

IN BUSINESS THERE'S CERTAIN

ABSOLUTELY POSITIVE

I STAKE MY LIFE ON IT

AND CHECKED BY SGS

Amendments of EN 71 Part 1

欧洲玩具标准EN71-1的最新修订

演讲人: 陈建林 Frank Chan 2009.9.17 深圳

WHEN YOU NEED TO BE SURE

SGS

Amendments of EN 71-1

EN71-1的修订

- EN 71-1:2005 + A6:2008
 - Amendment A5 修订本A5– Small Balls 小球
 - Amendment A6 修订本A6– Sound-pressure measurements, toys containing a heat source, tip-over test, points and wires, and objects intended for drinking 噪音测试, 含热源玩具, 倾翻测试, 尖点和金属丝, 饮用器具
- EN 71-1:2005 + A8:2009
 - Amendment A7 修订本A7– Warnings & Labellings 警告语及标识
 - Amendment A8 修订本A8 – Magnets 磁铁
- EN 71-1:2005 + A9:2009
 - Amendment A9 修订本A9 – Glass, tightly packed stuffed components, diameter requirements for hemispheric toys 玻璃, 软填充的部件, 杯状物的开口直径
- EN 71-1:2005+ A...
 - pr-Amendment A10 修订草案A10–Cords 绳子
 - pr-Amendment A11 修订草案A11–Suction Cups 吸盘

EN 71-1:2005+A6:2008

- Amendment A5 修订本A5– Small Balls 小球
- Amendment A6 修订本A6– Sound-pressure measurements, toys containing a heat source, tip-over test, points and wires, and objects intended for drinking 噪音测试, 含热源玩具, 倾翻测试, 尖点和金属丝, 饮用器具

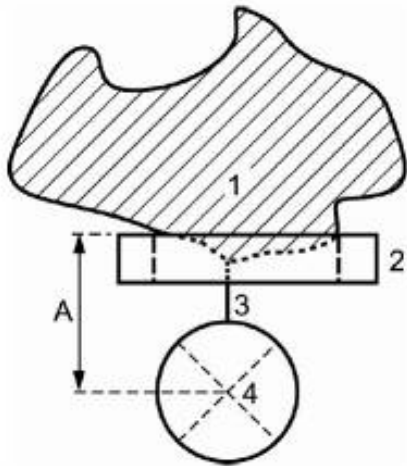
Amendment A5-Small balls

修订本A5-小球（条款4.22 & 5.10 & 8.32）

- Expand the scope of definition small扩大球的定义



- Ball 球– Spherical, ovoid, or ellipsoidal object, **usually but not always**, designed or intended to be thrown, hit, kicked, rolled, dropped or bounced.通常但不总是设计用来扔，击，踢，滚，跌或弹的球形，卵形，椭圆形的物体。



- A new requirement for balls attached to string or to toy by string. This kind of ball is **considered to be a small ball** if it passes through the base of template E such that the distance A is greater than 30mm.增加附有绳子的球的要求。规定带有绳子的球若能穿过测试模板E，并且穿过的距离A（从模板E上部到球心）大于30mm，则认为小球。（见左图）

Amendment A5-Small balls

修订本A5-小球（条款4.22 & 5.10 & 8.32）

- Remove the small ball warning (for children over 3 years) in clause 7.18 to clause 7.2.

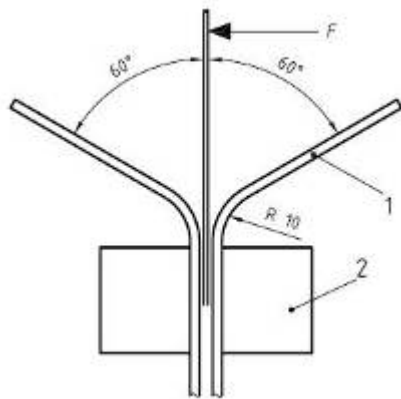
删除条款7.18的小球警告语，把小球警告语归集于条款7.2. Toys not intended for children under 36 months.



Amendment A6– Points and wires

修订本A6-点和金属丝(条款4.8 & 8.13)

- Two types of wires are distinguished 金属丝被分为两大类:
 - (1) wires designed and intended to be bent (30 cycles bending test) 设计用来弯曲的金属丝或金属部件需做30个循环的挠曲测试(如兔子耳朵里的支持金属丝)
 - (2) Wires not designed to be bent, but likely to occasionally or accidentally to be bent (1 cycle bending test) 设计不是用来弯曲的金属丝, 但可能偶然或随机被弯曲的金属丝仅需做1个循环的挠曲测试(如遥控车的天线, U, L形状的金属丝除外, 如雨伞伞架)



Amendment A6– Toys containing heat source 修订本A6-非电热源玩具(条款4.21)

- The new requirement applies only on non-electrical heat source (e.g. warm gel)此条款仅适合非电热源玩具(如发热凝胶,一种通过铁粉、水、活性炭、盐类物质的化学反应来发热的保暖用品).
- Electrical heat source is covered by EN 62115电热源玩具需符合EN 62115要求.
- Add temperature rise limit of glass or porcelain in other accessible parts (limit = 50K)增加其他可接触部位-玻璃或陶瓷部位的温升上限 50K.

