

# ICTI Review of International Standards Comparison Table ISO 8124-1 EN71-1 ASTM F963

## **The ISO Standard as the Base**

As this review is conducted on behalf of ICTI to in part address the issues currently being considered by American law makers the ISO Standard has been used as the base.

Prudent suggestions provisions have been indicated for adoption from the EN/ISO Standards into the ASTM Standard and also for the EN/ISO to consider including into their standards.

*NOTE - numbering in the attached table of Comparison of Standards is sequential for ISO and is cross referenced to the EN and ASTM Standards.*

## **Assumptions**

I have assumed that there would be little to no opposition to the minor changes necessary to bring all weights and measures into line. *It should be noted that most of the existing differences have been brought about due to the conversion from Imperial to Metric units of measure e.g. inches to millimetres, pounds to kilos etc.*

*It should be noted that the Chinese Standard is effectively the ISO 8124 and also the Indian Toy Industry has recently announced that they would be adopting the EN71 Standard*

Legend: Marking in Red – **Recommended changes.**

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.1	<b>Normal use</b> Toys shall be tested to simulate reasonably foreseeable normal use in order to ensure that hazards are not generated as a result of normal wear and /or deterioration (see E.2 for guidance). After testing, the toy shall continue to conform to the relevant requirements of clause 4. Toys labeled as washable shall be subjected to washing in accordance with 5.23.		No corresponding clause <b>Recommend adding to Standard.</b>	8.5	<b>Normal use testing</b> Generally same as ISO 8124-1, toys shall be tested to simulate normal use conditions and after testing, shall be evaluated in accordance with the relevant requirements listed in Section 4. It also states 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 must do enough testing to satisfy himself that normal use during the estimated lifetime of the toy is being simulated. <b>No change.</b>
4.2	<b>Reasonably foreseeable abuse</b> All toys shall be tested in accordance with the relevant normal use tests in 5.1 to 5.23. After the normal use test, toys intended for children under 96 months, unless otherwise stated, shall be tested in accordance with 5.24 for reasonably foreseeable abuse. The intention of the tests is to simulate the exposure of a toy to structural damage. After testing, the toy shall continue to conform to the relevant requirements of clause 4.	A.26	Products intended for children under 36 months should be tested following Section 5. From A.26, it mentioned "The test program for these toys is similar to the use and abuse tests in the USA. " Test Program includes torque test, tension test, drop test /tip over test, impact test, and compression test. The parameters of those testing are slightly different to ISO 8124-1.	8.6	<b>Abuse testing</b> Similar to ISO 8124-1, only the test parameters is different.
4.3.1	<b>Material quality</b> All materials shall be visually clean and free from infestation. The materials shall be assessed visually by normal corrected vision rather than under magnification	4.1	Same	4.1	Generally same as ISO 8124-1, also it allows toys made from reprocessed materials provided that, they must be refined so that the level of hazardous substances conforms to the requirement of 4.3.1 (Hazardous Substances). <b>No change.</b>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.3.2	<p><b>Expanding materials</b> Toys and components of toys which fit entirely in the small parts cylinder when tested in accordance with 5.2 (small parts test) shall not expand more than 50% in any dimension when tested in accordance with 5.21 (expanding materials). This requirement does not apply to seeds in growing kits.</p> <p><b>Suggest harmonizing with EN 71</b></p>	4.6	<p>Generally same as ISO 8124-1 but parameters of testing are slightly difference for both pre-condition and testing parameter. The main difference is the Submerging time: For EN71-1, (72+0.5)hr For ISO8124-1, (2h+0.5)hr</p> <p>Revision under consideration to add interim checks</p>		<p>No corresponding clause</p> <p><b>Suggest addition and harmonizing with EN 71</b></p>
4.4.1	<p><b>Small parts</b> – for children under 36 months. Toys intended for children under 36 months, removable components thereof and components liberated during testing in accordance with 5.24 (reasonably foreseeable abuse tests) shall not fit entirely, whatever their orientation, into the small parts cylinder when tested in accordance with 5.2 (small parts test). The requirement also applies to fragments of toys, including, but not limited to, pieces of flash, slivers of plastics and pieces of foam or shavings. The following are exempted before and after subjecting the toy to the tests according to clause 5:</p> <ul style="list-style-type: none"> <li>⌘ paper books and other articles made of paper and pieces of paper;</li> <li>⌘ writing materials such as crayons, chalk, pencils and pens;</li> <li>⌘ modeling clay and similar products;</li> <li>⌘ finger paints, water colours, paint sets and paint brushes;</li> <li>⌘ fuzz;</li> <li>⌘ balloons;</li> <li>⌘ textile fabric;</li> <li>⌘ yarn;</li> <li>⌘ elastic and string;</li> <li>⌘ Audio and/or video discs which are not themselves small parts</li> </ul> <p>Guidance on categories of toys that can be considered as intended for children under 36 months is given in B.4.2.</p>	5.1a), b) & e)	<p>Differences of exemption: ✎ Writing material with removable components could be considered in EN 71-1, but no mentioned in ISO 8124-1. <b>suggest add.</b> ✎No exempt to Audio and/or video discs which are not themselves small parts <b>suggest addition to EN &amp; ASTM (ASTM exempts phonograph records – 16 CFR 1501)</b> For children under 36 months Generally same as ISO 8124-1 but soaking test also is included for glued wooden toys. <b>Recommend add to ISO and ASTM</b></p>	4.6.1 – 4.6.1.3	Same

