation.

EN 71-1 and ISO 8124-1 states that filler shall be assessed visually by the unaided eye rather than under magnification. ASTM F963 requires that a visual inspection shall be performed on a representative sample of the stuffing material using a stereo widefield microscope, or equivalent, at 10× magnification and adequate illumination.

EN 71-1 states that soft-filled toys and soft-filled parts of a toy containing small parts (e.g. rattling components, bells, shredded foam) or with filler from which pieces can be bitten or torn thereby producing small parts, shall have at least one covering so that, after tension testing of the seams and materials, it shall not be possible to insert the front part of probe A through any one opening in the seam or cover material. EN 71-1 states that soft-filled toys and soft-filled parts of a toy containing fibrous filler material shall have at least one covering such that, after tension testing of the seams and materials, it shall not be possible to insert the front part of a 12 mm diameter rod with a fully radiused end through any one opening in the seam or cover material by more than 6 mm. In ISO 8124-1 and ASTM F963, there is no requirement for a cover of the filler(s).

6.4.3 Expanding materials

EN 71-1 states that toys and components of toys which fit entirely in the small parts cylinder shall not expand more than 50 % in any direction after a 24 h, 48 h, or 72 h soaking test. EN 71-1 states that if the expanding material is enclosed by a material intended to break during soaking, the requirement shall also be met when the test is performed after the removal of the breakable material.

ISO 8124-1 and ASTM F963 require that toys and components of toys which fit entirely in the small parts cylinder and which expand more than 50 % in any direction after conditioning and a 6 h, 24 h, 48 h or 72 h soaking test, shall completely pass through the expanding toy test template. ISO 8124-1 and ASTM F963 states that if the toy or component exhibits expansion equal to or less than 50 % in all dimensions from its as-received state, at all measurement time intervals, the toy or component is classified as not containing or being composed of an expanding material and no further related testing is required.

The tolerance of dimensions of the expanding toy test template specified in ISO 8124-1 and ASTM F963 are not compatible. See [Table 33](#).

Table 33 — Tolerance of dimension of expanding toy test template

ISO 8124-1	ASTM F963
Thickness: $(6,4 \pm 0,05)$ mm Inner diameter: $(20^{+0}_{-0,1})$ mm	Thickness: $(6,4^{+0,1}_{-0})$ mm Inner diameter: $(20^{+0}_{-0,1})$ mm
Dimensions in millimetres	MATERIAL: 2 in. (50,8 mm) DIAMETER POLYTETRAFLUOROETHYLENE (PTFE) ROD STOCK FIG. 30 Expanding Toy Test Template

In ISO 8124-1 and EN 71-1, the requirements of expanding materials do not apply to seeds in growing kits, while there is no corresponding exemption in ASTM F963. In ISO 8124-1 and ASTM F963, expanding

materials requirements are not applicable after reasonably foreseeable abuse testing, while in EN 71-1, the corresponding requirement is evaluated before and after abuse test.

In ASTM F963, toys or components are evaluated to determine if they fit entirely within the small parts cylinder in the as-received state, or if the toy or component becomes a small part during or after intended or obvious use or use as directed by instructional material. The requirements of expanding materials also apply to the following:

- a) components of a toy which are small parts but are encased in an outer covering that is not a small part, and the outer covering is intended to be dissolved in liquid, opened, or broken by the child to reveal the inner expanding component;
- b) components received by the consumer in an expanded state which are not small parts, but which have the potential to contract in size (such as during storage) to yield a re-expandable small part.

ISO 8124-1 specifies that for a toy or component that at time of purchase is in an expanded state, the small part size assessment shall be performed when it is in a shrunken state.

6.4.4 Glass and porcelain

EN 71-1 limits the scope of the requirements to accessible glass and porcelain; however, it also states that glass shall not be used in the construction of toys intended for children under 36 months. EN 71-1 permits the use of accessible glass in toys intended for children 36 months and over where:

- a) its use is necessary for the function of the toy;
- b) it does not produce hazardous sharp edges or hazardous sharp points after the drop and impact tests.

ISO 8124-1 and ASTM F963 refer to “accessible edges of glass or metal” as shown in [Table 34](#).

