

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		Recommendation
Clause	Detail		Detail / Difference	
Scope	Excludes (among others) <ul style="list-style-type: none"> - Christmas decorations - Folk dolls and decorative dolls and other similar dolls intended for adult collectors - Puzzles with more than 500 pieces or without picture, intended for specialists - Electric ovens, irons or other functional products operated at a nominal voltage exceeding 24 V - Products containing heating elements intended for use under the supervision of an adult in a teaching context - Babies dummies (soothers) 		F 963 does not have these specific exclusions, some of which could cause inconsistencies in being able to produce toys to a common standards and others which may help clarify F 963	
4.1	Material Toys and material used in toys shall be visually clean and free from infestation. The material shall be assessed visually by the unaided eye rather than under magnification.	4.1	- Same	- No change
4.2	Assembly If a toy is intended to be assembled by a child, the requirements in this EU Standard apply to each unit made available to the child and to the assembled toy. The requirements for the assembled toy do not apply to toys where the assembling provides a significant part of the play value of the	4.6.1.3	- Same	- No change

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	<p>toy.</p> <p>If a toy is intended to be assembled by an adult, the requirements apply to the assembled toy.</p> <p>Toys intended to be assembled shall be accompanied by detailed assembly instructions, if appropriate. The instructions shall indicate whether it is necessary that an adult assemble the toy or whether the proper assembly shall be checked by an adult before use.</p>			
4.3	<p>Flexible plastic sheeting</p> <p>Toys with flexible plastic shall conform to the following requirements:</p> <p>a) Sheets without any backing and of an area greater than 100 mm X 100 mm shall have an average thickness of 0.038 mm or more when tested according to 8.25.1 (plastic sheeting thickness)</p> <p>b) Sheets with an average thickness of less than 0.038 mm and of an area greater than 100 mm X 100mm shall be perforated with defined holes so that a minimum of 1% of the area has been removed over any area of 30 mm X 30 mm.</p> <p>c) For plastic balloons, the requirements in item a) apply to double layers of plastic sheeting (i.e. the thickness is measured</p>	4.12	<p>In ASTM, no matter the plastic sheets is with or without backing it shall comply with requirements a & b.</p> <p>In EU, plastic sheet with an area less than 100 mm X 100 mm is exempted while in ASTM, plastic sheet with a minor dimension less than 100 mm is exempted.</p> <p>There is no specific measurement for balloon in ASTM.</p> <p>In ASTM, shrink film is exempted from this requirement.</p>	- Exemption of shrink film should be added in EU.

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	without inflating or destroying the balloon).			
4.4	<p>Toy bags</p> <p>Toy bags with an opening perimeter greater than 380 mm having a drawstring as a means of closure shall either:</p> <p>a) be made of material permeable to air; or</p> <p>b) comply with requirements given in 4.14.2 a) (masks and helmets)</p>	4.14.5	<p>In ASTM, this requirement is applicable for toy bags intended for children up to 18 months only.</p> <p>In ASTM, bag with opening over 360 mm shall not have cord or drawstring as a means of closure while in EU, bag with opening over 380 mm can have drawstring as a means of closure.</p>	-Toy bag with opening perimeter greater than 380 mm shall not have drawstring as a means of closure.
4.5	<p>Glass</p> <p>Accessible glass may be used in the construction of toys for children of 36 months and over where:</p> <p>a) its use is necessary to the function of the toy (e.g. optical toys, glass light bulbs, glass in experimental sets)</p> <p>b) it is textile glass used for reinforcement</p> <p>c) it is in the form of solid glass marbles or solid glass eyes for dolls.</p>		No corresponding clause	-
4.6	<p>Expanding materials</p> <p>The requirement in 4.6 does not apply to seeds in growing kits.</p>		No corresponding clause	-

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	<p>Toys and components of toys made of expanding materials, which fit entirely in the cylinder specified in 8.2 (small parts cylinder) before or after being tested according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test) shall not expand more than 50% in any dimension when tested according to 8.14 (expanding materials).</p>		
4.7	<p>Edges</p> <p>Accessible edges shall not present an unreasonable risk of injury.</p> <p>a) Edges of metal or glass are considered as potentially hazardous sharp edges if they are sharp as determined according to 8.11 (sharpness of edges). If the edges fail the test, they shall be assessed to determine whether they present an unreasonable risk or injury taking into account the foreseeable use of the toy. Regardless of the manner in which the edges are finished, they shall be tested according to 8.11. NOTE Edges may be folded, rolled or spiraled in order to make them inaccessible, or protected by a coating of plastic or other similar material.</p>	4.7	<ul style="list-style-type: none"> - Requirements subjected to children of less than 14 years in EN 71-1, but it limited to 96 months for ASTM F963. - Further assessment is needed though the sample is failed in sharp edge test in EN 71-1. However, further assessment is codified in the referred 16 CFR 1500.49 in ASTM F963
			<ul style="list-style-type: none"> - 96 months would be sufficient. It is not necessary to change in ASTM F963. <p>Further assessment could be clearer in F 963</p> <p>[Sonia]Further assessment should be kept in EN 71-1.</p>

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	b) 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 0.7mm.		No corresponding clause.	-
	c) Edges of metal including fastenings (e.g. screw heads) and of rigid polymeric material shall be free from burr capable of causing wounds or abrasion. Flashings on pliable polymeric materials (e.g. polyolefins) are not considered as burr.	4.7	<ul style="list-style-type: none"> - Requirements subjected to children of less than 14 years in EN 71-1, but it limited to 96 months for ASTM F963. - Further assessment is needed though the sample is failed in sharp edge test in EN 71-1. Further assessment is also needed in ASTM F963, but is through reference to 16 CFR 1500.49 	<ul style="list-style-type: none"> - 96 months would be sufficient. It is not necessary to change in ASTM F963. - Further assessment could be clearer in F 963
	d) Where it is essential for the functioning of the toy, hazardous sharp functional edges may be used in toys intended for children of 36 months and over. The potential danger presented by such edges shall be drawn to the attention of the user (see 7.6). However, edges of pieces intended to serve as electric conductors, microscope slides and cover slips do not require a warning.	4.7	<ul style="list-style-type: none"> - Functional sharp edge is allowed for 48 months and up in ASTM F963 but it is allowed for 36 months and up in EN 71-1 - For the functional sharp edge warning, Requirements subjected to children of less than 14 years in EN 71-1, but it is limited to 96 months for ASTM F963 	<ul style="list-style-type: none"> - 48 months would be better. - 96 months would be sufficient. It is not necessary to change in ASTM F963.

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4.8	<p>Points and Metallic wires</p> <p>Metallic wires and accessible points shall not present an unreasonable risk of injury.</p> <p>a) Points are considered as potentially hazardous sharp points if they are sharp as determined according to 8.12 (sharpness of points). If the points fail the test, they shall be assessed to determine whether they present an unreasonable risk of injury taking into account the foreseeable use of the toy. Points of pencils and similar writing and drawing implements are not considered as sharp points.</p>	4.9	<ul style="list-style-type: none"> - Requirements subjected to children of less than 14 years in EN 71-1, but it limited to 96 months for ASTM F963. - Further assessment is needed though the sample is failed in sharp point test in EU standard. Further assessment is also needed in ASTM F963, but is through reference to 16 CFR 1500.48 	<ul style="list-style-type: none"> - 96 months would be sufficient. It is not necessary to change in ASTM F963 Further assessment could be clearer in F 963 [Sonia]Further assessment should be kept in EN 71-1.
	<p>b) Where it is essential for the functioning of the toy, hazardous sharp functional points may be used in toys intended for children of 36 months and over. The potential danger presented by such points shall be drawn to the attention of the user (see 7.6). However, points of pieces intended to serve as electrical conductors do not require a warning.</p>		<ul style="list-style-type: none"> - Functional sharp point is allowed for 48 months and up in ASTM F963 but it is allowed for 36 months and up in EN 71-1 For the functional sharp point warning, Requirements subjected to children of less than 14 years in EN 71-1, but it limited to 96 months for ASTM F963 	<ul style="list-style-type: none"> - 48 months would be better. 96 months would be sufficient. It is not necessary to change in ASTM F963.