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.4.2	<p><b>Small parts</b> – for children 36 months and over but under 72 months Toys and toys containing removable components, intended for children 36 months and over but under 72 months, which fit entirely in the small parts cylinder when tested in accordance with 5.2, shall carry a warning (see C.2.3 for guidance).</p>	7.2	<p>Not limited to “72 months” and mentions “The provisions in 7.2 do not apply to toys which, on account of their function, dimensions, characteristics, properties or other cogent grounds, are clearly unsuitable for children under 36 months. Toys which are not intended for but might be dangerous for children under 36 months shall carry a warning.” (Including small parts) together with a brief indication of the specific hazard calling for this restriction. Age warning can be substituted by a symbol  <b>As no age grading in EN Standard.  Recommend this be included in EN Std.</b></p>	4.6.3	<p>Same Labeling required same wording and format as in 5.11.2.</p>
4.5.1	<p><b>Squeeze toys, rattles and certain other toys</b>  Except for soft-filled (stuffed) toys or soft-filled parts of toys or parts of fabric, the requirement in a) and b) apply to the following types of toys:</p> <ul style="list-style-type: none"> <li>- squeeze toys intended for children under 18 months; - rattles;</li> <li>- teethers and teething toys;</li> <li>- legs of baby gyms.</li> </ul> <p>And also the following toys with a mass less than 0.5 kg intended for children too young to sit up unaided:</p> <ul style="list-style-type: none"> <li>- removable components of toys intended to be strung across a crib, playpen or perambulator;</li> <li>- removable components of baby gyms;</li> </ul> <p>a) Such toys shall be designed so that no part of the toy protrudes past the base of test template A, when tested in accordance with 5.3.</p> <p>b) Such toys with nearly spherical, hemispherical, or circular flared ends shall be designed so that such ends do not protrude past the base of the supplemental test template B when tested in accordance with 5.3.</p>	5.8	<p>Squeeze toys for children under 18 months are covered in ISO 8124-1 but EN 71-1 covered for children who are too young to sit up unaided.  <b>This is vague should follow age guideline 18months.</b></p> <p>“Mass less than 0,5 kg or less” covers all applicable items in this section. However, the mass consideration only applies for</p> <ol style="list-style-type: none"> <li>1) removable components of toys intended to be strung across a crib, playpen or perambulator and</li> <li>2) removable components of baby gyms are considered</li> </ol> <p>Requirement generally same as ISO 8124-1 but with the following differences: One more exempt in EN 71-1: rigid elements having a major dimension equal to 30 mm or less.</p>	4.22	<p><b>Rattles, Squeeze toys, teethers and teething toys</b>  Requirements of rattles, squeeze toys, teethers and teething toys are the same as ISO 8124-1 4.5.1.</p> <p>However, 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 are excluded from these requirement.</p> <p><b>Do not see reason for exclusion.(MJD I believe because these types of teether do not cause the impaction hazard that hard teethers do)</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.5.2	<p><b>Small balls</b></p> <p>Small ball: any ball that under the influence of its own weight and without compression, passes entirely through the template C</p> <p>a) For children under 36 months: Toy shall not be small balls or contain removable small balls.</p> <p>b) For children from 36 months and over but under 96 months Toys are small balls or contain removable small balls, or small balls liberated after testing in accordance with 5.24. shall carry a warning (see C.2.5.a for guidance).</p> <p>Add soaking test for Glued Wooden Toys.</p>	5.10 and 8.32	<p>Definition of small ball is same as ISO-8124-1</p> <p>a) For children under 36 months: Generally same as ISO 8124-1 but with following differences: One exception case: soft-filled toys (No exception is mentioned in ISO 8124-1) Abuse test including soaking test for glued wooden toys.</p> <p>b) For children over 36 months: Two exception cases: soft-filled toys or pompoms (No exception mentioned in ISO 8124) Generally same as ISO 8124-1 but requirements not limit to "96 months" and mention "not intended for but might be dangerous for children under 36 months shall carry a warning."</p>	4.35	<p>Small ball: same</p> <p>a) same</p> <p>b) <u>For children at least 3 years old but less than 8 years of age</u></p> <p>Toys contain a loose small ball shall carry a warning which shall be the same wording and format as in 5.11.3 while ISO 8124-1 just require similar meaning. Add soaking test for Glued Wooden Toys.</p>
4.5.3	<p><b>Pompoms</b></p> <p><u>For children under 36 months</u> Pompoms intended for children under 36 months that become detached when tested in accordance with 5.24.6.3 ( tension test for pompoms) shall not pass entirely through the test template when tested in accordance with 5.5 (test for pompoms). Any components, pieces of individual strands that are detached from the pompom during the torque or tension tests shall not be subjected to the test in 5.5.</p>		<p>No corresponding clause To accept ISO/ASTM</p>	4.36	<p>For children under 3 years of age Generally same as ISO 8124-1.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.5.4	<p><b>Preschool play figures</b> Except for soft play figures made of textiles;</p> <p>For children under 36 months Preschool play figure has the following features:</p> <p>a) a round, spherical or hemispherical end with tapered neck attached to a simple cylindrical shape without appendages;</p> <p>b) an overall length not exceeding 64 mm.</p>	5.11	<p>Same. Only the dimension of the testing template is slightly different.</p> <p><b>Not Relevant.</b></p>	4.33	<p>Same. Only the dimension of the testing template is slightly different.</p> <p><b>Not relevant.</b></p>
4.5.5	<p><b>Toy pacifiers</b></p> <p>For children under 36 months</p> <p>Toy pacifiers attached to or sold with toys shall have a nipple length no longer than 16mm. This dimension shall be measured from the nipple side of the shield to the end of the nipple. Note: Real pacifiers attached to or sold with toys shall comply with national regulations for real pacifiers.</p> <p><b>Separate standard.</b></p>		<p>No corresponding clause</p> <p><b>To be added from ASTM</b></p>	4.20.2	<p>For children under 36 months of age Generally same as ISO 8124-1 but it also states that no toy (including removable, liberated components or fragments of toys) shall be a small part.</p> <p><b>Add to ISO</b></p>
4.5.6	<p><b>Balloons</b></p> <p>Balloons made of rubber latex shall carry a warning (see C.2.4 for guidance). The packaging should carry a statement similar to the following:</p> <p>“Warning! Children under 8 years can choke or suffocate on uninflated or broken balloons. Adult supervision required. Keep uninflated balloons from children. Discard broken balloons at once.”</p>	4.12 and 7.3	<p>Generally same as ISO 8124-1</p> <p>In additional, the packaging of natural rubber latex balloons shall indicate "Made of natural rubber latex".</p>	4.32	<p>Generally same as ISO 8124-1 but the warning statement should be same wording and format as in 5.11.5.</p> <p><b>No change</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Claus e	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.5.7	<p><b>Marbles</b> The packaging of marbles and toys containing removable marbles or marbles liberated after foreseeable abuse tests shall carry a warning:</p> <p>“This toy is a marble which may present a choking hazard. Not for children under 3 years.” Or “This product contains a marble which may present a choking hazard. Not for children under 3 years.”</p>	7.2	<p>Toys which are not intended for but might be dangerous for children under 36 months shall carry a warning.” (Including balls) together with a brief indication of the specific hazard calling for this restriction. Age warning can be substituted by a symbol</p>	4.34	<p>Generally same as ISO 8124-1 but the warning statement should be same wording and format as in 5.11.4 and 5.11.4.1.</p> <p><b>No change</b></p>
4.5.8	<p><b>Hemispheric-shaped toys</b> These requirements apply to cup-shaped, bowl-shaped or one-half-of-an-egg-shaped toys having a nearly round, oval or elliptical opening with the dimensions of minor and major axes between 64 mm and 102 mm, a volume of less than 177 ml, a depth greater than 13 mm, and intended for children under 36 months. The following toys are exempt from these requirements:</p> <ul style="list-style-type: none"> <li>-objects intended to hold liquids in products appropriate for children of 24 months and over (e.g. pots and pans);</li> <li>-containers that must be airtight so the contents can maintain their functional integrity (e.g. modeling clay containers);</li> <li>-components of larger products that do not become detached when tested in when tested in accordance with 5.24 (reasonably foreseeable abuse tests), (e.g. bowl-shaped smoke stack that is permanently attached to a toy train, or a swimming pool that is moulded into a larger toy playscape);</li> <li>-containers that are part of packaging intended to be discarded once the toy is removed from the packaging.</li> </ul> <p>Cup-shaped, bowl-shaped or one-half-of-an-egg-shaped toys shall, as a minimum, comply with at least one of the requirements in items a),b),c) or d) below:</p>	5.12	<p>One Exempt case is different: For EN 71-1, an object intended for drinking is exempted for children over the age of 3.</p> <p>New Amendment is due for publication in Jun/Jul For ISO 8124-1,</p> <p>objects intended to hold liquids in products appropriate for children of 24 months and over.</p> <p><b>Requires an amalgamation across all three standards based on the ASTM test requirements.</b></p>	4.37	<p>Generally same as ISO 8124-1 but one more exemption from these requirements: -Objects intended for drinking (for example, tea cups)</p> <p>Also, one more performance requirement subject to hemispheric-shaped toys is followed:</p> <p>e) Have an opening with a minor dimension of at least 0.66in (17mm) located anywhere in the base or in the side wall of the object. If the opening is located in the side wall of the object, the edge of the opening must be at least 0.5 in (13mm) from the rim as measured along the outside contour.</p> <p><b>Requires an amalgamation across all three standards based on the ASTM test requirements.</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.6.1	<p><b>Accessible sharp edges of glass or metal</b></p> <p>a) Accessible edges on toys intended for children under 96 months shall not be hazardous sharp edges of glass or metal when tested in accordance with sharp edge test. If an accessible edge fails the sharp edge test as given in sharp edge test, the edge shall be assessed to determine whether it presents an unreasonable risk of injury, taking into account the foreseeable use and intended age grade of the toy</p> <p>Believe the 96 months should be 14yrs as EN. (MJD review rationale for CPSC requiring this limit)</p> <p>b) Potentially sharp glass or metal edges shall be considered non-accessible if they lie adjacent to a surface of the test sample, and any gap between the edge and the adjacent surface does not exceed 0,5 mm (e.g. in lap joints and hemmed edges, see Figure 1).</p> <p>c) Edges of pieces intended to serve as electrical conductors and microscope slides and cover slips are considered as functional edges and do not require a warning.</p>	4.7a)	a) Generally same as ISO 8124-1 but requirements subjected to children of less than 14 years, not limited to 96 months	4.7.1	ISO 8124-1 requires further assessment though the sample fails sharp edge test. Further assessment is provided in 16 CFR 1500.49 which is referred to in F 963. [0][0]
		4.7b)	b) Difference requirements: In overlap joints, the edge of the sheet metal shall conform to item a) when the sheet metal has a thickness of 0,5 mm or less and the clearance to the underlying surface is greater than 0,7 mm. ISO has greater margin of safety - recommend EN accept ISO.	[0]	b) This requirement is in 16 CFR 1500.49 as referred to in F 963 . [0]
		4.7c)	c) Same		c) No such requirement. Add to ASTM.
4.6.2	<p><b>Functional sharp edges</b></p> <p>a) Toys intended for children under 36 months shall not have accessible hazardous functional sharp edges.</p> <p>b) Toys intended for children from 36 months and over but under 96 months that by reason of their function (e.g. functional toy scissors and functional toy tool kits) necessarily include a sharp edge and that do not include any non-functional sharp edges are exempt from 4.6 provided that the packaging carries a warning (see C.2.12 for guidance).</p> <p>See no reason to limit to 96 months. (MJD review rationale for CPSC requiring this limit)</p>	4.7d)	<p>a) Generally same as ISO 8124-1 for children under 36 months</p> <p>b) Not limit to 96 months, toys intended for children of 36 months and over shall draw the attention of the user on the packaging and in the instructions for use accompanying the toy, when appropriate.</p>	4.7.2	a) Generally same as ISO 8124-1 but for children ages less than 48 months.
				5.10	Should harmonize at 36 months (MJD 48 months is based on child ability evaluation by experts. the 36 months in EN was based on the (now erroneous) belief that this was the only age grade that could be used!) b) Generally same as ISO 8124-1 but for children ages from 48 to 96 months.
					would become 36-96 months however see no reason to limit to 96 months (MJD review rationale for CPSC requiring this limit)