Table 34 — Sharpness requirements for accessible glass edges

	Under 36 months	36 months and over, but under 96 months	96 months and over, but under 14 years
ISO 8124-1	After normal use tests and reasonably foreseeable abuse tests, accessible edges on toys intended for children under 96 months shall not be hazardous sharp edges of glass		Toy shall not present hazardous sharp edges of glass after normal use tests
EN 71-1	Accessible glass and accessible porcelain shall not be used in the construction of toys intended for children under 36 months	Accessible glass may be used in the construction of toys for children of 36 months and over where: a) its use is necessary to the function of the toy b) it is textile glass used for reinforcement c) it is in the form of solid glass marbles or solid glass eyes for dolls d) it is in the form of other glass elements that after being subjected to drop and impact tests do not expose accessible hazardous sharp edges or accessible hazardous sharp points	
ASTM F963	Toys shall not have accessible, potentially hazardous sharp edges. Toys intended for use by children under 8 years of age are subject to these requirements before or after use and abuse testing, or both		Toy shall not have accessible, potentially hazardous sharp edges after normal use tests

6.5 Small parts

6.5.1 General

The subclauses in specifying the requirements related to small parts are indicated in [Table 35](#).

Table 35 — Clauses related to small parts

ISO 8124-1	EN 71-1	ASTM F963
4.4 Small parts 4.4.1 For children under 36 months (see E.6) 5.2 Small parts test	5 Toys intended for children under 36 months 5.1 General requirements (see A.26) 8.2 Small parts cylinder (see 4.6, 4.11, 4.18, 4.23.2, 4.23.3, 4.25, 5.1, 5.2 and A.36) 8.9 Soaking test (see 4.11, 4.23.2, 5.1, 5.10 and 5.12)	4.6 Small objects 4.6.1 Toys that are intended for children under 36 months of age 5.8 Toys intended to be assembled by an adult
4.4.2 For children 36 months and over but under 72 months B.2.3 Toys that are small parts, toys containing small parts and toys with removable small part components 5.2 Small parts test	7.2 Toys not intended for children under 36 months (see 4.22 and A.34)	4.6.3 Toys and games that are intended for use by children who are at least three years old (36 months) but less than six years of age (72 months)

6.5.2 Small parts exemptions

The small part exemptions are similar across ISO 8124-1, EN 71-1 and ASTM F963, as shown in [Table 36](#). ASTM F963 identifies elastic as exempt. ISO 8124-1 and EN 71-1 indicate that felt and elastic fabric are exempt from the small parts requirements. In ISO 8124-1 and EN 71-1, elastic polymeric materials that are interwoven in an elasticized fabric, as well as elasticized thread sewn into a fabric, are excluded from the requirements of small parts, however elastic polymeric materials (e.g. rubber bands) that are not interwoven in or sewn into a piece of fabric material are not excluded from the small parts requirements.

ISO 8124-1 and EN 71-1 do not exempt tightly-packed stuffed components made of fabric or yarn.

For toys intended for children under 36 months, EN 71-1 specifies that attached paperboard components of toys that detach after a tension test shall not be considered small parts. In ISO 8124-1, toys, components of toys and removable components made entirely of paperboard, that do not fit entirely in the small part cylinder are exempt from foreseeable abuse tests.

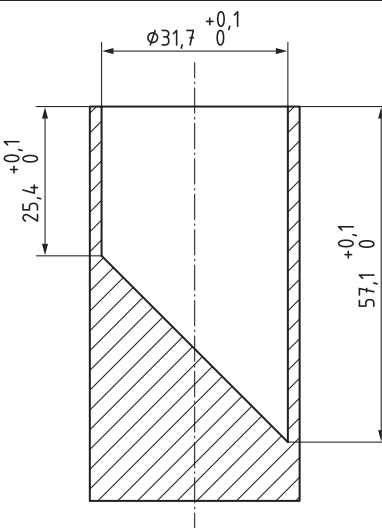
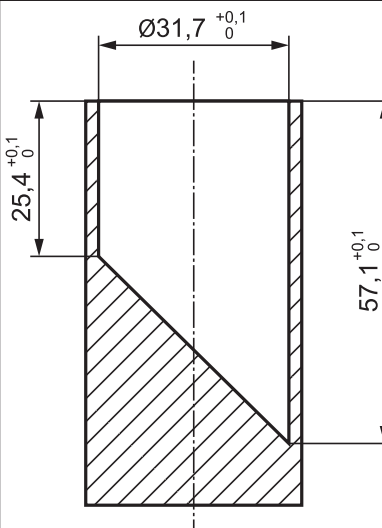
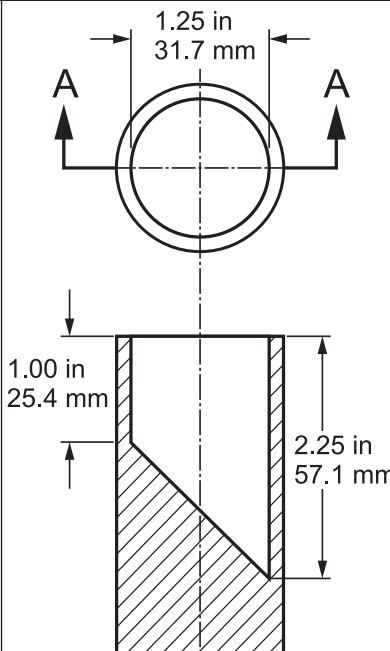
Table 36 — Small parts exemptions