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	c) Metallic wires and other metallic components likely to be bent, and wires used for stiffening or retention of form (e.g. in soft-filled toys) shall not break and produce hazardous sharp points, or protrude through the surface covering of the toy when tested according to 8.13.2 (metallic wires and other metallic components intended to be bent).		Same as F 963
	d) Metallic wires that are not designed to be bent but are likely to occasionally or accidentally be bent during play shall not break and produce hazardous sharp points, or protrude through any surface covering of the toy, when tested according to 8.13.3 (metallic wires likely to be bent).		ASTM F963 does not consider wires in the same manner that EN 71 does and therefore some wires would not have to meet this requirement in F 963.
			Consider adding of F 963
4.9	Protruding parts Tubes and rigid components in the form of projectiles which constitute a puncture hazard to a child shall be protected. This protection shall not be removed when tested according to 8.4.2.3 (tension test, protective components). The ends of spokes on toy umbrellas shall be protected. If the protection is removed when tested according to 8.4.2.3 (tension test, protective	4.8	- Requirements subjected to children of less than 14 years in EN 71-1 , but it limited to 96 months for ASTM.
			- 96 months would be sufficient. It is not necessary to have change in ASTM F963.

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	components), the ends of the spokes shall be free from hazardous sharp edges and hazardous sharp points when tested according to 8.11 (sharpness of edges) and 8.12 (sharpness of points). In addition, if the protection is removed, the spokes shall have a diameter of 2 mm or more and shall have ends with no burr and a smooth, rounded and approximately spherical finish.			
4.10	Parts moving against each other			
4.10.1	<p>Folding and sliding mechanisms</p> <p>The requirements in 4.10.1 do not apply to toys with a potential sitting surface width of less than 140 mm.</p> <p>a) Toy pushchairs and perambulators incorporating a handle or other structural member which can fold down over a child, shall have at least one main locking device and at least one secondary locking device, both of which shall act directly on the folding mechanism. At least one of the locking devices shall automatically engage when the toy is erected. When tested according to 8. 18.2a) (toy pushchairs and perambulators), the toy shall not collapse and neither of the locking devices shall fail or disengage. Two devices of the same construction (e.g locking rings),</p>	4.13.1	- (this is covered in preamble in 4.13	-

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	<p>one on 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 of 8.18.2a) (toy pushchairs and perambulators) shall be performed in this orientation.</p> <p>An example of a toy pushchair or perambulator covered by item a) is illustrated in Fig 4.</p> <p>b) Toy pushchairs and perambulators that do not otherwise constitute a hazard of a handle or other structural member folding down over a child, shall have at least a locking device of a safety stop, which may be manual in operation. When tested according to 8.18.2b) (toy pushchairs and perambulators) the toy shall not collapse and the 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 8.18.2b) shall be performed in this orientation (see also Note in 4.10.1a)).</p> <p>c) Folding devices on other collapsible toys (e.g. ironing boards, folding chairs and tables</p>			

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	<p>etc) which may have a scissor like action:</p> <ol style="list-style-type: none"> 1) shall have a safety stop or locking device. When tested according to 8.18.3 (other collapsible toys), the toy shall not collapse nor shall the locking device fail or disengage; and 2) shall have a clearance of 12 mm or more between moving parts which constitute a scissorlike action. <p>d) Toys other than those covered by item a), b) or c) above, with folding or sliding mechanisms intended to bear or capable of bearing the mass of a child and capable of injuring fingers, shall be so constructed that the space between moving elements shall also allow a 12 mm diameter rod to be inserted if it allows a 5 mm diameter rod to be inserted.</p>			

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4.10.2	<p>Driving mechanisms</p> <p>The requirements in 4.10.2 a) and b) do not apply driving mechanisms with insufficient power to injure fingers or other parts of the body.</p> <p>Driving mechanisms and winder keys shall conform to the following requirements:</p> <p>a) Driving mechanisms shall be enclosed in such a way that they do not expose accessible hazardous sharp edges or hazardous sharp points or otherwise present a hazard of crushing the fingers or other parts of the body when tested according to drop test and impact test.</p> <p>b) Driving mechanisms within large and bulky toys shall be enclosed in such a way that they do not expose accessible hazardous sharp edges or hazardous sharp points or otherwise present a hazard of crushing the fingers or other parts of the body when tested according to tip over test.</p>	4.18.4	<ul style="list-style-type: none"> - Driving mechanisms does not apply for insufficient power items in EN 71-1. - In ASTM F963, this requirement applied for <60 months toys. However, this requirement applied for all ages in EN 71-1. 	<ul style="list-style-type: none"> - Insufficient power is difficult to be determined for testing. Therefore, suggest removing the term "insufficient power".?????? - <60 months in ASTM F963 is sufficient.

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	<p>c) The shape and dimensions of winder keys or starting handles shall be such that the clear space between the key or the handle and the body of the toy shall also allow a 12 mm diameter rod to be inserted if it allows a 5 mm diameter rod to be inserted. Any holes in keys or handles shall not permit the insertion of a 5 mm diameter rod.</p>	4.18.5	<p>- Winding Keys requirement does not limit to the age grading of toys in EU standard. While in ASTM, requirement subjects to children under 36 months of age.</p> <p>-</p>	- <36 months in ASTM F963 is sufficient.
4.10.3	<p>Hinges</p> <p>This requirement does not apply if any part joined by one or more hinges has a mass of less than 250g.</p> <p>Toys having two parts joined by means of one or more hinges and with a space between the assembled edges along the hinge line, shall be so constructed that this space with the parts in any position shall also allow a 12 mm diameter rod to be inserted if it allows a 5 mm diameter rod to be inserted.</p>	4.13.2	<p>- Generally same as ASTM F963, but note that there are 2 differences.</p> <p>1) 0.25 kg change to 0.2 kg</p> <p>2) 12 mm change to 13 mm</p>	- The difference is caused by conversion of units
4.10.4	<p>Springs</p> <p>Springs shall conform to the following requirements:</p> <p>a) Spiral springs shall not be accessible if the gap between two consecutive spirals is greater than 3 mm in any position of use.</p>	4.18.6	<p>- Spring requirement in ASTM F963 only applied for a component that carries the weight of a child. However, EN 71-1 based on the spring mechanical feature and identify into different requirements.</p> <p>a) Spiral springs</p>	- The major hazard of spring would be bear children mass items. Therefore, ASTM F963 would be sufficient.

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	<p>The requirement in b) does not apply to springs that do not return to their original position after unloading (i.e. if the elastic limit is exceeded).</p> <p>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.</p> <p>The requirement in c) does not apply to springs that do not return to their original position after loading with a force of 40 N or to springs wound round a second component of the toy (for example a guiding rod) so that is not possible to insert the accessibility probe A between consecutive coils by more than 5 mm.</p> <p>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 can be subjected to a force of 40 N or more when the toy is in use.</p>		<p>b) Extension helical springs</p> <p>c) Compression helical springs</p>	
4.11	<p>Mouth-actuated toys</p> <p>Mouth-actuated toys shall conform to the following requirements:</p> <p>a) Mouth-actuated toys and removable mouthpieces of mouth-actuated toys shall not fit entirely in the cylinder when tested according</p>	4.6.2	<ul style="list-style-type: none"> - Soaking test, shall be included in EN 71-1 standard but not mentioned in ASTM F963 standard. - Additional requirement, Mouth-actuated projectile toys requirement is mentioned in EN 71-1 but not mentioned in ASTM F963. 	<ul style="list-style-type: none"> - Adding Soaking test, for Mouth-actuated toys to ASTM F963. - Also adding mouth-actuated projectile toys requirement to ASTM F963. - Bite test for the mouth-actuated toys is suggested.