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.6.3	<p><b>Edges on metal toys</b> Accessible metal edges, including those of holes and slots, on toys intended for children under 96 months shall be free of hazardous burrs and feathering or shall be hemmed, rolled or curled or shall incorporate a permanently affixed protective equipment or finish.</p> <p>Regardless of the manner in which edges are finished, they shall be subject to the sharp edge test.</p> <p>See no reason to limit to 96 months. (MJD review rationale for CPSC requiring this limit)</p>	4.7c)	<p>Edges of <b>metal</b> including fastenings (e.g. screw heads) and of rigid polymeric material shall be free from burr capable of causing wounds or abrasion.</p> <p>Edge can be protected as same as ISO 8124-1 mention.</p> <p>4.7a) Note P.S This requirement does not limit to 96 months, but subjects to toys intended for children of less than 14 years.</p>	4.7.3	<p>Generally same as ISO 8124-1 but it also required that if a device is used to protect an edge, it shall not become detached after being tested in accordance with the appropriate procedures described in 8.5-8.10</p> <p>Same intent</p>
4.6.4	<p><b>Edges on moulded toys</b> Accessible edges, corners or mould parting areas of moulded toys intended for children under 96 months shall be free of hazardous sharp edges produced by burrs and flash or so protected that hazardous sharp edges are not accessible.</p> <p>No reason to limit to 96 months (MJD review rationale for CPSC requiring this limit)</p>	4.7c)	<p>Edges of metal including fastenings (e.g. screw heads) and of <b>rigid polymeric material</b> shall be free from burr capable of causing wounds or abrasion.</p> <p>P.S This requirement does not limit to 96 months, but subjects to toys intended for children of less than 14 years.</p>	4.7.4	<p>Same, only the term “accessible” changed to “exposed” in the last sentence.</p> <p>Accessible is preferred over exposed</p>
4.6.5	<p><b>Edges on exposed bolts or threaded rods</b> Accessible ends of threaded bolts or threaded rods shall be free of sharp edges and burrs, or the ends shall be covered by smooth protective caps so that sharp edges and burrs are not accessible.</p> <p>Any protective caps that are used shall be subjected to the compression test in 5.24.7, regardless of whether or not the protective cap is accessible to flat-surface contact during the appropriate test(s) in 5.24 (reasonably foreseeable abuse tests). Protective caps shall also be subjected to 5.24.5 (torque test) followed by 5.24.6.1 (tension test). No reason to limit to 96 months (MJD review rationale for CPSC requiring this limit)</p>	4.7c)	<p>Edges of metal including <b>fastenings (e.g. screw heads)</b> and of rigid polymeric material shall be free from burr capable of causing wounds or abrasion.</p> <p>No specific requirement for protective cap for threaded bolts, but protective cap shall not be detached</p> <p>P.S This requirement does not limit to 96 months, but subjects to toys intended for children of less than 14 years. Compression test to be added.</p>	4.7.5	<p>Same, only the term “accessible” changed to “exposed” in the last sentence.</p> <p>Accessible is better.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
	<p>a)The object shall have at least two openings that are at least 13 mm from the rim as measured along the outside contour: -if the openings are placed in the base of the object, at least two of the openings shall be at least 13 mm apart. -if the openings are not placed in the base of the object, at least two of the openings shall be placed at least 30 degree but not more than 150 degree apart.</p> <p>b)The plane of the opening to the cup shape shall be interrupted at the centre by some type of divider that extends to 6 mm or less from the plane of the opening. An example of an interruption includes a rib through the centre of the opening.</p> <p>c)The object shall have three openings located between 6 mm and 13 mm from the rim and at least 100 degree apart as measured along the outside contour.</p> <p>d)The object shall have a repeated scalloped edge pattern around the entire rim. The maximum distance between centerlines of adjacent peaks shall be 25 mm and the minimum depth shall be 6 mm.</p> <p>For the purpose of these requirements, an opening is defined as a hole of any shape with a minimum dimension of 2 mm.</p> <p>The requirements above apply before and after testing in accordance with reasonably foreseeable abuse test.</p>				

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.7.1	<p><b>Accessible sharp points</b></p> <p>a) Accessible points on toys intended for children under 96 months, shall not be hazardous sharp points when tested according to sharp point test.</p> <p>If an accessible point fails the sharp point test as given in 5.9, the point shall be assessed to determine whether it presents an unreasonable risk of injury taking into account the foreseeable use and intended age grade of the toy. Points of pencils and similar drawing implements are not considered as sharp points</p> <p>b) Potentially sharp points shall be considered non-accessible if they lie adjacent to a surface of the test sample and any gap between the point and the adjacent surface does not exceed 0,5 mm.</p> <p>c) Points, on toys intended for children under 36 months, whose largest cross-sectional dimension is 2 mm or less and that do not necessarily present a sharp point when tested in accordance with 5.9, are considered to be potentially hazardous sharp points. They shall therefore be assessed to determine whether they present an unreasonable risk of injury, taking into account the foreseeable use and intended age grade of the toy.</p> <p>No reason to limit to 96 months (MJD review rationale for CPSC requiring this limit)</p>	4.8	<p>a) Generally same but this requirement did not limit to 96 months, but subjected to toys intended for children of less than 14 years.</p> <p>b) Generally same as ISO 8124-1</p> <p>c) Same</p>	4.9	<p>a) In ISO 8124-1, further assessment is needed though the sample is failed in sharp point test. Further assessment is provided in 16 CFR 1500.49 which is referred to in F 963</p> <p>b) Further assessment is provided in 16 CFR 1500.49 which is referred to in F 963</p> <p>c) No such requirements</p> <p>ASTM should add ISO requirement. [0]</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.7.2	<p><b>Functional sharp points</b></p> <p>a) Toys intended for children under 36 months shall not have accessible hazardous functional sharp points.</p> <p>b) Toys intended for children from 36 months and over but under 96 months that by reason of their function necessarily present the hazard of sharp points and that do not have any non-functional sharp points are exempt from 4.7.1 (e.g. a toy sewing machine with a needle) provided that the packaging carries a warning</p> <p>(see C.2.12 for guidance).</p> <p>No reason to limit to 96 months. (MJD review rationale for CPSC requiring this limit)</p>	4.8b)	<p>a) Generally same as ISO 8124-1 for children under 36 months</p> <p>b) Generally same as ISO 8124-1 but the age range is different, toys intended for children of 36 months and over should also be covered</p>	4.9.2 5.10	<p>a) Age range is different from ISO 8124-1, for children less than 48 months old shall not have accessible hazardous functional sharp points. Harmonize to 36 months (MJD 48 months is based on child ability evaluation by experts. the 36 months in EN was based on the(now erroneous) belief that this was the only age grade that could be used!)</p> <p>b) Generally same as ISO 8124-1 but the age range is different from ISO 8124-1. Toys with functional sharp points for children between the ages of 48 and 96 months shall carry safety labeling. Harmonize to 36 - 39 months but see no reason to limit to 96 months. (MJD review rationale for CPSC requiring this limit)</p>
4.7.3	<p><b>Wooden toys</b></p> <p>The accessible surfaces and edges of wood used in toys shall be free of splinters. Add EN requirement.</p>	5.1e) and f)	<p>One more requirement in EN 71-1. Glued wooden toys and toys with glued-on plastic decals shall be tested according to soaking test before being “abuse” tested. Flakes of paint that have come loose from painted toys are exempt from being tested according to small parts cylinder. Thick surface coatings such as varnish are not exempt.</p>	4.9.3	<p>Same. Add EN requirement.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.8.1	<p><b>Projections</b>  These requirements are intended to minimize possible puncture hazards to the skin should a child fall on a rigid projection, such as unprotected ends of axles, actuating levers and decorative features.  If a projection presents a potential skin puncture hazard, the projection shall be protected by suitable means, such as turning back the end of a wire, or by affixing a smoothly finished <i>protective cap or cover</i>, which effectively increases the surface area for potential contact with the skin. The <i>protective cap or cover</i> shall not become detached when tested in accordance with reasonably foreseeable abuse tests.  Toys intended to be repeatedly assembled and taken apart, shall have the individual pieces and fully assembled articles, as shown on packaging graphics, instructions or other advertising evaluated separately.  The requirements for the assembled toy do not apply to toys where the assembling makes up a significant part of the play value of the toy. Since this requirement relates to hazards arising from a child falling on to a toy, only vertical or nearly vertical projections shall be evaluated. The toy shall be tested in its most onerous position. Corners of structures do not fall under this category.</p>	4.2, 4.9 and A.10	All information can be found in 4.2, 4.9 and A.10 of EN 71-1 and all this information is generally the same as ISO 8124-1	4.8	<p>Generally same as ISO 8124-1 but these requirements apply for toys used by children under 8 years of age.</p> <p>Extend to 14 years. (MJD review rationale for CPSC requiring this limit)</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.8.2	<p><b>Handlebars and other tubes</b> Handlebars shall be equipped with handle-grips with enlarged ends. Ends of other tubes shall be equipped with end-plugs or other means of protection at the end of the tube.</p> <p>Handle-grips and other protective devices shall not become detached when subjected to a removal force of 70N.</p> <p>Add clause from EN</p>		<p>Such protruding parts should be protected. The size and shape of the end protection has not been stipulated, except for toy scooters, but the end protection should be given a sufficiently large surface area to avoid puncturing of the body.</p> <p>The handles on toy scooters shall have an end with a diameter of 40 mm or more. Removal force for EN71-1 is 60N which is different to ISO 8124-1.</p> <p>Suggest increase to 70 N</p>		<p>No corresponding clause</p> <p>Add clause from EN and combine EN –ISO</p>
4.9	<p><b>Metal wires and rods</b></p> <p>a) Metal wires or other metal materials used for stiffening or for retention of form in toys shall not fracture to produce a hazardous sharp point, hazardous sharp edge or projection hazard when tested in accordance with flexure test, if the component can be bent through a 60° arc by the applicable force.</p> <p>Use new EN clause</p> <p>b) The ends of spokes on toy umbrellas shall be protected. If the protection is removed when tested according to tension test for protective components the ends of the spokes shall be free from sharp edges and sharp points when tested in accordance with sharp edge test and sharp point test. Furthermore, if the protective components are removed by the tension test, the spokes shall have a minimum diameter of 2 mm and the ends shall be smooth, rounded and approximately spherical with no burrs.</p>	4.8 4.9	<p>a) Same</p> <p>b) Same</p> <p>Flexure Test is now "if intended to be bent 30 cycles, if not intended to be bent 1 cycles"</p>	4.10	<p>a) Generally same as ISO 8124-1 with different test parameters and fixture.</p> <p>b)Same Use new EN clause</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.10	<p><b>Plastic film or plastic bags in packaging and in toys</b> These requirements do not apply to shrink film that is in the form of an over wrap that would normally be destroyed when the packaging is opened. Flexible plastic film or flexible plastic bags without backing and with a minor dimension greater than 100 mm and used in toys shall either:</p> <p>a) have an average thickness of 0.038 mm or greater and no individual measurement less than 0.032 mm thick when tested in accordance with 5.10 (determination of thickness of plastic film and sheeting) or</p> <p>b) have perforations with well-defined holes (where material has been removed) of 1 % minimum area on any maximum area of dimensions 30 mm x 30 mm.</p> <p>Note: The requirement in 4.10 b) can be fulfilled by having 3.4 mm diameter holes in a square grid pattern where the vertical and horizontal distance between the centre of two holes is 22.9 mm or less (the area of a 3.4 mm hole is larger than 9 mm square which is more than 1 % of 900 mm square (30 mm x 30 mm)).</p> <p>For plastic balloon, the thickness requirement in a) applies to double layers of plastic sheeting (i.e. the thickness is measured without inflating or destroying the balloon).</p> <p><b>Request change to bag size to 380mm in exclusions.</b></p>	4.3a)	<p>For plastic film of <b>toy bag only</b>, but packaging is included in ISO 8124-1.</p> <p>a) Same requirement on average thickness but no requirement on individual thickness. <b>Add minimum thickness 0.032</b></p> <p>b) Same</p> <p>For plastic bag of <b>packaging only</b>, but toy bag is also included in ISO 8124-1.</p> <p>a) Perimeter of plastic bag less or equal 380 mm is excluded. (ISO 8124-1: less than 360 mm)</p>	4.12	<p>Shrink film that is in the form of an overwrap is exempted here as same as ISO 8124-1. Same as ISO 8124-1, bags or plastic film with a minor dimension of 100mm or less are exempted. But it also mention that bag dimensions shall be measured while in the form of a bag, not cut open into a single thickness sheet.</p> <p>a) The thickness requirement is more precise in ASTM, the average thickness should be 0.03810 mm and the actual thickness should be <b>no less than 0.03175 mm. round up to 0.032mm.</b></p> <p>b) Same</p>
		4.3b)	<p>b) No combine depth and opening perimeter is mentioned. (Exempt in ISO 8124-1 for combined depth and opening perimeter is less than 584 mm) One addition requirement: draw string or cord should not be present for opening perimeter &gt;380 mm</p>		
		6			