ISO 8124-1	EN 71-1	ASTM F963
Paper books and other articles made of paper and pieces of paper	Paper	Pieces of paper Books and other paper articles
Writing materials such as crayons, chalk, pencils and pens; this exemption does not include removable components such as pen caps	Crayons, chalks, pencils and similar writing and drawing implements without removable components	Writing materials (crayons, chalk, pencils, and pens)
Modelling clay and similar products	Modelling clay and similar products	Modeling clay and similar products
Fingerpaints, water colours, paint sets and paint brushes	—	Fingerpaints, watercolors, and other paint sets
Fuzz	Fuzz	Fuzz
Fibrous filling material	—	—
Balloons	Balloons	Balloons
Textile fabric, including non-woven fabric such as felt	Fabric (including felt and elastic fabric)	Fabric
Yarn	Yarn	Yarn
Elastic fabric	Elastic fabric	Elastic
String	String	String
Audio and/or video discs which are not themselves small parts	—	Phonograph records and compact discs (CDs)

6.5.3 Test methods

The gauges and tests for small parts are essentially aligned across the referenced standards (see [Table 37](#)). There are minor dimensional differences for the gauge in ASTM F963 due to a lack of tolerances in the specification.

Table 37 — Small parts cylinders

ISO 8124-1	EN 71-1	ASTM F963
		

6.5.4 Small parts warning

ISO 8124-1 and ASTM F963 indicate that if the toy intended for children 36 months and over but under 72 months is a small part or has components, including removable components, which are small parts in the as received state, they shall carry a small part warning for toys.

EN 71-1 indicates that if the toy which is not intended for, but can be dangerous for, children under 36 months is a small part or has components, including removable components, which are small parts, or produce small parts according to corresponding testing specified by certain requirements, it shall be accompanied by a small part warning for toys.

6.6 Shape, size and strength of certain toys

6.6.1 General

The subclauses for shape, size and strength of certain toys in ISO 8124-1, EN 71-1 and ASTM F963 are indicated in [Table 38](#).

Table 38 — Clauses relating to the shape, size and strength of certain toys

ISO 8124-1	EN 71-1	ASTM F963
4.5 Shape, size and strength of certain toys (see E.7) 4.5.1 Squeeze toys, rattles, fasteners, and certain other toys and components of toys 4.5.1.1 General 4.5.1.2 Squeeze toys, rattles, and certain other toys and components of toys 4.5.1.3 Other toys or components of toys with nearly spherical, hemispherical, circular flared, or dome-shaped ends of toys having a mass less than 0,5 kg and intended for children under 18 months (see E.7) 5.3 Test for shape and size of certain toys	5.8 Shape and size of certain toys (see A.31) 8.16 Geometric shape of certain toys (see 5.8, 5.11 and A.43)	4.22 Teethers and teething toys 4.23 Rattles 4.24 Squeeze toys 4.32 Certain toys with nearly spherical ends 4.32.1 Nearly spherical, hemispherical, circular flared, or dome-shaped ends of toys or components of toys
4.5.1.4 Toy fasteners (e.g. nails, bolts, screws, and pegs) with nearly spherical, hemispherical, or dome-shaped ends intended for children 18 months and over but under 48 months (see E.7)	—	4.32.2 Nearly spherical, hemispherical, or dome-shaped ends of toy fasteners (for example, nails, bolts, screws, pegs)
4.5.2 Small balls 5.4 Small balls test B.2.5 Small balls and marbles	4.22 Small balls (see 5.10 and A.48) 5.10 Small balls (see also 4.22 and A.48) 8.32 Small balls and suction cups test (see 4.17, 4.22, 4.25, 5.10 and 5.13) 8.32.1 Small balls and suction cups test (see Clause 6) 8.32.2 Small balls attached to a toy by a cord 7.2 Toys not intended for children under 36 months (see 4.22 and A.34)	4.34 Balls 4.34.1 Balls intended for children under 36 months of age 4.34.2 Toys intended for children at least 3 years old but less than 8 years of age that contain a loose small ball 5.11.3 For any small ball intended for children 3 years of age or older
4.5.3 Pompoms (see E.8) 5.5 Test for pompoms 5.24.6.3 Tension test for pompoms	—	4.35 Pompoms 8.16 Pompoms are subjected to the torque test as described in 8.8 and 8.8.1 and the tension test as described herein
4.5.4 Pre-school play figures (see E.9) 5.6 Test for pre-school play figures	5.11 Play figures 8.33 Test for play figures (see 5.11)	4.32.3 Preschool play figures
4.5.5 Toy pacifiers	—	4.20.2 Toy pacifiers attached to, or sold with, toys intended for children under 36 months of age
4.5.6 Balloons B.2.4 Balloons	4.12 Balloons (see 4.3 and A.16) 7.3 Latex balloons (see 4.12 and A.16)	4.31 Balloons – Packages containing latex balloons and toys or games containing latex balloons 5.11.5 For any latex balloon or any toy or game that contains a latex balloon
4.5.7 Marbles B.2.5 Small balls and marbles	Marble is covered by the definition of “balls” in EN 71-1	4.33 Marbles 5.11.4 For any marble intended for children 3 years of age or older
4.5.8 Hemispheric-shaped toys (see E.41)	5.12 Hemispheric-shaped toys (see A.50)	4.36 Hemispheric-shaped objects
—	5.13 Suction cups (see A.54)	—