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	<p>to small parts cylinder.</p> <p>b) Mouthpieces of mouth-actuated toys, if detached when tested first according to soaking test and then according to torque test and tension test, shall not fit entirely in the cylinder when tested according to small parts cylinder.</p> <p>c) Mouth-actuated toys which contain loose components such as spheres in a whistle or reeds in a noisemaker shall not, when tested according to other mouth-actuated toys, release any objects that fit entirely in the cylinder when tested according to small parts cylinder.</p> <p>d) Mouthpieces fitted to balloons shall conform to the requirements in items a) and b).</p> <p>e) Mouth-actuated projectile toys (e.g. peashooters) shall have a mouth piece which does not allow the intended projectiles to pass through when tested according to mouth-actuated projectile toys, and thereafter does not become detached when tested according to torque test and tension test.</p>			
4.12	<p>Balloons</p> <p>The packaging of latex balloons shall carry a warning.</p> <p>The packaging of natural rubber latex balloons shall indicate that the balloons are made of natural rubber latex.</p>	4.32	<p>Same.</p> <p>One more warning in EN 71-1: "Made of natural rubber latex"</p>	- Add "Made of natural rubber latex" to ASTM F963.
4.13	Cords of toy kites and other flying	4.14.4	Same but this requirement applied for	- The difference is caused by conversion

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	<p>toys</p> <p>Cords of toy kites and other flying toys linking the toy to the child and with a length of more than 2 m, shall be made of material with an electric resistance exceeding 100M/cm of cord, when measured according to electric resistivity of cords.</p> <p>The potential danger of flying a toy kite near overhead power lines and during thunderstorms shall be drawn to the attention of the user.</p>		<p>kite cords limit length over 1.8m in ASTM F963 and 2m in EN 71-1</p>	<p>of unit</p>
4.14	Enclosures			
4.14.1	<p>Toys which a child can enter</p> <p>Toys which a child can enter shall conform to the following requirements:</p> <p>a) Any toy having a door, lid or similar device which encloses a continuous volume greater than 0.03m and in which all internal dimensions are 150 mm or more, shall provide at least two unobstructed ventilation holes, each 650 mm or more, situated at least 150mm apart. The total ventilation area shall be provided when the toy is placed on the floor in any position and adjacent to two vertical plane surfaces meeting at a 90 degree angle, so as to simulate the corner of a room. The ventilation area is not required if a permanent partition or bars (two or more) which effectively limit the continuous space by making</p>	4.16.2	<p>- Different requirement for applying force from inside</p> <ul style="list-style-type: none"> ■ 45N in US ■ 50N in EU <p>No requirements (e.g. full-scale range) for the force gauge in EN 71-1.</p>	<p>- The difference is caused by conservation of unit</p> <p>- Adding force gauge requirement / full-scale range requirements to EN 71-1.</p>

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	<p>the largest internal dimension less than 150 mm, are used to subdivide a continuous space.</p> <p>b) For such toys having a door, lid or similar device, it shall be possible to open the door, lid or similar device by applying a force of 50 N or less from the inside.</p> <p>c) Toy chests 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 degree 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 performed according to lid support.</p> <p>The lid-support mechanism shall conform to this requirement before and after being subjected to 7000 opening and closing cycles, as described in durability test for vertically opening hinged lids.</p> <p>The lid-support mechanisms shall not require adjustment by the consumer to ensure adequate lid support, nor shall it require adjustment in order to conform to the above requirement after being cycled according to durability test for vertically opening hinged lids.</p>			

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	<p>The lid and lid-support mechanism shall conform to the requirements in hinges.</p> <p>Toys chests with vertically opening hinged lids shall be accompanied by instructions for proper assembly and maintenance.</p>			
4.14.2	<p>Masks and helmets</p> <p>Masks and helmets shall conform to the following requirements:</p> <p>a) Masks and helmets that fully enclose the head and which are made of impermeable material shall provide a total ventilation area of 1300mm or more through at least two holes at least 150 mm apart or through any equivalent single ventilation area.</p> <p>b) All rigid materials that cover the face such as goggles, space helmets or face shields shall not expose hazardous sharp edges, hazardous sharp points or loose parts that could enter the eye, before and after being tested according to torque test, tension test, drop test, impact test and compression test. This also applies to toys made of rigid materials with cut-out eye holes and toys that cover the eyes.</p> <p>c) Toys that are imitations of</p>	4.19.1-2	<p>- Same but the abuse testing mentioned in EN 71-1 and ASTM F963 is different.</p> <p>- EN 71-1:</p> <ul style="list-style-type: none"> ■ Torque test ■ Tension test, general ■ Drop test ■ Impact test ■ Compression test <p>- ASTM F963:</p> <ul style="list-style-type: none"> ■ Torque test ■ Tension test ■ Drop test (Impact test in ASTM F963) ■ Impact Test for Toys that Cover the Face (Steel ball test) <p style="text-align: center;">4.19.1 same as b)</p> <p style="text-align: center;">4.19.2 same as c)</p>	<p>- Suggest to combine both requirements as below:</p> <ul style="list-style-type: none"> - Torque Test - Tension Test - Drop Test - Impact Test for Toys that Cover the Face (Steel ball test) - Impact Test (refer to EN 71-1) - Compression Test

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	protective masks and helmets shall carry a warning.		
4.15	- Toys intended to bear the mass of a child		
4.15.1.1	<p>General</p> <p>Toys propelled by a child or by other means and intended to bear the mass of a child, e.g.:</p> <ul style="list-style-type: none"> - roller skates, inline skates and skateboards intended for children with a body mass of 20 kg or less, - tricycles, cars, hand carts, moon-hoppers and pogo sticks, <p>shall conform to the requirements of the following subclauses of 4.15.1. The requirements in 4.15.1.2 <i>%deleted text&</i> and 4.15.1.5 do not apply to <i>free-wheeling toy bicycles</i>, which are covered in 4.15.2, and to <i>toy scooters</i>, which are covered in 4.15.5</p>	4.15.1	<ul style="list-style-type: none"> - More exemptions provided in EN 71-1: <ul style="list-style-type: none"> ■ roller skates, inline skates and toy skateboard ■ 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 ■ Toy bicycles with a fixed transmitted drive. ■ 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 - ASTM F963 only limited to 60 months but EN 71-1 does not mention the age in general
4.15.1.2	<p>Warnings and instructions for use</p> <p>Toys intended to bear the mass of a child shall, when appropriate, be accompanied by instructions for use, assembly and maintenance. The potential dangers of using the toy and precautions to be taken shall be brought to the attention of the user. Roller skates, inline skates and skateboards for children offered for sale as toys shall carry a warning</p>		<p>No warning is required in ASTM.</p>