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.11.1	<p><b>Cords and elastics in toys intended for children under 18 months</b></p> <p>The free length of cords or elastics that can tangle to form a noose or a fixed loop, included with or attached to toys, shall be less than 220 mm in length when measured under a tension of <math>25 \pm 2</math> N.</p> <p>If cords or elastics or multiple cords or elastics can tangle and /or form a noose or a fixed loop in connection with any part of the toy, including beads or other attachments on the ends of cord or elastics, the perimeter of the noose or the fixed loop shall be less than 360 mm when measured under a tension of <math>25 \text{ N} \pm 2 \text{ N}</math>.</p> <p>Cords and elastics on toys shall have a mean thickness (smallest dimension) of 1.5 mm or more when measured in accordance with 5.11.1. This does not apply to ribbons.</p>	5.4a), b) and c)	<p>Applied for age 36 months or less but ISO 8124-1 applied for age less than 18 months</p> <p>Only mention the free length cords which includes attachment that can form noose is covered but ISO-8124-1 also mentioned cords or elastics can tangle to form a noose or a fixed loop also was covered.</p> <p>Perimeter of any nooses on cords shall not exceed 380 mm but ISO 8124-1 mention 360 mm.</p> <p><b>Recommend that all 3 standards be combined. That dimensions be agreed at 300mm free length, 380mm loops and tension at 25N The addition of Straps to EN/ISO should also be considered and the thickness of cords and elastics be defined in ASTM</b></p>	4.14.1	<p>The first paragraph is generally same as ISO 8124-1, but the requirement of the length of the cord and the load is different. The length of the cords or elastics shall be less than 300 mm and the load of 5 lb (approximately 22 N).</p> <p>Different from ISO 8124-1, if cords/straps/elastics or multiple cords/straps/elastics can tangle or form a loop in connection with any part of the toy, including beads or other attachments on the ends of cords/straps/elastics, the loop shall not permit the passage of the head probe when tested in accordance with 8.23. Specifically, the loop shall not allow the head probe to be inserted so deep that it admits the base of the probe.</p> <p>No requirement of the thickness of cords and elastics p.s. Strap is also subject to the requirements above while ISO 8124-1 does not mention it.</p>
4.11.2	<p><b>Self-retracting pull-cord in toys intended for children under 18 months</b></p> <p>Accessible cords used in cord-activated mechanisms shall not retract more than 6.4 mm when tested according to 5.11.2 (self-retracting pull-cords). <b>Change to 6mm and 10N.</b></p>	5.4d)	<p>Deadweight is different: 10 N for EN 71-1 but 0.9 kg for ISO 8124-1. EN 71-1 does not mentioned retracting distance but ISO 8124-1 does.</p> <p><b>Should add ASTM requirements.</b></p>	4.14.2	<p>Generally same as ISO 8124-1, but the retraction of the cord is different. Cords shall not retract more than 6 mm instead of 6.4 mm.</p> <p><b>Harmonize to ASTM but change to 10N</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.11.3	<p><b>Cords for pull toys intended for children under 36 months</b></p> <p>Cords and elastics for pull toys intended for children under 36 months, with a length of more than 220 mm when measured under a tension of 25 N ± 2 N, shall not be provided with beads or other attachments that could tangle to form a noose or a fixed loop.</p>	5.4b)	General same as ISO 8124-1.	4.14.3	<p>Different from ISO 8124-1, cords, straps and elastics for pull toys intended for children under 36 months, with a length greater than 300 mm (not under any tension) shall not be provided with beads or other attachments that could tangle to form a loop.</p> <p>Add loading</p>
4.11.4	<p><b>Cords on toy bags</b> Toys bags made of impermeable material with an opening perimeter greater than 360 mm shall not have a drawstring or a cord as a means of closing</p> <p>Change to 380 add requirement for holes</p>	4.4	<p>Perimeter of plastic bag greater 380 mm is applied. (ISO 8124-1: greater than 360 mm)</p> <p>Opening holes requirement for toy bag is mentioned in EN 71-1 but not for ISO 8124-1.</p>	4.14.5	<p>Same as ISO 8124-1, but this requirement only applied on cords on toy bags intended for children up to 18 months.</p> <p>Remove age limit add requirement for holes</p>
4.11.5	<p><b>Crib or playpen toys and mobiles</b></p> <p>Mobiles intended to be attached to a crib or playpen shall be accompanied by instructions that draw attention to the hazard of not removing the mobile when the baby begins to push up on hands and knees. Instructions shall also include directions for correct assembly. (See C.2.7 and C.3.2 for guidance)</p> <p>Design guidelines for toys intended for attachment to cribs and playpens are given in annex D.</p>		<p>No corresponding clause</p> <p>Add ISO to EN</p>	4.26.2	<p>Generally same as ISO 8124-1. For safety labeling refer to 5.6 and instructional literature refer to 6.4.</p>
4.11.6	<p><b>Crib gyms and similar toys</b></p> <p>Crib gyms, including crib exercisers, and similar toys intended to be strung across a crib playpen or perambulator shall be accompanied by instructions that draw attention to the hazard of not removing the gym when the baby begins to push up on hands and knees. Instructions shall also include directions for correct assembly (See C.2.10 and C.3.3 for guidance).</p> <p>Add 5.4e to ISO</p>	<p>5.4e)</p> <p>7.11</p> <p>4.2</p>	<p>One more requirement in EN 71-1: Shall not exceed 750 mm when stretched by a force of (25 +/- 2) N. and their length under these conditions shall not be more than 40 % longer than their relaxed length.</p> <p>In addition, a warning statement should be followed but only guidance provided in ISO 81241.</p> <p>assembly requirement is covered in 4.2</p>	4.26.3	<p>Generally same as ISO 8124-1. For safety labeling refer to 5.5 and instructional literature refer to 6.3.</p> <p>Add 5.4e to ASTM</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.11.7	<p><b>Cords, strings and lines for flying toys</b> Hand-held cords, strings and lines over 1.8 m long, attached to toy kites or other flying toys, shall have an electrical resistance of more than 10 to the power 108 <math>\Omega</math>/cm when tested at a relative humidity of 50% to 65% and carry out the test in this atmosphere. The sample shall be condition for 7h minimum before testing. Using an appropriate appliance, to determine the electric resistance.</p> <p>Toy kites and other flying toys shall carry a warning.</p> <p>Recommend change to EN format – length change to 2 m</p>	4.13	<p>Generally same meaning as ISO 8124-1 but with following differences:</p> <p>No strings and lines mentioned in EN 71-1.</p> <p>Cord over 2 m is covered. (ISO 8124-1: 1.8 m)</p> <p>Warning statement should be followed in EN 71-1: (No specify in ISO 8124-1) "Warning! Do not use near overhead power lines or during thunderstorms."</p>	4.14.4	<p>Generally same as ISO 8124-1. The requirement of length and electrical resistance is the same as ISO 8124-1, however, the testing method is a little bit different. The sample shall be tested at a relative humidity of not less than 45% and a temperature of not greater than 75°F (24°C), when measured by a high-voltage, resistance breakdown meter.</p> <p>Also, no warning is required.</p> <p>Recommend change to EN version</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.12.1	<p><b>Toy pushchairs, perambulators and similar toys</b></p> <p>The requirements in 4.12.1 do not apply to toys with a potential sitting surface width of less than 140mm. Toy pushchairs, strollers, perambulators and similar toys with folding and sliding mechanisms shall conform to the following requirements:</p> <p>a) Toys with a handle or other structural member which can fold down over a child:</p> <p>Such toys shall have at least one main locking device and at least one secondary locking device, both of which act directly on the folding mechanism.</p> <p>At least one of the locking devices shall automatically engage when the toy is erected.</p> <p>When tested in accordance with 5.22.2 (toy pushchairs and perambulators), the toy shall not collapse and neither of the locking devices shall fail or disengage.</p> <p>Two devices of the same construction (e.g. locking rings), one of the left-hand side and one on the right-hand side of the toy, are considered to be one locking device.</p> <p>If it is possible to partially erect a toy pushchair or perambulator without one of the locking devices being engaged, the test given in 5.22.2 shall be conducted in this orientation.</p> <p>Note: Partially erect means erected in such a way that the user might wrongly believe the toy to be fully erect.</p> <p>b) Toy pushchairs and perambulators that do not present a hazard of a handle or other structural member folding down over a child:</p> <p>Such toys shall have at least a locking device or a safety stop, which may be manual in operation.</p> <p>When tested according to 5.22.2 (toy pushchairs and perambulators), the toy shall not collapse and locking device or safety stop shall not fail or disengage.</p> <p>If it is possible to partially erect a toy pushchair or perambulator without a locking device being engaged, the test of 5.22.2 shall be conducted in this orientation.</p>	4.10.1 a) and b)	Same	4.13.1	<p>Generally same as ISO 8124-1, but it only requires the article shall have a safety stop or locking device, or have adequate clearance to provide protection for the fingers, hands, and toes from crushing, laceration or pinching hazards in the event of sudden movement or collapse of the article.</p> <p>Suggest change to ISO/EN</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.12.2	<p><b>Other toys with folding mechanisms</b> Play furniture and other toys in which a folding mechanism, arm or brace is capable of supporting a child or a comparable mass shall either</p> <p>a) have a safety stop or locking device to prevent unexpected or sudden movement or collapse of the toy. The toy shall not collapse when tested in accordance with 5.22.3 (other toys with folding mechanism), or</p> <p>b) have adequate clearance between moving parts to protect the fingers and toes against crushing or laceration in the event of sudden movement or collapse of the toy. If it is possible to insert a 5 mm diameter rod between moving parts, it shall also be possible to insert a 12 mm diameter rod.</p>	4.10.1 c) and d)	<p>a) Only mentioned the requirement is covered if the toys have a scissor like action in EN 71-1. However, capable of supporting a child or a comparable mass is covered in ISO 8124-1. <b>Recommend addition of ISO (a) to EN</b></p> <p>b) Shall have a clearance of 12 mm or more between moving parts which constitute a scissor like action. However, the requirement of ISO 81241 states if it is possible to insert a 5 mm diameter rod between moving parts, it shall also be possible to insert a 12 mm diameter rod. <b>ISO is more definitive</b></p> <p>For toys not covered by 4.10.1a) and b), and folding and moving mechanism intended to bear or capable of bearing the mass of a child and capable of injuring fingers, if it is possible to insert a 5 mm diameter rod between moving parts, it shall also be possible to insert a 12 mm diameter rod. <b>Add to ISO &amp; ASTM</b></p>	4.13.1	<p>Generally same as ISO 8124-1, but it only requires the article shall have a safety stop or locking device, or have adequate clearance to provide protection for the fingers, hands, and toes from crushing, laceration or pinching hazards in the event of sudden movement or collapse of the article. <b>Suggest adding ISO requirements.</b></p>
4.12.3	<p><b>Hinge-line clearance</b> Toys having a gap or clearance along the hinge line between a stationary portion and a movable portion that weighs more than 0.25 kg, shall be so constructed that if the accessible gap at the hinge line will admit a 5 mm diameter rod, it shall also admit a 12 mm diameter rod at all positions of the hinge.</p>	4.10.3	Same	4.13.2	<p>Generally same as ISO 8124-1, but note that there are 2 differences. 1) 0.20 kg change to 0.25 kg 2) 12 mm change to 13 mm  <b>Harmonize weight and measurement with EN-ISO.</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.13.1	<b>Circular holes in rigid materials</b> For toys intended for children under 60 months, if an accessible circular hole in any rigid material less than 1.58 mm in thickness can admit a 6 mm diameter rod to a depth of 10 mm or greater, it shall also admit a 12 mm diameter rod.		No corresponding clause  <b>Recommend add to EN</b>	4.18.2	Same as ISO 8124-1, only 12 mm change to 13 mm.  <b>Harmonize sizes</b>
4.13.2	<b>Accessible clearances for movable segments</b> For toys intended for children under 96 months, if accessible clearances for movable segments can admit a 5 mm diameter rod, they shall also admit a 12 mm diameter rod.	4.10.1 d)	Generally same as ISO 8124-1 but this requirement is applied to children less than 14 years, but only children under 96 months could be concerned in ISO 8124-1. <b>Unlikely to agree to 96 months but should recommend acceptance by EN (MJD This seems inconsistent with previous recommendation to change all 96 month tests to 14 years!!)</b>	4.18.1	Same as ISO 8124-1, only 12 mm change to 13 mm.  <b>Harmonize sizes</b>
4.13.3	<b>Chains or belts in ride-on toys</b> Power transmission chains and belts in ride-on toy shall have a shield from, and including , the driving chain-or belt-wheel to, and including, the driven chain- or belt wheel at the side(s) where the limb of the child is nearest the chain or belt(side A). There shall also be a shield around the driving chain- or belt-wheel on any side (side B) where the chain or belt is separated from the limb of the child. The shield shall be such that the chain or belt and any chain- or belt-wheels are not accessible from side A and that the junction between the chain or belt and the chain- or belt-wheel is not accessible from from side B(if any) when tested according to 5.7(accessibility of a part or component). It shall not be possible to remove the shield without the use of a tool.	4.15.1 .6 a)	Different presentation comparing with ISO 8124-1: Propelling chains shall have a shield from the crank to the gear wheel at the side where the leg of the child is nearest the chain (side A), and a shield around the crank on the opposite side (side B).The shield shall not have slots or holes with a width greater than 5 mm. It shall not be possible to remove the shield without the use of a tool. In addition, no belt is mentioned in EN 71-1 but ISO 8124-1 does.  <b>Believe this is better but need to add belt.</b>	4.18.3 .2	Same as the scope of ISO 8124-1 but no details of requirements provided. Just requires the chains and belts shall be shielded.  <b>Change to EN.</b>
4.13.4	<b>Other driving mechanisms</b> Clockwork, battery-operated, inertial, or other power-driven mechanisms in toys shall be so enclosed that they do not expose accessible sharp edges or sharp points or otherwise present a hazard of crushing the fingers or other parts of the body. <b>Add limit of 60 months as ASTM</b>	4.10.2 a)	Generally same but mention the requirements do not apply to driving mechanisms with insufficient power to injure any parts of the body but no mentioned in ISO 8124-1.  <b>Exemption is subjective. Suggest remove</b>	4.18.4	Different from ISO 8124-1, this requirement subject to toys intended for children aged 60 months or less.  <b>ASTM wording better.</b>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.13.5	<p><b>Winding Keys</b> This requirement applies to toys intended for children under 36 months that use winding keys that rotate as the mechanism unwinds. The requirement applies to keys with flat plates attached to the stem, and which protrude from a rigid surface of the body of the toy. If the clearance between the flukes of the key and the body of the toy can admit a 5 mm diameter rod, it shall also admit a 12 mm diameter rod at all positions of the key. For keys covered by this requirement, there shall be no opening in the flukes of the key which can admit a 5 mm diameter rod.</p>	4.10.2 c)	<p>Same but mention the requirements do not apply to driving mechanisms with insufficient power to injure any parts of the body but no mentioned in ISO 8124-1.</p> <p>However, this requirement is applied to children less than 14 years, under 36 months for ISO 8124-1.</p> <p>Should be as ISO</p>	4.18.5	<p>There is a difference in the diameter of the rod between ISO 8124-1 and ASTM. If the clearance between the flukes of the key and body of the toy will admit a 6-mm diameter rod, it shall also admit a 13-mm diameter rod at all positions of the key. For keys covered by this requirement, there shall be no opening in the flukes of the key which can admit a 5 mm diameter rod.</p> <p>Harmonize sizes to 5 and 12</p>
4.14	<p><b>Springs</b> Springs shall comply with the following: a) Spiral springs shall not be accessible if the gap between two consecutive spirals is greater than 3 mm in any position of use. b) Extension helical springs shall not be accessible if the gap between two consecutive turns is greater than 3 mm when the spring is subjected to a tensile force of 40 N. This requirement does not apply to springs that do not essentially return to their original position after unloading. c) Compression helical springs shall not be accessible if the gap between two consecutive turns is greater than 3 mm at rest and the spring, when the toy is used, can be subjected to a compression force of 40 N or more. This requirement does not apply to springs that do not essentially return to their original position after loading with a force of 40 N, nor to springs wound around a second component of the toy (for example a guiding rod) so that it is not possible to insert the accessibility probe A (see 5.7) between consecutive coils further than 5 mm. Add ASTM requirements</p>	4.10.4	<p>Same</p> <p>Add ASTM requirements</p>	4.18.6	<p>Different from ISO 8124-1, it just mentions the requirement for coil springs.</p> <p>Coil springs (either compression or extension) that form part of a component that carries the weight of a child shall be shielded so as to prevent access during use or reasonably foreseeable abuse unless either of the following occurs: A 0.12-in. (3-mm) diameter rod cannot be inserted freely; or A 0.25-in. (6-mm) diameter rod can be inserted freely between the adjacent coils at all points in the action cycle when the spring is subjected first to a weight of 3 lb (1.4 kg) and then to a weight of 70 lb (32 kg).</p> <p>Consider as 4.18.6.1 as per EN/ISO and 4.18.6.2 ASTM requirements for load bearing springs and add to EN and ISO</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.15.1	<p><b>Stability of ride-on toys and seats</b></p> <p>The requirements in 4.15.1.1 to 4.15.1.3 apply to ride-on toys and stationary toys with seats, such as play furniture intended for children under 60 months. Ride-on toys of spherical, cylindrical or other shape that do not normally have a stable base (for example toy bicycles and similar toys) are not covered by these requirements.</p> <p>Only applies to ride on Toys <u>with</u> seats.</p>	4.15.1 .4	<p>Not limited to 60 months, toys intended for children of less than 14 years are also covered. EN 71-1 divide toys intended to bear the mass of children into propelled and not propelled: (ISO 8124-1 grouped ride-on toys and stationary toys with seats together)</p> <p><u>For toys propelled by a child:</u> Generally same as ISO 8124-1 but some differences in exemption: 1) roller skates, inline skates and toy skateboard 2) Toys with aligned wheels. Wheels with a spacing of 150 mm or less between the centres of the outermost wheels are considered to be a single wheel 3) Toy bicycles with a fixed transmitted drive. 4) 36 months and over where the feet of the child can provide side ways stability (unrestricted in their sideway motion) and where the height of the seat is such that a child of the age group for which the toy is intended can reach the ground with both feet when seated For 1) – 3), ISO 8124-1 only mention "Ride-on toys of spherical, cylindrical or other shape that do not normally have a stable base"</p> <p>4.15.4 <u>For toys not propelled by a child</u> Stability test 8.23.1 shall be performed for all not propelled by a child but designed to bear the mass of a child</p> <p>Review lower age down to 60 months</p>	4.15	<p>Same</p> <p>See no need to change</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.15.1 .1	<p><b>Sideways stability, feet available for stabilization</b></p> <p>Ride-on toys and stationary toys with seats, where the height of the seat from the ground is 27 cm or more and where the feet and/or legs of the child are unrestricted in their sideways motion and thus are available for stabilization, shall not tip when tested in accordance with 5.12.2 (stability test, feet available for stabilization).</p> <p>Add provision from ASTM</p>	4.15.1 .4	<p>Stability</p> <p>Shall not tip over when tested but no specify 1) side or 2) fore and aft stability</p> <p>For all applicable toys which are propelled by a child, testing method would be the same as 8.23.1 either the feet is available for stabilization or not.</p> <p>4.15.4 b)</p> <p>For toys which are not propelled by a child,</p> <p>Stability test 8.23.1 shall be done for all not propelled by a child but designed to bear the mass of a child</p> <p>Add provision from ASTM</p>	4.15.2 .1	<p>Generally same as ISO 8124-1, but it is tested for those ride-on toys, or seats in which the height of the seat from the ground is greater than one third of the height indicated in the table - Height of Fifth Percentile Children (Values Given for Boys or Girls, Whichever is Lower) at the lowest age of the age range for which the ride-on toys or seat is intended.</p> <p>This provision could be applied to EN and ISO</p>
4.15.1 .2	<p><b>Sideways stability, feet unavailable for stabilization</b></p> <p>Ride-on toys and stationary toys with seats, where the feet and/or legs of the child are restricted in their sideways motion, such as by the enclosed sides of a toy automobile, shall not tip when tested in accordance with 5.12.3 (stability test, feet unavailable for stabilization).</p>	4.15.1 .4	<p>Stability</p> <p>4.15.4 b)</p> <p>Shall not tip over when tested but no specify 1) side or 2) fore and aft stability</p> <p>For all applicable toys which are propelled by a child, testing method would be the same as 8.23.1 either the feet is available for stabilization or not.</p> <p>For toys which are not propelled by a child, Stability test 8.23.1 shall be done for all not propelled by a child but designed to bear the mass of a child</p>	4.15.2 .2	<p>Same</p> <p>No change</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.15.1.3	<p><b>Fore and aft stability</b></p> <p>Ride-on toys and stationary toys with seats, where the rider cannot easily use his/her legs for stabilization, shall not tip forward or backward when tested in accordance with 5.12.4 (fore and aft stability test).</p>	4.15.1.4	<p>Stability</p> <p>Shall not tip over when tested but no specify 1) side or 2) fore and aft stability</p>	4.15.3	<p>Same</p> <p>No change</p>
		4.15.4 b)	<p>For all applicable toys which are propelled by a child, testing method would be the same as 8.23.1 either the feet is available for stabilization or not.</p> <p>For toys which are not propelled by a child, Stability test 8.23.1 shall be done for all not propelled by a child but designed to bear the mass of a child</p>		
4.15.2	<p><b>Overload requirements for ride-on toys and seats</b></p> <p>Ride-on toys, stationary toys with seats and toys designed to support all or part of the mass of the child shall not collapse when tested in accordance with 5.12.5 (overload test for ride-on toys and seats) and 5.24.4 (dynamic strength test for wheeled ride-on toys).</p> <p>NOTE Manufacturers are recommended to consider the strength of the seat and seat pillar under dynamic conditions.</p> <p>No change</p>	4.15.1.3	<p>The loading weight is different from ISO 8124-1.</p> <p>For EN71-1:</p> <ul style="list-style-type: none"> <li>- 50kg for children 36 months and over</li> <li>- 25kg for children under 36 months</li> </ul> <p>For ISO 8124-1:</p> <ul style="list-style-type: none"> <li>⌘ 35kg for children up to and including 36 months</li> <li>⌘ 80kg for children 37 months up to and including 96 months</li> <li>⌘ 140kg for children 97 months and over</li> </ul> <p>Recommend modify to suggested ASTM as EN requirements are quite low</p>	4.15.5	<p>The loading weight is different from ISO 8124-1. It requires the load shall be three times the weight indicated in Table 3 at the highest age of the age range for which the toy is intended.</p> <p>If ASTM loading was reduced to 2 times the test weight, it would match ISO and be greater than EN requirement</p>
4.15.3	<p><b>Stability of stationary floor toys</b></p> <p>Stationary floor toys greater than 760 mm in height and weighing more than 4.5 kg shall not tip when tested in accordance with 5.12.6 (stability test of stationary floor toys). Observe whether the toy tips within 1 min.</p>	4.16	<p><b>Heavy immobile toys</b></p> <p>Height of toy is not concerned in EN 71-1. The toy shall be observed whether it tips within 1 min while there is no requirement for the testing time in EN 71-1.</p>	4.15.4	<p>Generally same as ISO 8124-1, but the testing method is a little bit different. The toy shall be observed whether it tips within 1 min while there is no requirement for the testing time in ASTM.</p> <p>Recommend add 1 min requirement</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.16.1	<p><b>Ventilation</b> Any toy, made of impermeable material and having a door or lid, which encloses a continuous volume greater than 0,03 m<sup>3</sup> and in which all internal dimensions are 150 mm or more, shall provide means for breathing by the incorporation of unobstructed ventilation openings. These ventilation openings shall consist of a minimum of either two openings, each having a total area of at least 650 mm<sup>2</sup> and placed at least 150 mm apart or one opening that is the equivalent of the two 650 mm<sup>2</sup> openings expanded to include the separation area.</p> <p>The ventilation opening shall remain unobstructed when the toy is placed on the floor in any position and adjacent to two vertical plane surfaces meeting at a 90° angle, so as to simulate the corner of a room. If a permanent partition or bars (two or more) effectively limit the continuous space by making the largest internal dimension less than 150 mm, the ventilation opening shall not be required.</p> <p>Recommend remove word "permeable" but retain "impermeable".</p>	4.14.1 a)	<p>Generally same but with following differences:</p> <p>"Made of impermeable" is mentioned in ISO 81241 but not mentioned in EN 71-1.</p>	4.16.1	<p>Same</p> <p>Recommend remove word "permeable"</p>
4.16.2 .1	<p><b>Lids, doors and similar devices</b> Closures, such as lids, covers and doors or devices similar to enclosures shall not be fitted with automatic locking devices.</p> <p>Closures shall be of a type that can be opened with a force of 45 N or less when tested in accordance with 5.13.1 (closures). This requirement notably precludes the use of buttons, zips and similar fastenings on lids, covers and doors.</p>	4.14.1 b)	<p>Opening force requirement is generally same but 50 N for EN 71-1 but 45 N for ISO-8124-1. Besides, the location of applying force is mentioned not in EN 71-1 but ISO 8124-1 does.</p> <p>No requirement for automatic locking devices in EN 71-1 but ISO 8124-1 does.</p> <p>Adopt ISO requirements</p>	4.16.2	Same.