6.6.2 Squeeze toys, rattles and certain other toys

The subclauses for squeeze toys, rattles and certain other toys in ISO 8124-1, EN 71-1 and ASTM F963 are indicated in [Table 39](#).

- a) EN 71-1 has a broader scope than ISO 8124-1 and ASTM F963 in terms of product categories. EN 71-1:2014, 5.8 generally applies to toys for children who are unable to sit up unaided, while ISO 8124-1 applies to specific toy categories. ASTM F963 applies to rattles, squeeze toys, teething rings and teething toys only.
- b) In ISO 8124-1 and EN 71-1, the requirement for shape and size of certain toys does not apply to rigid elements having a major dimension equal to 30 mm or less. In ASTM F963, rigid components having a major dimension equal to or less than 1,2 in (30 mm) contained within soft-filled toys are exempt from the size and shape requirement for teething rings and teething toys, rattles and squeeze toys.
- c) The shape and size requirements in EN 71-1 apply to toys intended for children who are unable to sit up unaided where the toy or toy part weighs less than 0,5 kg. The scope of ISO 8124-1 is broader in terms of the age range (under 18 months) for squeeze toys, teething rings and teething toys, but it aligns with EN 71-1 for the removable components of toys intended to be strung across a crib, playpen or perambulator and for the removable components of baby gyms (under 6 months), and rattles (children who are unable to sit up unaided).
- d) ISO 8124-1 and ASTM F963 have a requirement for toy fasteners with nearly spherical, hemispherical or domed-shaped ends which are intended for children 18 months and over but under 48 months. EN 71-1 does not set requirements for toy fasteners.

Table 39 — Squeeze toys, rattles and certain other toys

ISO 8124-1	EN 71-1	ASTM F963
4.5.1 Squeeze toys, rattles, fasteners, and certain other toys and components of toys Exemption: Soft-filled (stuffed) toys or soft-filled parts of toys or parts made entirely of fabric; or rigid elements having a major dimension equal to 30 mm or less.	5.8 Shape and size of certain toys Exemption: Soft-filled parts of a toy or parts of fabric; Rigid elements having a major dimension equal to 30 mm or less.	4.22 Teething toys and teething toys Exemption: (1) Teething toys that are composed of liquid-filled beads that are attached to form a ring or beads that are threaded on a flexible cord or string (2) Soft-filled (stuffed) teething toys or soft-filled parts or parts of fabric (3) Rigid components having a major dimension equal to or less than 1,2 in (30 mm) contained within soft-filled teething toys
Scope	Scope	4.23 Rattles Exemption: (1) Soft-filled (stuffed) rattles or soft-filled parts or parts of fabric (2) Rigid components having a major dimension equal to or less than 1,2 in (30 mm) contained within soft-filled rattles
Squeeze toys intended for children under 18 months	Rattle-shaped toys and squeeze toys with or without noise making features	4.24 Squeeze toys Exemption: (1) Soft-filled (stuffed) squeeze toys or soft-filled parts or parts of fabric (2) Rigid components having a major dimension equal to or less than 1,2 in (30 mm) contained within soft-filled squeeze toys
Rattles	Teethers, toys or components intended to be chewed on	
Teethers and teething toys intended for children under 18 months	Legs of baby gyms	
Legs of baby gyms intended for children under 18 months	Removable components of toys intended to be strung across a crib, playpen or perambulator	
Removable components of toys intended to be strung across a crib, playpen or perambulator if they have a mass less than 0,5 kg and are intended for children under 6 months	Removable components of baby gyms	
Removable components of baby gyms if they have a mass less than 0,5 kg and are intended for children under 6 months	Hand-held activity toys	
—	Books and building blocks covered by textile or vinyl	
—		