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	(see 7.10). Toys that due to their construction, strength, design or other factors are not suitable for use by children of 36 months and over shall carry a warning (see 7.16).		
4.15.1.3	<p>Strength Toys, when tested according to 8.21 (static strength) and 8.22 (dynamic strength) shall not:</p> <p>a) produce <i>accessible</i> hazardous sharp <i>edges</i> (see 8.11, sharpness of edges);</p> <p>b) produce <i>accessible</i> hazardous sharp points (see 8.12, sharpness of points);</p> <p>c) make <i>driving mechanisms accessible</i> that present a hazard of <i>crushing</i> the fingers or other parts of the body;</p> <p>d) <i>collapse</i> so that they do not continue to conform to relevant requirements of this European Standard.</p>	<p>4.15.5</p> <p>- Static Loading: Only 25kg (under 3) and 50kg (over 3) for testing in EN 71-1. ASTM F963 would have different strength for every age range.</p> <p>4.15.6</p> <p>- Same as ASTM F963.</p>	<p>- ASTM F963 provides much more details and precision for the overload testing method. Suggesting following ASTM F963 overload test.</p> <p>- No change</p>
4.15.1.4	<p>Stability The requirement in 4.15.1.4 does not apply to:</p> <ul style="list-style-type: none"> - roller skates, inline skates and toy skateboards; - toys that by their design do not have a stable base (e.g. pogo sticks, moon hoppers); <p>toys intended for children of 36 months and over where the feet of the child can provide sideways stability</p>	<p>4.15.2.1</p> <p>- No Fore/Aft and Side stability in EN 71-1. Only most onerous position was mentioned in EN 71-1.</p> <p>4.15.2.2</p> <p>- No testing difference for feet availability for stabilization (if 36 months+, feet available shall not be tested) Inclined 10° slope in EN 71-1 but inclined 15° slope in ASTM F963.</p>	<p>- ASTM F963 provides much more details and precision for the stability testing method. Suggesting following ASTM F963 stability test.</p> <p>ASTM F963 provides much more details and precision for the stability testing method. Suggesting following ASTM F963 stability test.</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<p>(i.e. where the legs are unrestricted in their sideways 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 (with fore and aft stability remaining);</p> <ul style="list-style-type: none"> – 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; – 'toy bicycles with a fixed transmitted drive. <p>The toy shall not tip over when tested according to 8.23.1 (stability, toys intended to bear the mass of a child).</p>	4.15.3	<ul style="list-style-type: none"> - No Fore/Aft and Side stability in EN 71-1. Only most onerous position was mentioned in EN 71-1. Inclined 10° slope in EN 71-1 but inclined 15° slope in ASTM F963. 	<ul style="list-style-type: none"> - ASTM F963 provides much more details and precision for the stability testing method. Suggesting following ASTM F963 stability test. <p>Adding ASTM F963 requirement about wheel orientation.</p>
4.15.1.5	<p>Braking The requirements in 4.15.1.5 do not apply to:</p> <ul style="list-style-type: none"> roller skates and toy skateboards; toys where the hands or feet provide the motive power to the driving wheel(s) via direct transmission (e.g. pedal cars, tricycles); electrically propelled ride-on toys which are propelled at a speed of 1 m/s or less unloaded, having a seat height below 300 mm and in which the feet are free. <p>a) Mechanically or electrically propelled toys with a free-wheeling facility shall have a braking device. For</p>		No corresponding clause.	-

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	<p>such toys having a mass of 30 kg or more, it shall be possible to lock at least one brake in a braking position. The toy shall not move more than 5 cm when tested according to 8.26.1 (brake performance for toys other than <i>toy bicycles</i>). NOTE A toy can be expected to be free-wheeling if it accelerates down a slope of 10° when loaded with a mass of 50 kg, but the same toy is not free-wheeling when loaded as in 8.21 (static strength) and pulled on a horizontal plane covered with a surface of abrasive paper (aluminium oxide P60) at a constant speed of $(2 \pm 0,2)$ m/s: $FT_1 \leq (M + 25) \times 1,7$; or (1) $FT_2 \leq (M + 50) \times 1,7$ (2) where FT_1 is the maximum pull force in newtons for a toy intended for children under 36 months; FT_2 is the maximum pull force in newtons for a toy intended for children of 36 months and over; M is the mass of the toy in kilograms. 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 automatically cut power to the drive.</p>		
4.15.1.6	<p>Transmission and wheel arrangement Transmission and wheel arrangement shall conform to the following requirements: a) Propelling chains shall have a shield</p>	4.18.3.2	<p>- More details requirement for those chains used in ride-on toys under EN 71-1. - EN 71-1 would be more details which is better than ASTM F963.</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	<p>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), (see Figure 7). The shield shall not have slots or holes with a width greater than 5 mm.</p> <p>It shall not be possible to remove the shield without the use of a <i>tool</i>.</p> <p>b) Wheels directly propelled by pedals shall not have slots or holes with a width greater than 5 mm.</p> <p>c) Spaces between the wheels and the body or parts of the body (e.g. mudguards) shall also allow a 12 mm diameter rod to be inserted if they allow a 5 mm diameter rod to be inserted. This requirement does not apply to the friction surfaces of braking mechanisms, toy skateboards or roller skates.</p> <p>d) Tricycles provided with an attached handle used for pushing the child, shall be constructed in such a way as to prevent entrapment of the child's feet in the pedals etc. while being pushed (e.g. free-wheeling c) mechanism or foot rests).</p>		
4.15.2	Free-wheeling toy bicycles		
4.15.2.1	<p>General</p> <p>In addition to relevant requirements in Clause 4, <i>free-wheeling toy bicycles</i> shall conform to the following requirements:</p>		-
4.15.2.2	<p>Instructions for use</p> <p><i>Free-wheeling toy bicycles</i> shall be accompanied by assembly and</p>		No corresponding clause.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	<p>maintenance instructions. The potential dangers of riding <i>toy bicycles</i> and precautions to be taken shall be brought to the attention of the parents or carers (see 7.15).</p>		
4.15.2.3	<p>Seat pillar minimum insertion mark 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 not less than two and a half times the diameter of the pillar from the bottom of the full diameter of the pillar and shall not affect the seat pillar strength.</p>		No corresponding clause.
4.15.2.4	<p>Braking requirements <i>Free-wheeling toy bicycles</i> shall be equipped with two independent braking systems, one which operates on the front wheel and one which operates on the rear wheel. For handbrakes, the brake lever dimension <i>d</i> measured at the midpoint of the lever as shown in Figure 8 shall not exceed 60 mm. The range of adjustment on an adjustable lever shall permit this dimension to be attained. The lever length shall be 80 mm or more. The toy shall not move more than 5 cm when tested according to 8.26.2 (brake performance for toy bicycles).</p>		No corresponding clause.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
4.15.3	<p>Rocking horses and similar toys Rocking horses and similar toys shall conform to the following requirements:</p> <p>a) The bow rocker of any bow-mounted rocking horse or other rocking toy shall have a limit to its movement which shall at all times hold the user within the extreme of the bow. Compliance is checked by visual inspection.</p>		No corresponding requirement.	
	b) The toy shall not tip over when tested according to 8.23.1 (stability, toys intended to bear the mass of a child).	4.15.2.1	- No testing difference for feet availability for stabilization (if 36 months+, feet available shall not be tested)	- ASTM F963 provides much more details and precision for the stability testing method. Suggesting following ASTM F963 stability test.
	c) Toys shall not <i>collapse</i> so that they do not continue to conform to relevant requirements of this European Standard when tested according to 8.21 (static strength).	4.15.5	- Static Loading: Only 25kg (under 3) and 50kg (over 3) for testing in EN 71-1. ASTM F963 would have different strength for every age. -	- ASTM F963 provides much more details and precision for the overload testing method. Suggesting following ASTM F963 overload test.
	d) Toys that due to their construction, strength, design or other factors are not suitable for use by children of 36 months and over shall carry a warning (see 7.16).		No corresponding requirement.	-