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.16.2 .2	<p><b>Lid support for toy chests and similar toys</b></p> <p>a) Toy chests and similar toys with vertically opening hinged lids shall be provided with lid-support mechanisms to prevent sudden collapse or dropping of the lid. The lid-support mechanism shall support the lid so that at no position in the arc of travel of the lid, from within 50 mm of the fully closed position through an arc not to exceed 60° from the fully closed position, shall it drop more than 12 mm under the influence of its own mass, except in the last 50 mm of travel. The test shall be conducted in accordance with 5.13.2.1 (lid support).</p> <p>b) The lid-support mechanism shall comply with this requirement before and after being subjected to 7 000 opening and closing cycles, as described in 5.13.2.2 (durability test for toy chest lids).</p> <p>c) The lid-support mechanism shall not require adjustment by the consumer to ensure adequate lid support nor shall it require adjustment in order to comply with a) above after being cycled in accordance with 5.13.2.2 (durability test for toy chest lids).</p> <p>d) The lid and lid-support mechanism shall comply with the requirements in 4.12. d) Toy chests shall be accompanied by instructions for proper assembly and maintenance (see C.3.4 for guidance).</p> <p>Consider reducing test cycles to 5'000 add requirement as per ASTM</p>	4.14.1 c)	Same	4.27	<p>Only two requirements are same as ISO 8124-1:</p> <p>a) Same, but 12 mm change to 13 mm.</p> <p>b) Same Other than a) and b), it also requires lid-support mechanisms shall be designed so as to prevent pinching, crushing, or laceration injuries to fingers. Clearances or gaps produced by the action of such mechanisms (between components of the mechanism or between the mechanism and the toy chest or its lid) shall be constructed so that if the gap admits a 0.19-in. (5-mm) diameter rod, it will also admit a 0.50-in. (13-mm) diameter rod at all positions of the arc of travel of the lid. This requirement does not apply to lid support mechanisms installed on the inside of the toy chest that are at least 12 in. (300 mm) from the front and side edges of the toy chest or its lid.</p> <p>F 963 – 08 has now deleted the toy chest requirements and referred only to Std F834 toy chests.</p> <p>. Harmonize dimensions.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.16.3	<p><b>Toys that enclose the head</b> Toys that enclose the head, such as space helmets, and that are made of impermeable material shall provide means for breathing by the incorporation of unobstructed ventilation areas close to the mouth and nose area. These ventilation areas shall consist of a minimum of either two holes, each hole having a total area of at least 650 mm<sup>2</sup> and placed at least 150 mm apart, or one opening that is equivalent to the two 650 mm<sup>2</sup> holes expanded to include the separation area</p> <p>add words so as to read “areas in close proximity to the mouth and nose area” The distance between the holes should be reviewed, with the view to reducing it to 100mm.</p>	4.14.2 a)	<p>The total area of each hole and the location of the holes are not mentioned in EN 71-1.</p> <p>Add revised requirement from ISO</p>	4.16.3	<p>Generally same as ISO 8124-1, but it doesn't mention that the two holes shall be close to the mouth and nose area and each hole shall have at least 650 mm<sup>2</sup>, It just requires the two holes shall have at least a total of 1300 mm<sup>2</sup>. Moreover, it doesn't mention that one opening can be an alternative breathing means.</p> <p>Add location of holes.</p>
4.17	<p><b>Simulated protective equipment, such as helmets, hats and goggles</b> All rigid toys that cover the face, such as goggles, space helmets or face shields, when tested in accordance with 5.14 (impact test of toys that cover the face), shall not produce sharp edges, sharp points or loose parts which could enter the eye. This applies to toys with cut-out eye holes as well as items that cover the eyes.</p> <p>Toys that simulate safety protective equipment and are intended to be worn by children (examples include but are not limited to construction helmets, sports helmets and fire-fighter helmets) and their packaging shall carry a warning (see C.2.11 for guidance). Revise 5.14 to reflect test weight as per ASTM</p>	4.14.2 b) and c)	<p>Parameters are totally different.</p> <p>For EN71-1: Mass: 1 kg Ø of distributed over an area (disc): 80 mm Distance: 100 mm</p> <p>For ISO 8124-1: Mass: 15 g Spherical ball: Ø 16 mm Distance: 130 cm</p> <p>EN to use ISO/ASTM is greater protection</p>	4.19	<p>Same.</p> <p>Consider including both test methods in all 3 standards as they address different impact scenarios if not it appears the ASTM/ISO would be better alternative.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.18.1	<p><b>Projectile toys – General</b>            Projectiles and projectile toys shall conform to the following requirements.</p> <p>a) All rigid projectiles shall have a tip radius of not less than 2 mm.</p> <p>b) High speed rotors and high speed propellers shall be so designed that the perimeter of the rotor or propeller is in the form of a ring in order to reduce the risk of injury.            This requirement does not apply to rotors or propellers that fold down when the toy is not activated. However, the tips and leading edges of these type of rotors or propellers shall be made of suitable resilient material.</p>	4.17.1 a) & c)	There is no such exempt as ISO 8124-1.	4.21	<p>See note on projection toys as ASTM provides less guidance than EN or ISO work is currently taking place on revision of ISO Standard.</p> <p>Different from ISO 8124-1, it has no requirements for general projectile toys.</p>
4.18.2	<p><b>Projectile toys with stored energy</b>            Projectile toys with stored energy shall conform to the following requirements.</p> <p>a) When tested in accordance with 5.15 (kinetic energy of projectiles, bows and arrows), if the maximum kinetic energy of a projectile exceeds 0,08 J</p> <p>1) the projectile shall have a protective tip made of resilient material such that the kinetic energy per unit area of contact shall not exceed 0,16 J/cm<sup>2</sup>;</p> <p>2) the protective tip shall either:            - not become detached from the projectile when tested in accordance with 5.24.5 (torque test) or 5.24.6.4 (tension test for protective components); or            - if the protective tip becomes detached from the projectile when tested in accordance with 5.24.5 (torque test) or 5.24.6.4 (tension test for protective components), the projectile shall not be able to be launched by the intended discharge mechanism</p> <p>3) the potential danger of misuse shall be drawn to the attention of the user (see C.2.15 for guidance).</p>	4.17.3	<p>Differences:</p> <p>a) ISO 8124-1 concerns the kinetic energy per unit area, but EN 71-1 concerns the kinetic energy per unit area only if it is arrow type. For other resilient projectiles or projectiles with resilient impact surfaces, shall not exceed 0,5 J</p> <p>b) No mention on the requirement for hazardous sharp edge or a hazardous sharp point in EN 711. (covered in general requirement 4.7 and 4.8)</p> <p>c) Potential danger shall be drawn to the attention of the user only if a toy capable of discharging a projectile with a kinetic energy greater than 0,08 J. However, no kinetic energy was concerned in ISO 8124-1.</p>	4.21.1 4.21.4	<p>Some critical differences:</p> <p>a) No requirement for the kinetic energy per unit area of contact for the protective tip.</p> <p>b) No attention shall be drawn to the user.</p> <p>Requirements only apply to toys that are intended to launch projectiles into free flight by means of a discharge mechanism in which the kinetic energy of the projectile is determined by the toy and not by the user.</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
	<p>b) When tested in accordance with 5.15 (kinetic energy of projectiles, bows and arrows), projectiles ejected by a discharge mechanism shall not produce a hazardous sharp edge or a hazardous sharp point.</p> <p>c) The discharge mechanism should be so designed that it will not discharge any other type of potentially hazardous improvised projectiles (e.g. pencils, nails, stones) without modification by the user. Where the discharge mechanism is capable of discharging an object other than that provided with the toy, the potential danger of misuse shall be drawn to the attention of the user (see C.2.15 for guidance). In order to reduce the risk of eye injuries, manufacturers are strongly recommended to design toys so that they are not able to discharge missiles other than those provided with the toy.</p> <p>d) Projectiles shall not, whatever their orientation, fit entirely into the small parts cylinder when tested in accordance with to 5.2 (small parts test). This requirement applies regardless of the age group for which the toy is intended. Small parts released during reasonably foreseeable abuse testing do not fail this requirement unless they are still able to be fired as a projectile by the mechanism. <b>Recommend accept EN size for projectile with suction cup</b></p>	4.17.1 b)	<p>d) Covered in EN 71-1 5.1.</p> <p>In addition, EN 71-1 covered the requirement of suction cup in projectile section. If the impact surface is a suction cup it shall not become detached when tested according to 8.4.2.3 (tension test, protective components).</p> <p>Projectiles with a suction cup as impact area shall have a length of 57 mm or more when measured as indicated in Figure 9, and with its suction cup on a flat surface under a force that is produced by its own mass.</p>		