Amendment A6– Objects intended for drinking 修订本A6-杯状物(条款5.12)

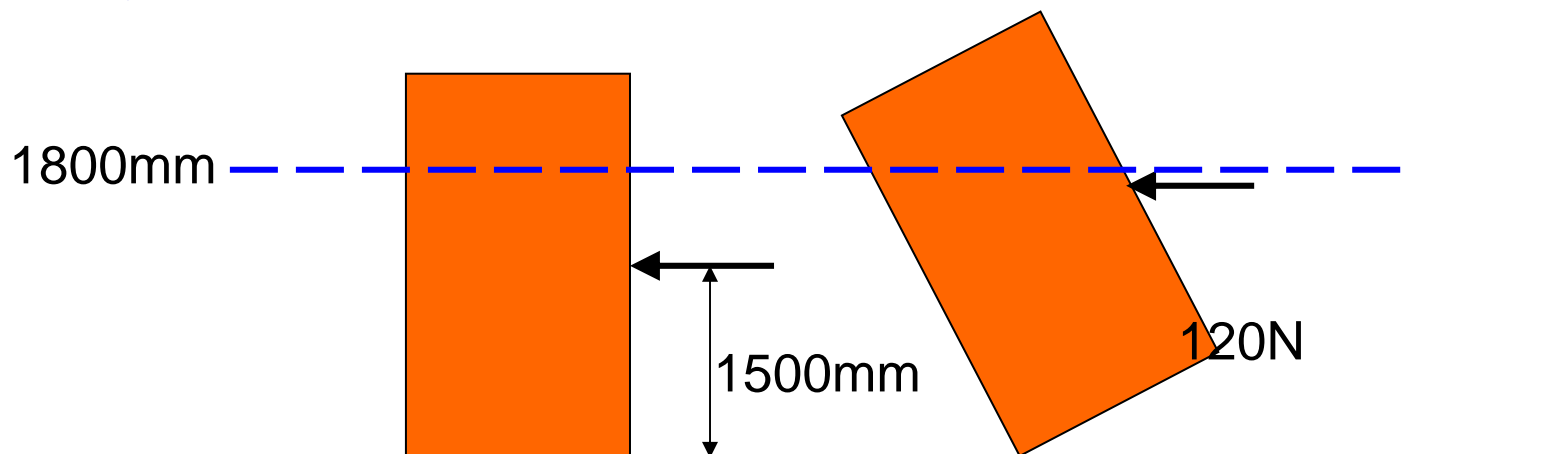
- European Commission decision 2007/184/EC requires drinking cups for children under 36 months to undergo EC-type 欧盟委员会2007/184/EC决议要求给36个月以下儿童使用的饮水杯需符合EC型式测试 .
- Exemption of “objects intended for drinking (e.g. tea set cups) deleted因此此标准就取消了此条款中饮用用具如茶杯的豁免



Amendment A6– Tip over test

修订本A6–倾翻测试(条款8.6)

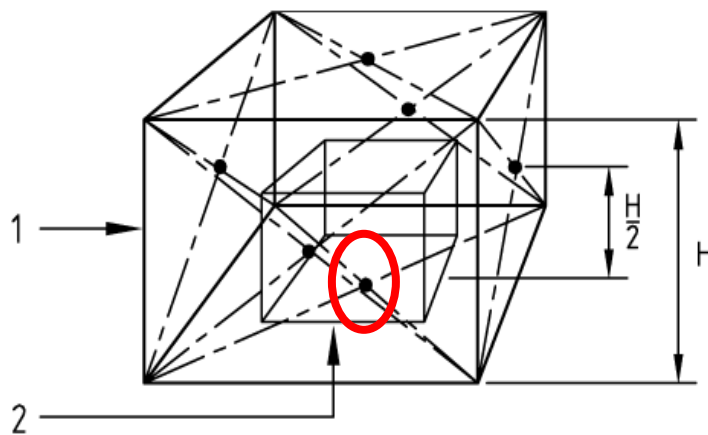
- Push the toy by applying a force not exceeding 120N施加在玩具上的推力不超过120N
- The force applies at 1500mm above the horizontal surface, or top edge of toy if the toy is less than 1500mm in height在高于水平面1500mm的位置施力，如果玩具的高度小于1500mm，则在玩具的顶部边缘施力。