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
4.15.4	Toys not propelled by a child Toys not propelled by a child but designed to bear the mass of a child (but not toys covered by EN 71-8) shall conform to the following requirements: a) Toys shall not <i>collapse</i> so that they do not continue to conform to relevant requirements of this European Standard when tested according to 8.21 (static strength).	4.15.5	- Static Loading: Only 25kg (under 3) and 50kg (over 3) for testing in EN 71-1. ASTM F963 would have different strength for every age.	- ASTM F963 provides much more details and precision for the overload testing method. Suggesting following ASTM F963 overload test.
	b) Toys shall not tip over when tested according to 8.23.1 (stability, toys intended to bear the mass of a child). This requirement does not apply to toys which for evident reasons cannot be considered as being stable (e.g. big <i>balls</i> and <i>soft-filled</i> toy animals).	4.15.2.1	- Same but with different loading weight. - The exemption case in EN 71-1 is not mentioned in ASTM.	- ASTM F963 provides much more details and precision for the stability testing method. Suggesting following ASTM F963 stability test. - Suggest add exemption case in ASTM.
	c) Toys intended to bear the mass of a child shall, when appropriate, be accompanied by instructions for use, assembly and maintenance instructions.		- No corresponding requirement.	-
	d) Toys that due to their construction, strength, design or other factors are not suitable for use by children of 36 months and over shall carry a warning (see 7.16).		- No corresponding requirement.	-
4.15.5	- Toy scooters			
4.15.5.1	General For the purpose of this European Standard, <i>toy scooters</i> are divided into two groups, those intended for children with a		No corresponding clause.	-

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	body mass of 20 kg or less, those intended for children with a body mass of 50 kg or less. In addition to relevant requirements in Clause 4, <i>toy scooters</i> shall conform to the requirements of 4.15.5.		
4.15.5.2	Warnings and instructions for use <i>Toy scooters</i> shall carry a warning and an indication about the intended weight group. They shall also be accompanied by instructions for use and precautions to be taken. The potential dangers of riding a <i>toy scooter</i> shall be brought to the attention of the parents or carers (see 7.18).		No corresponding clause.
4.15.5.3	Strength a) <i>Toy scooters</i> shall conform to the requirements in 4.15.1.3 (strength). b) When tested according to 8.27 (strength of toy scooter steering tubes): steering tubes shall not <i>collapse</i> so that they do not continue to conform to relevant requirements of this European Standard; steering tubes shall not separate into two or more parts; locking devices shall not fail or disengage.		No corresponding clause.
4.15.5.4	Adjustable and folding steering tubes a) To prevent sudden changes of height, steering tubes with adjustable height shall be adjustable with the use of a <i>tool</i> , or have at least one main locking device		No corresponding clause.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	<p>and one secondary locking device of which at least one shall automatically be engaged when the height is adjusted.</p> <p>The separation of the steering tube shall not be possible unless intended.</p> <p>b) Steering tubes intended to be folded shall have a locking device on the folding mechanism.</p> <p>c) The space between moving elements capable of injuring fingers, shall also allow a 12 mm rod to be inserted if it allows a 5 mm rod to be inserted.</p> <p>d) Accessible openings in moving elements capable of shearing a finger shall not allow the insertion of a 5 mm rod.</p>		
4.15.5.5	<p>Braking <i>Toy scooters</i> labelled as intended for children with a body mass of 20 kg or less do not require a braking system. Other <i>toy scooters</i> shall have at least one braking system which shall operate on the rear wheel and which shall effectively and smoothly reduce the speed without coming to an abrupt stop. When tested according to 8.26.3 (brake performance for toy scooters), the force required to hold the <i>toy scooter</i> on the inclined plane shall be less than 50 N.</p>		No corresponding clause.
4.15.5.6	<p>Wheel size The diameter of the front wheel(s) on <i>toy scooters</i> shall be 120 mm or greater.</p>		No corresponding clause.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
4.15.5.7	Protruding parts The handles on <i>toy scooters</i> shall have an end with a diameter of 40 mm or more.		No corresponding clause.	-
4.16	Heavy immobile toys Heavy immobile toys with a mass greater than 4,5 kg and intended to rest on the floor but not to bear the mass of a child, shall not tip over when tested according to 8.23.2 (stability, heavy immobile toys).	4.15.4	<ul style="list-style-type: none"> - Height of immobile toy is not concerned in EN 71-1. - Immobile toy shall be observed whether it tips within 1 min while there is no requirement for the testing time in EN 71-1. - Immobile toy shall be tested with 10° in ASTM but 5 ° for EN71-1. 	- ASTM F963 would be more details which is better than EN 71-1.
4.17	- Projectiles			
4.17.1	4.17.1 General <i>Projectiles</i> and <i>projectile</i> toys shall conform to the following requirements: a) All rigid <i>projectiles</i> shall have a tip radius of 2 mm or more.	4.21.1.2	This requirement subjects to projectile toys in which the KE of discharge mechanism is determined by toy not by user.	<ul style="list-style-type: none"> - Suggest this requirement apply to projectile toys that the KE of discharge mechanism is determined by user also. - Currently both ASTM and CEN have agreed to participate with ISO to jointly review and revise the projectile standards with a goal of producing one standard agreeable to all. Recommend this effort be more heavily supported.
	b) 'Resilient materials used as impact surfaces shall not become detached when tested according to 8.4.2.3 (tension test, protective components) unless the resulting elements still conform to the relevant requirements of this part of EN 71. If the impact surface is a <i>suction cup</i> it shall not become detached when tested according to 8.4.2.3 (tension test, protective components).		<p>In ASTM, the protective tip shall not be detached when subjected to the torque and tension test. However, in EN 71-1, the protective tip shall not be detached when subject to the 60 N.</p> <p>There is no requirement for suction cup in ASTM.</p>	- No change.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	c) Helicopter rotors and single propellers intended to be powered into vertical or nearly vertical free flight by a <i>spring</i> mechanism or similar device, shall have a ring around the perimeter in order to reduce the risk of injuries.		No corresponding requirement.	-
	d) <i>Projectiles</i> with a <i>suction cup</i> as impact area shall have a length of 57 mm or more when measured as indicated in Figure 9, and with its <i>suction cup</i> on a flat surface under a force that is produced by its own mass.		No corresponding requirement.	-
4.17.2	Projectile toys without stored energy <i>Projectile toys without stored energy</i> shall conform to the following requirements: <i>Projectiles</i> in the form of darts shall have blunted points or points that are protected by a resilient material (e.g. rubber) having an impact area of 3 cm ² or more. Points shall not be made of metal. However, darts fitted with magnetic metal discs are permitted if the disc has an area of 3 cm ² or more.	4.21	- ASTM F963 only restrict on energy-stored projectile toys but EN 71-1 also concern on the non-energy stored projectile toys.	- Suggest adding those general requirements and Projectile toys without stored energy requirement to ASTM F963.
4.17.3	Projectile toys with stored energy <i>Projectiles</i> propelled from a discharge mechanism shall conform to the following requirements: a) The maximum kinetic energy of <i>projectiles</i> , when tested according to 8.24.1 (kinetic energy of projectiles)	4.21.3	- ASTM F963 only has K.E. limitation on rigid projectile tip . However, EN 71-1 also required 0.5J K.E. for resilience impact surface - No surface impact K.E. requirements for those projectiles in the form of	- Suggest adding resilience impact surface requirement in ASTM F963. - Suggest adding surface impact K.E. requirements for those projectiles in the form of arrows in ASTM F963.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
<p>shall not exceed: 1) 0,08 J for rigid <i>projectiles</i> without resilient impact surfaces; 2) 0,5 J for resilient <i>projectiles</i> or <i>projectiles</i> with resilient impact surfaces (e.g. rubber).</p> <p>b) For <i>projectiles</i> in the form of arrows whose maximum kinetic energy exceeds 0,08 J, their impact surfaces shall be protected by a resilient material (e.g. rubber). The maximum kinetic energy per unit area of the resilient impact surface shall not exceed 0,16 J/cm² when tested according to 8.24.1 (kinetic energy of projectiles).</p> <p>c) If a discharge mechanism is able to discharge an object other than that provided with the toy, or if a toy is capable of discharging a <i>projectile</i> with a kinetic energy greater than 0,08 J, the potential danger shall be drawn to the attention of the user (see 7.7). NOTE 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>	4.21.2	<p>arrows in ASTM F963. For EN 71-1, the maximum kinetic energy per unit area of the resilient impact surface shall not exceed 0,16 J/cm² for those projectiles in the form of arrows .</p> <p>- EN 71-1 only recommended those are not able to discharge missiles other than those provided with the toy but ASTM F963 is not allowed for such design.</p>	<p>ASTM F963 provides a clear requirement for those projectiles which can discharge potentially hazardous improvised projectiles. Suggest not to use the wording recommend in EN 71-1</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
4.17.4	<p>Bows and arrows For the purpose of this European Standard, bows offered for sale with arrows are to be considered as toys. Arrows discharged from a bow shall comply with the following requirements:</p> <p>a) Points of arrows shall not be made of metal; however, points fitted with magnetic metal discs are permitted if the disc has an area of 3 cm² or more.</p> <p>b) The maximum kinetic energy of arrows discharged from a bow shall not exceed the values given in 4.17.3 a) when tested according to 8.24.2 (kinetic energy of bows and arrows).</p> <p>c) Arrows whose maximum kinetic energy exceeds 0,08 J, shall conform to 4.17.3 b). The potential danger of discharging such arrows shall be drawn to the attention of the user (see 7.7).</p>	4.21.3	In ASTM, the protective tip of an arrow is required to comply with 4.21.1.4 only.(cannot be detached or cannot be launched by the launcher).	- Recommend adding those Bow and Arrows requirements and test methods to ASTM F963.
4.18	<p>Aquatic toys <i>Aquatic toys</i> shall conform to the following requirements:</p> <p>a) All air-inflation inlets shall have stoppers permanently attached to the toy. When the toy is inflated, the stopper shall be capable of being pushed into the toy so that it does not stand more than 5 mm from the surface of the toy. The stopper, if detached when tested according to 8.3 (torque test), and 8.4.2.1 (tension test, general) shall not fit entirely in the cylinder when</p>	5.4	Only warning label is required in ASTM, no physical & mechanical requirement.	EN 71-1 is preferable as there are physical and labeling requirements in EN 71-1.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<p>tested according to 8.2 (small parts cylinder).</p> <p>b) The potential danger of using <i>aquatic toys</i> shall be drawn to the attention of the user (see 7.4).</p>			
4.19	<p>Percussion caps specifically designed for use in toys and toys using percussion caps</p> <p>Assuming reasonably foreseeable use, percussions caps specifically designed for use in toys shall not produce debris which could cause eye injuries, flames or glowing residues.</p> <p>! 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)."</p> <p>The <i>packaging</i> of percussion caps shall carry a warning (see 7.13).</p>		- No corresponding clause.	
4.20	<p>Acoustics</p> <p>The requirements in 4.20 do not apply to:</p> <ul style="list-style-type: none"> 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 instruments such as trumpets, flutes); 'child actuated toys, that is toys the noise level of which is determined by the muscular action of the child (e.g. xylophones, bells, drums). <p><i>Rattles</i> and <i>squeeze toys</i> are,</p>	4.5	<ul style="list-style-type: none"> - In ASTM F963 requirement, sound emitted from earphones / headphones is exempted for Acoustic Requirement. However, EN 71-1 mentioned Toys design with earphone shall be tested under Acoustic requirement as well. - For close-to-ear toys, the measurement distance from toys is 50cm in ASTM F963 but it is only 2.5cm for EN 71-1. Although the values have been adjusted to 	<ul style="list-style-type: none"> - It is not necessary to have exemption for those earphones requirement - For close-to-ear toys, 2.5cm would be more precise as the actual use of the toys - It is not necessary to have exemption for those squeeze toys since it would also damage to the ears of children, although the ASTM exemption is based on there being no accurate way to determine consistent test