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.18.3	<p><b>Projectile toys without stored energy</b> Projectile toys without stored energy shall conform to the following requirements:</p> <p>a) Where the projectile is in the form of an arrow or dart, the projectile shall either</p> <p>1) include a protective tip that is integral with the front end of the shaft; or</p> <p>2) have a blunted front end to which a protective tip is attached.</p> <p>b) The protective tip shall have a contact area of at least 3 cm<sup>2</sup> and, unless it is reliant on magnetic forces, the tip shall be made from suitable resilient material.</p> <p>c) When tested in accordance with 5.24.5 (torque test) or 5.24.6.4 (tension test for protective components);either</p> <p>1) the protective tip shall not become detached from the projectile or</p> <p>2) if the protective tip becomes detached from the projectile, the projectile shall not be able to be launched by the intended launch method.</p> <p>d) For a bow and arrow set, if the maximum kinetic energy of the arrows exceed 0,08 J when tested in accordance with 5.15 (kinetic energy of projectiles, bows and arrows), the kinetic energy per unit area of contact shall not exceed 0,16 J/cm<sup>2</sup>.</p> <p>e) The potential danger of misuse shall be drawn to the attention of the user (see C.2.15 for guidance).</p> <p>Add requirement from EN re 30N</p>	4.17.1 , 4.17.2 and 4.17.4	Same but ISO 8124-1 does not mentioned using a force of 30N or less, but EN 71-1 does.	4.21.1. 5	<p>There are no requirements on projectile toys without stored energy. There is no requirement for toys with any discharge mechanism incapable of storing energy independent of the user.</p> <p>Add EN /ISO requirement</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.19	<p><b>Aquatic toys</b></p> <p>All air inlets of inflatable aquatic toys shall have non-return valves with stoppers permanently attached to the toy.</p> <p>When the toy is inflated, the stopper must be capable of being pushed into the toy so that it does not stand more than 5 mm from the surface of the toy.</p> <p>Advertising copy or graphics shall not state or imply that the child will be safe with such a toy if left unsupervised.</p> <p>Aquatic toys shall carry a warning in accordance with C.2.6.</p>	4.18 and A.23	<p>A non-return valve is not a “must” in EN 71-1 but ISO 8124-1 does.</p> <p>The stopper shall not present any small parts after abuse test but no requirement for ISO 8124-1.</p> <p><b>Add ISO requirement</b></p>	5.4	<p>Aquatic toys and their packages shall carry safety labeling in accordance with 5.3, consisting of the signal word “WARNING” and contain, at a minimum, the following text or equivalent text which clearly conveys the same warning: This is not a lifesaving device. Do not leave child unattended while device is in use. It also requires small objects contained in an inflatable toy shall not be liberated during inflation or deflation.</p> <p>The testing parameters are slightly different from ISO 8124-1.</p> <p><b>Adopt ISO</b></p>
4.20	<p><b>Braking</b></p> <p>Braking requirements in a) and b) below do not apply to:</p> <ul style="list-style-type: none"> <li>-toys where the hands or feet provide the motive power to the driving wheel or wheels via direct transmission (e.g. pedal cars, tricycles);</li> <li>- electrically propelled ride-on toys which are propelled at a maximum speed of 1 m/s unloaded, having a seat height of less than 300 mm and in which the feet are free;</li> <li>- toy bicycles (see 4.21.3).</li> </ul>	4.15.1 .5	Generally same as ISO-8124-1		<p>No corresponding clause</p> <p><b>Adopt ISO</b></p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
	<p>a) Mechanically or electrically propelled ride-on toys with a free-wheeling facility in accordance with 5.16.1 (determination of free-wheeling facility)</p> <ul style="list-style-type: none"> <li>- shall have a braking device;</li> <li>- when tested in accordance with 5.16.2 (brake performance for mechanically or electrically powered ride-on toys other than toy bicycles) shall not move more than 5 cm;</li> <li>- for such toys which have a mass of 30 kg or more, it shall be possible to lock the brake (parking brake).</li> </ul> <p>b) Electrically propelled ride-on toys shall be operated by means of a switch which cuts off the power automatically when it is released, without tilting the toy. Application of the brakes shall cut power automatically to the drive.</p>				
4.21.1	<p><b>Toy bicycles</b> -Instructions for use Toy bicycles shall be accompanied by assembly and maintenance instructions. The potential dangers of riding toy bicycles and precautions to be taken shall be brought to the attention of the parents or carers (see C.2.17 for guidance).</p>	4.15.2 .2	Same		<p>No corresponding clause</p> <p>Adopt ISO</p>
4.21.2	<p><b>Determination of maximum saddle height</b> The seat pillar shall have a permanent mark that indicates the minimum insertion depth of the pillar into the frame. The minimum insertion mark shall be positioned at a distance equal to or greater than two and a half times the diameter of the pillar measured from the bottom of the full diameter of the pillar, and shall not affect the seat pillar strength.</p>	4.15.2 .3	Same		<p>No corresponding clause</p> <p>Adopt ISO</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.21.3	<p><b>Braking requirements</b> Toy bicycles with a free-wheeling facility in accordance with 5.16.1 shall be equipped with a braking system which operates on the rear wheel.</p> <p>For handbrakes, the brake lever dimension <i>d</i> measured at the midpoint of the lever shall not exceed 60 mm. The range of adjustment on an adjustable lever shall permit this dimension to be attained. The lever length (<i>l</i>) shall be equal to 80 mm or more. When tested in accordance with 5.16.3 (brake performance for toy bicycles), the toy shall not move more than 5 cm.</p>	4.15.2 .4	Same		No corresponding clause  Adopt ISO
4.22	<p><b>Speed limitation of electrically driven ride-on toys</b> Electrically driven ride-on toys shall have a maximum speed of 8 km/h when tested in accordance with 5.17.</p>	5.6 and A.20	For children 36 months or less: Same For children over 36 months No requirement in EN71-1. However, certain countries may have such limitations in their national legislation.		No corresponding clause  Adopt ISO
4.23	<p><b>Toys containing a heat source</b> This requirement does not cover burners in chemistry sets or related experimental kits and light bulbs and similar items. When tested in accordance with 5.18 (determination of temperature rises):</p> <p>a) toys containing a heat source shall not ignite when used at the maximum input; b) the rise in temperature of handles, knobs and similar parts which are likely to be touched by hand shall not exceed the following values: - parts made of metal 25 K - parts made of glass or porcelain 30 K - parts made of plastics or wood 35 K</p> <p>c) the rise in temperature of other accessible parts of the toy shall not exceed the following values: - parts made of metal 45 K - parts made of other materials 55 K Note: A temperature difference of 1K equals a temperature difference of 1°C. Add EN requirement re light bulbs more than 2.5W if accessible</p>	4.21	Generally same as ISO 8124-1 but light bulbs more than 2,5W is also covered in EN 71-1.  Add "if accessible" New Standard EN 62115 for B/O Toys. Replaced EN 50088		No corresponding clause  Adopt revised ISO-EN (MJD This should be checked as limiting the heat source may affect products that are acceptable in USA)