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6	ASTM F963-08	
<p>however, covered by the requirements except those that are attached to a device fixed across a cradle, cot, perambulator, etc. unless those <i>rattles</i> and <i>squeeze toys</i> are <i>removable components</i>;</p> <p>tape-players, CD-players and other similar electronic toys. However, if such toys are provided with headphones or earphones, they are covered by the requirements. When tested according to 8.28 (determination of emission sound pressure levels), toys which are clearly designed to emit sound shall conform to the following requirements:</p> <p>a) The A-weighted emission sound pressure level, L_{pA}, produced by <i>close-to-the-ear toys</i> shall not exceed 80 dB when measured in a free field. The A-weighted emission sound pressure level, L_{pA}, produced by <i>close-to-the-ear toys</i> shall not exceed 90 dB when measured using an ear coupler.</p> <p>b) The A-weighted single event emission sound pressure level, L_{pA1s}, produced by <i>rattles</i> or <i>squeeze toys</i> shall not exceed 85 dB.</p> <p>c) The C-weighted peak emission sound pressure level, $L_{pC\ peak}$, produced by <i>rattles</i> or <i>squeeze toys</i> shall not exceed 110 dB.</p> <p>d) The C-weighted peak emission sound pressure level, $L_{pC\ peak}$, produced by a toy using percussion caps</p>	<p>provide equal protection to the user.</p> <ul style="list-style-type: none"> - In ASTM F963, squeeze toys is exempted from the acoustic requirement. However, squeeze toys shall not exceed 85 dB(A) and 110 dB(C) for EN 71-1. - Sound level limit between ASTM F963 and EN 71-1 is different as showed in the attached file SGSFM 2007-003 	<p>methods or results.</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6	ASTM F963-08	
<p>shall not exceed 125 dB. e) The C-weighted peak emission sound pressure level, $L_{pC \text{ peak}}$, produced by any type of toy excluding toys using percussion caps shall not exceed 115 dB. f) If the C-weighted peak emission sound pressure level, $L_{pC \text{ peak}}$, produced by a toy exceeds 110 dB, the potential danger to hearing shall be drawn to the attention of the user (see 7.14).</p>		
<p>4.21 Toys containing a non-electrical heat source, The following requirements do not cover burners in chemistry sets or related experimental kits, and similar items. a) Toys containing a heat source shall not ignite when used at the maximum input when tested according to 8.30 (measurement of temperature rises). b) The temperature rise of all handles, knobs and similar parts which are likely to be touched by hand, shall not exceed the following values when tested according to 8.30 (measurement of temperature rises): –parts of metal 25 K – parts of glass or porcelain 30 K – parts of plastics or wood 35 K c) The temperature rise of other <i>accessible</i> parts of the toy shall not exceed the following values when tested according to 8.30 (measurement</p>		<p>No corresponding clause.</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<p>of temperature rises):</p> <ul style="list-style-type: none"> - parts of metal 45 K - parts of glass or porcelain 50 K, - parts of other materials 55 K <p>+NOTE Requirements for toys containing an electrical heat source are given in EN 62115:2005.,</p>			
4.22	<p>Small balls This requirement does not apply to <i>soft-filled balls</i>. Any <i>ball</i> that entirely passes through template E when tested according to 8.32.1 (small balls and suction cups) is considered to be a small <i>ball</i>. Any <i>ball</i> attached to a toy by a string, elastic <i>cord</i> or similar, such that the <i>ball</i> is suspended freely, is considered to be a small <i>ball</i> if it passes through the base of template E such that the distance A is greater than 30 mm when tested according to 8.32.2 (small balls attached to a toy by a string). Toys that are small <i>balls</i> or contain <i>removable small balls</i> or contain small <i>balls</i> that become detached when tested according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test) shall carry a warning (see 7.2). For <i>large and bulky toys</i> the drop test above is substituted by 8.6 (tip over test).*</p>	4.35.2	<p>Small ball warning is required for toys intended for children over 3 years old in EN 71-1. While this requirement subjects for toys intended for children at least 3 years old but less than 8 years of age in ASTM.</p>	- Small ball warning is required for toys intended for children over 3 years old is preferable.??????
5	<p>Toys intended for children under 36 months Toys intended for children under 36 months shall in addition to relevant requirements of Clause 4 conform to the following requirements, where applicable.</p>			
5.1	<p>General requirements (see A.26) The requirements in 5.1 do not apply to</p>	4.6.1.2	- More exemption in ASTM F963: ■ phonograph records and	- Suggest to remove the following exemptions in ASTM F963:

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
<p>the following: –<i>paper</i>, fabric, elastics, yarn, strings and <i>fuzz</i>, crayons, chalks, pencils and similar writing and drawing implements without <i>removable components</i>; –balloons; – modelling clay and similar products. The general requirements are as follows: a) Toys and <i>removable components</i> of toys shall not, whatever their position, fit entirely in the cylinder when tested according to 8.2 (small parts cylinder) (see A.26). b) When tested according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test), toys shall not produce any parts which, whatever their position, fit entirely in the cylinder when tested according to 8.2 (small parts cylinder), or exhibit accessible hazardous sharp edges (see 8.11, sharpness of edges), or <i>accessible</i> hazardous sharp points (see 8.12, sharpness of points), and toys with springs shall continue to conform to the requirements in 4.10.4 (springs). c) Metal points and wires with a cross section of 2 mm or less that do not necessarily present a sharp point according to 8.12 (sharpness of points) are considered to be potentially hazardous sharp points. They</p>	4.9/4.10	<ul style="list-style-type: none"> ■ compact discs (CDs) ■ Children’s clothing and accessories, such as shoe lace holders and buttons; <p>No corresponding requirement.</p>	<ul style="list-style-type: none"> ■ phonograph records and compact discs (CDs) ■ Children’s clothing and accessories, such as shoe lace holders and buttons; <p>???? why as these are not toys!</p> <p>Suggest remove this requirement in EN 71-1.</p>

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EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
<p>shall therefore be assessed to determine whether they present an unreasonable risk of injury taking into account the foreseeable use of the toy (see also A.9).</p> <p>d) <i>Large and bulky toys</i> shall be tested according to item b) above with the exclusion of 8.5 (drop test) and with the inclusion of a test according to 8.6 (tip over test). The requirement in e) does not apply to <i>large and bulky toys</i> and books and other items of <i>paper</i> and Paperboard.</p> <p>e) Glued wooden toys and toys with glued-on plastic decals shall be tested according to 8.9 (soaking test) before being tested according to 5.1 b) above. Flakes of paint that have come loose from painted toys are exempt from being tested according to 8.2 (small parts cylinder). Thick surface coatings such as varnish are not exempt.</p> <p>f) The surfaces and <i>accessible edges</i> of toys shall be free from <i>splinters</i>.</p> <p>g) The casing of toys intended for children too young to sit up unaided, shall not <i>crack</i> when tested according to 5.1 b) above. A <i>crack</i> may be accepted if it clearly does not create a hazard (see also A.26).</p>	4.9.3	<p>- Requirement for Wooden item surface only can be found for under 3 toys in EU 71-1.</p> <p>For toys intended for children under 36 months, glued wooden toys and toys with glued-on plastic decals shall be tested according to soaking test.</p> <p>Same</p> <p>No corresponding requirement of cracking in ASTM</p> <p>No corresponding requirement.</p>	<p>Adding soaking test to glued wooden item in ASTM F963 (under 3 yrs toys)</p> <p>-</p>

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EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	h) For foam toys and toys containing <i>accessible</i> foam components, clamps and test fixtures used to perform the tests shall not damage the toy or component such as to affect the results when tested according to 8.3 (torque test) and 8.4.2.1 (tension test, general).			
5.2	<p>Filling materials <i>Filling</i> materials shall conform to the following requirements:</p> <p>a) Soft <i>filling</i> materials shall not contain any hard or sharp contaminants such as metal <i>particles</i>, nails, needles and <i>splinters</i>.</p> <p>b) <i>Soft-filled toys</i> containing small parts (e.g. rattling components, bells, shredded foam) or with <i>filling</i> materials from which pieces can be bitten or torn thereby producing small parts, which fit entirely in the cylinder when tested according to 8.2 (small parts cylinder), shall have a covering so that, after being tested according to 8.4.2.2 (tension test, seams and materials), it shall not be possible to insert freely the front part of probe A, as specified in 8.10 (accessibility of part or component), through any one opening in the seam or cover material. An opening may be accepted if it clearly does not create a hazard. NOTE <i>Filling</i> materials from which pieces can be bitten or torn off include, for example, plastic foam but exclude</p>	<p>4.3.7</p> <p>4.28</p>	<p>In ASTM, loose fillers for stuffed toys shall not contain any hard or sharp contaminants which is same as EN 71-1. However, stuffing cleanliness test is also required in ASTM.</p> <p>Same. But the tension test would be different. Details can be found in document SGSCT 2009-004</p>	- Suggest adding stuffing cleanliness test in EN standard.

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<i>paper, fabric, elastics, yarn, strings and fuzz.</i>			
5.3	<p>Plastic sheeting <i>Plastic sheeting</i> which becomes detached when tested according to 8.25.2 (plastic sheeting, adhesion) and 8.4.2.1 (tension test, general) and has an area greater than 100 mm x 100 mm, shall have an average thickness of 0,038 mm or more when tested according to 8.25.1 (plastic sheeting, thickness).</p>	4.12	<p>This requirement in EN 71-1 is only applicable for children under 36 months. While in ASTM, this requirement is applicable for toys intended for children under 14 years.</p> <p>In ASTM, no matter the plastic sheeting is detachable, the thickness shall be never less than 0.0381mm.</p>	- Suggest to follow ASTM that this requirement is applicable for all ages.
5.4	<p>Cords on toys <i>Cords</i> shall conform to the following requirements: a) <i>Cords</i> shall have a thickness (smallest dimension) of 1,5 mm or more when tested according to 8.20 (cord thickness). This does not apply to ribbons.</p>	4.14.1	<ul style="list-style-type: none"> - Cords requirement in ASTM F963 only applied for children under 18 months. However, EN 71-1 applied for children under 36 months. - Strap is not regarded as cords in EN 71-1. However, strap is one kind of cods defined in ASTM F963. - Besides Pull Toys, all cords/straps/elastics shall not be longer than 300mm in ASTM F963. However, for EN 71-1, cords length requirement only applied for the cords design with any other attachment. (No Free End so it cannot form a loop easily) 	-

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EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<p>b) The free length of <i>cords</i> (e.g. on pull-along toys) which include attachments that can form nooses shall either:</p> <ul style="list-style-type: none"> -not exceed 220 mm when stretched by a force of (25 ± 2) N; or -when subjected to a force of (25 ± 2) N, separate into parts not exceeding 220 mm when stretched by a force of (25 ± 2) N. It shall be possible to join the parts together after they have been separated without altering the characteristics of the joints (see Figure 10). <p>The free length of the <i>cord</i> shall be measured from the fixing point to the end of the <i>cord</i> or to the fixing point on the other part of the toy. If the fixing point has the same shape or form as the <i>cord</i>, this part shall be measured as a part of the entire <i>cord</i> (see Figure 11).</p>	4.14.3	<p>Same but the cord length of pull toys is 300mm in ASTM F963 and 220mm in EN 71-1.</p>	<p>- 300mm length would be sufficient for those pull toys. It is not necessary to change in ASTM F963.</p>
	<p>c) The perimeter of any nooses on <i>cords</i> shall not exceed 380 mm when stretched by a force of (25 ± 2) N.</p>	4.14.1.1	<p>For ASTM F963, if the cords attached with other attachment, head probe shall not be passed through the loop. However, there is no head probe requirement in EN 71-1.</p>	<p>- Suggest that the perimeter of the loop shall be less than 380mm.???</p>
	<p>d) Toys with self-retracting <i>cords</i> shall have a mechanism recoil force less than 10 N.</p>	4.14.1.2	<p>- Same but the retracting pull force is 9N in ASTM F963 and 10 N in EN 71-1.</p>	<p>- The difference is caused by conversion of unit</p>