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.24	<p><b>Liquid-filled toys</b> Upon completion of any relevant tests in accordance with clause 5, liquid-filled toys with non-accessible liquid shall be tested according to 5.19 (leakage of liquid-filled toys) and there shall be no leakage of the contents which would result in a potential hazard. Liquid-filled teething toys and liquid-filled teething toys shall be marked with a warning not to be placed in a freezer compartment (see C.3.5 for guidance).</p>	5.5	<p>Generally same as ISO 8124-1 but EN 71-1 only applied for children 36 months or less</p> <p>Suggest open age</p>		<p>No corresponding clause</p> <p>Adopt ISO as there may be microbiological issues also toxicity and flammability refer 16CFR (MJD There are adequate requirements in F 963 and CFR 1500 to prevent any liquids from being hazardous even if liberated)</p>
4.25	<p><b>Mouth-actuated toys</b> Mouth-actuated toys shall conform to the following requirements. a) Mouth-actuated toys and removable mouthpieces of mouth-actuated toys shall not fit entirely in the small parts cylinder when tested in accordance with 5.2 (small parts test). b) Non-detachable mouthpieces of mouth-actuated toys, if detached when tested in accordance with 5.24.5 (torque test) and 5.24.6.1 (tension test — general), shall not fit entirely in the small parts cylinder when tested in accordance with 5.2 (small parts test). c) Mouth-actuated toys which contain loose components such as spheres in a whistle or reeds in a noisemaker shall not, when tested in accordance with 5.20 (durability of mouth-actuated toys), release any objects that fit entirely in the small parts cylinder when tested in accordance with 5.2 (small parts test). d) Removable or non-detachable mouthpieces fitted to balloons shall conform to the requirements in items a) and b) (see also 4.5.6).</p>	4.11	<p>One additional requirement for mouth-actuated projectile toys is added in EN 71-1.</p> <p>Suggest add to ISO</p>	4.6.2	<p>Only one requirement is same as ISO 8124-1 (point c).</p> <p>Could adopt all of revised ISO</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
	<b>Mouth-actuated toys</b> Add: <b>Mouth-actuated projectile toys</b> (e.g. peashooters) shall have a mouth piece which does not allow the intended projectiles to pass through when tested according to 8.17.1 (mouth-actuated projectile toys), and thereafter does not become detached when tested according to 8.3 (torque test) and 8.4.2.1 (tension test, general).				
4.26	<b>Toy roller skates and toy skateboards</b> Toy roller skates, toy inline skates and toy skateboards are products that are intended for children with a mass of 20 kg maximum. Toy roller skates, toy inline skates and toy skateboards shall carry a warning advising that protective equipment be worn and that the product is intended of children with a mass of 20 kg maximum ( see B.2.14 for guidance).	4.15.1	Same		No corresponding clause Adopt ISO -EN
4.27	<b>Percussion caps</b> Assuming reasonably foreseeable use, percussion caps specifically designed for use in toys shall not produce flames, glowing parts or other debris which are potential eye injury hazards. The packaging of percussion caps shall carry a warning (see C.2.18 for guidance).	4.19	One more requirement is provided in EN 71-1: Toys intended to be used with percussion caps shall carry an indication regarding which make and model of percussion caps they can be safely used with, and a warning (see 7.14). The warning may alternatively be placed on the packaging (see 7.14)." This should be recommendation only		No corresponding clause  Adopt ISO -EN