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EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
<p>parts of toys or parts of fabric. They do not apply to rigid elements having a major dimension equal to 30 mm or less.</p> <p>The shape and size of toys intended for children who are too young to sit up unaided, shall conform to the requirements in a) and b), as supplied. Toys that are clearly marketed for such children include, but are not limited to:</p> <ul style="list-style-type: none"> - <i>rattle</i>-shaped toys and <i>squeeze toys</i> with or without noise making features; - <i>teethers</i>, toys or components intended to be chewed on; - <i>hand-held</i> activity toys; - books and building blocks covered by textile or vinyl; - <i>removable components</i> of toys intended to be strung across a crib, playpen or perambulator; - <i>removable components</i> of baby gyms; - legs of baby gyms. The requirements in a) and b) below apply regardless of the mass of the baby gym. <p>a) For such toys having a mass of 0,5 kg or less, no part of the toy shall protrude past the base of template A when tested according to 8.16 (geometric shape of certain toys).</p> <p>b) For such toys with nearly spherical, hemispherical or circular flared ends having a mass of 0,5 kg or less, no part of the toy shall protrude past the base of template B when tested according to 8.16 (geometric shape of certain toys).</p>	4.22	<p>One more exemption in EU: Rigid elements having a major dimension equal to 30 mm or less.</p> <p>Applies to Teethers and Teething Toys, Rattles and Squeeze Toys only in ASTM F963. However, EN 71-1 restrict on all toys intended for under 10 months.</p>	<p>F963.</p> <p>- Recommend to follow EN 71-1 practice. Therefore, all toys intended for under 10 months shall comply with such requirement.</p>

Comparison Table Between EU Toys Standards / ASTM F963-07^{e1}

EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
5.9	<p>Toys comprising monofilament fibres Toys comprising monofilament fibres of straightened length greater than 50 mm and attached to a fabric base shall carry a warning (see 7.17).</p>	4.14.2	In ASTM, self-retracting pull cord made of monofilament fibre shall not retract under 1 lb loading.	- NO change.
5.10	<p>Small balls This requirement does not apply to <i>soft-filled balls</i>. Any <i>ball</i> that entirely passes through template E when tested according to 8.32.1 (small balls and suction cups) is considered to be a small <i>ball</i>. Any <i>ball</i> attached to a toy by a string, elastic <i>cord</i> or similar, such that the <i>ball</i> is suspended freely, is considered to be a small <i>ball</i> if it passes through the base of template E such that the distance A is greater than 30 mm when tested according to 8.32.2 (small balls attached to a toy by a string). a) Toys shall not be small <i>balls</i> or contain removable small <i>balls</i>. b) Small <i>balls</i> shall not become detached when tested according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test), and for glued wooden toys 8.9 (soaking test). For <i>large and bulky toys</i>, the drop test above is substituted by 8.6 (tip over test).*</p>	4.35.1	- Same	- No change.
5.11	<p>Play figures This requirement does not apply to <i>soft-filled toys</i>.</p>	4.33.2	Same.	- No change.

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EU Toys Standards EN71-1 2005 A6		ASTM F963-08		
	<p>Play figures having:</p> <p>a) a round, spherical or hemispherical end with tapered neck attached to a cylindrical shape without appendages; and</p> <p>b) an overall length not exceeding 64 mm (see examples in Figure 12), shall be designed so that when tested according to 8.33 (test for play figures), the rounded end shall not protrude past the base of template B. The requirement applies to figures with added or moulded features such as hats or hair which retain the rounded shape of the end.</p>			
5.12	<p>Hemispheric-shaped toys</p> <p>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 minor and major outer diameters between 64 mm and 102 mm, a volume of less than 177 ml and a depth greater than 13 mm. The following toys are exempt from these requirements:</p> <ul style="list-style-type: none"> - <i>deleted text</i>, - containers that must be airtight so the contents can maintain their functional integrity (e.g. modelling clay containers); - components of larger products (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) that do not become detached when tested according to 8.3 (torque test), 	4.37	<ul style="list-style-type: none"> - The below item is not exempt from EN 71 – 1: Objects intended for drinking (for example, tea cups). - The below design of the Cup/bowl/one-half egg-shaped objects can be used according ASTM F963. However, there is no such design mentioned in EN 71-1: (e) Have an opening with a minor dimension of at least 0.66 in. (17 mm) located anywhere in the base or in the side wall of the object. If the opening is located in the sidewall of the object, the edge of the opening must be at least 0.5 in. (13 mm) from the rim as measured along the outside contour. 	- Suggest adding the exemption case and the design (e) to EN 71.

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EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
<p>8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test) and for glued wooden toys 8.9 (soaking test). For <i>large and bulky toys</i>, the drop test above is substituted by 8.6 (tip over test);</p> <p> containers that are part of the packaging, intended to be discarded once the toy is removed from the packaging.</p> <p>Cup-shaped, bowl-shaped or one half of an egg-shaped toys shall comply with one or more of the requirements in items a), b), c) or d) below:</p> <p>a) The object shall have two or more openings that are 13 mm or more from the rim as measured along the outside contour;</p> <p> if the openings are placed in the base of the object, two or more of the openings shall be 13 mm or more apart (see Figure 13 a));</p> <p> if the openings are not placed in the base of the object, two or more of the openings shall be placed at least 30° but not more than 150° apart (see Figure 13 b));</p> <p>b) The plane of the open end of the cup shape shall be interrupted at the centre by some type of divider that extends 6 mm or less from the plane of the opening. An example of an interruption includes a rib through the centre of the opening (see Figure 13 c));</p> <p>c) The object shall have three</p>			

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EU Toys Standards EN71-1 2005 A6		ASTM F963-08	
	<p>openings located between 6 mm and 13 mm from the rim and 100° or more apart as measured along the outside contour;</p> <p>d) The object shall have a repeating scalloped edge pattern around the entire rim. The distance between centrelines of adjacent peaks shall be 25 mm or less and the depth shall be 6 mm or more (see Figure 13 d)).</p> <p>For the purpose of these requirements, an opening is defined as a hole of any shape with a dimension of 2 mm or more.</p> <p>The requirements above apply before and after testing according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression test) and for glued wooden toys 8.9 (soaking test). For <i>large and bulky toys</i> the drop test above is substituted by 8.6 (tip over test).</p>		
5.13	<p>Suction cups</p> <p>a) Loose <i>suction cups</i>, removable <i>suction cups</i> and <i>suction cups</i> attached to a toy by a string, elastic cord or similar tether shall not pass entirely through template E when tested according to 8.32.1 (small balls and suction cups)*.</p> <p>b) <i>Suction cups</i> that become detached from a toy when tested according to 8.3 (torque test), 8.4.2.1 (tension test, general), 8.5 (drop test), 8.7 (impact test) and 8.8 (compression</p>		No corresponding clause.

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EU Toys Standards EN71-1 2005 A6	ASTM F963-08		
	test) shall not pass entirely through template E when tested according to 8.32 (small balls and suction cups test) and shall continue to conform to relevant requirements in this European Standard.		