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
4.28	<p><b>Acoustic requirements</b> The requirements in this subclause do not apply to:</p> <ul style="list-style-type: none"> <li>-mouth-actuated toys, i.e toys the noise level of which is determined by the blowing action of the child (e.g. whistles and imitation musical instruments such as trumpets, flutes);</li> <li>-child-actuated toys, i.e. toys the noise level of which is determined by the muscular action of the child (e.g xylophones, bells, drums, squeeze toys).</li> </ul> <p>The continuous sound pressure requirements do not apply to rattles; however, rattles are covered by impulsive sound pressure requirements;</p> <ul style="list-style-type: none"> <li>-radios, tape players, CD-players and other similar electronic toys;</li> <li>-toys that are connected to or interfaced with external devices (e.g. televisions, computers) where the sound pressure level is determined by the external device;</li> <li>-sound emitted from earphones/headphones.</li> </ul> <p>When tested in accordance with 5.25 (determination of sound pressure levels), toys that are designed to emit sound shall conform to the following requirements:</p> <p>a) The A-weighted equivalent sound pressure level, LpAeq, of continuous sounds produced by close to the-ear toys shall not exceed 65 dB. b) The A-weighted equivalent sound pressure level, LpAeq (maximum A-weighted sound pressure level, LpAmax, for pass-by tests), of continuous sounds produced by all other toys except close-to-the-ear toys shall not exceed 85 dB.</p>	4.2	<p>No exempt for the following two items but ISO 8124-1 does.</p> <ul style="list-style-type: none"> <li>⌘ Toys that are connected to or interfaced with external devices where the sound pressure level is determined by the external device.</li> <li>⌘ Sound emitted from earphones/ headphones</li> </ul> <p>Two points should be exempt as per ISO</p> <p>Sound pressure level of the requirement is slightly different to ISO 8124-1.</p>	4.5	<p>Same as ISO 8124-1 but no requirement f) in ASTM.</p> <p>Add requirement f) as ISO</p>

ISO 8124-1:2000 + A1:2007 +A2:2007		EN 71-1:2005 +A4:2007		ASTM F963-07(e1)	
Clause	Detail	Clause	Detail / Difference	Clause	Detail / Difference
	<p>c) The C-weighted peak sound pressure level, <math>L_{pCpeak}</math>, of impulsive sounds produced by closeto-the-ear toys shall not exceed 95 dB.</p> <p>d) The C-weighted peak sound pressure level, <math>L_{pCpeak}</math>, of impulsive sounds produced by any type of toy excluding toys using explosive action (e.g. percussion caps) shall not exceed 115 dB.</p> <p>e) The C-weighted peak sound pressure level, <math>L_{pCpeak}</math>, of impulsive sounds produced by a toy using percussion caps or other explosive action shall not exceed 125 dB.</p> <p>f) If the C-weighted peak sound pressure level, <math>L_{pCpeak}</math>, of impulsive sounds produced by a toy using percussion caps or other explosive action exceeds 115 dB, the potential danger to hearing shall be drawn to the attention of the user. (see B.2.19).</p>				