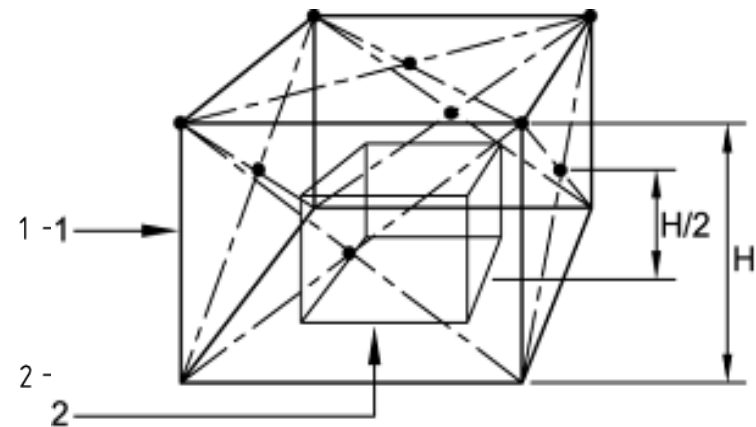
Amendment A6– Sound pressure

修订本A6-噪音测试(条款8.28)

- The microphone position of the stationary and table-top toys are clarified 对于桌面地面玩具噪音测试时麦克风的位置作了澄清
- Only 5 positions instead of 6 positions 更新后只测**5**个位置的噪音, 取消底部的测试点.



Present figure



New figure

EN 71-1:2005 + A8:2009

- Amendment A7 **修订本A7** – Warnings & Labellings **警告语及标识**
- Amendment A8 **修订本A7** – Magnets **磁铁**
- Effective date **生效日期**: Oct.31,2009 **2009年10月31日**

ISO ⁽¹⁾	Reference and title of the harmonised standard (and reference document)	First publication OJ	Reference of superseded standard	Date of cessation of presumption of conformity of superseded standard (Note 1)
CEN	EN 71-1:2005+A8:2009 Safety of toys — Part 1: Mechanical and physical properties	This is the first publication	EN 71-1:2005+A6:2008 Note 2.1	31.10.2009

Amendment A7– Warnings & labellings

修订本A7-警告语及标识

- Clause 7.2 – specific hazard shall be indicated (e.g. choking hazard, suffocation hazard, strangulation hazard)警告语需指明特定危险如哽咽, 窒息或勒杀危险. 具体如下:

“Warning! Not suitable for children under 36 months. Choking hazard”

“Warning! Not suitable for children under 36 months. Suffocation hazard”

“Warning! Not suitable for children under 36 months. Strangulation hazard”

- Clause 7.2 – the phrase “Warning! Not suitable for children under 36 months” can be substituted by EN 71 Part 6’s symbol
7.2条款中的警告语 “警告! 不适合3岁以下儿童” 可以用EN 71-6中的图标代替. (但不能替代危险描述)



Amendment A7– Warnings & labellings

修订本A7-警告语及标识（条款4.15.3&7.19）

- Add warning for rocking horse with sitting surface of 600mm or more 座位高度大于或等于600mm的摇马需附有以下警告语

Warning! Risk of falling. Do not leave children under 36 months sitting or playing unattended.



Amendment A8 – Magnets

修订本A8-磁铁(条款4.23)



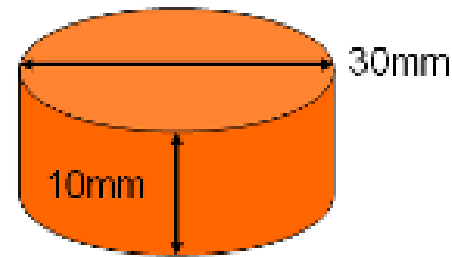
- Toys shall not contain magnet / magnetic component that is small part as well as having magnetic flux index > 50 (both as-received and after abuses) 玩具不能含有磁通量大于50的小部件磁铁或磁铁部件(滥用测试前后都满足此要求)
- Exemption for magnetic / electrical experiment sets intended for children over 8 years (the toy shall carry following warning) 设计给8岁以上儿童玩耍的含有危险磁铁的磁性或电实验类玩具可以不用符合上述要求, 但包装上需附有以下警告语.

“WARNING! Not intended for children under 8 years. This product contains (a) small magnet(s). Swallowed magnets can stick together across intestines causing serious injuries. Seek immediate medical attention if magnet(s) are swallowed”.

Amendment A8 – Magnets

修订本A8-磁铁 (条款4.23 &8.34)

- Tension test for magnets which can be accessible but not grippable – perform 10 times attach / detach cycles 玩具中的磁铁或磁铁部件多于一个的, 在不能被抓取的情况下, 两个磁铁或磁铁部件互吸10次, 然后检查磁铁是否脱落
- Use reference disc for toys that contain one magnet only (99% Nickel disc with 30mm diameter and 10mm length) 玩具中的磁铁或磁铁部件仅一个的, 在不能被抓取的情况下, 用下图所示的镍圆盘与磁铁或磁铁部件互吸10次, 然后检查磁铁是否脱落 (圆盘要求: 99% 镍制成, 直径 30mm, 长度 10mm)

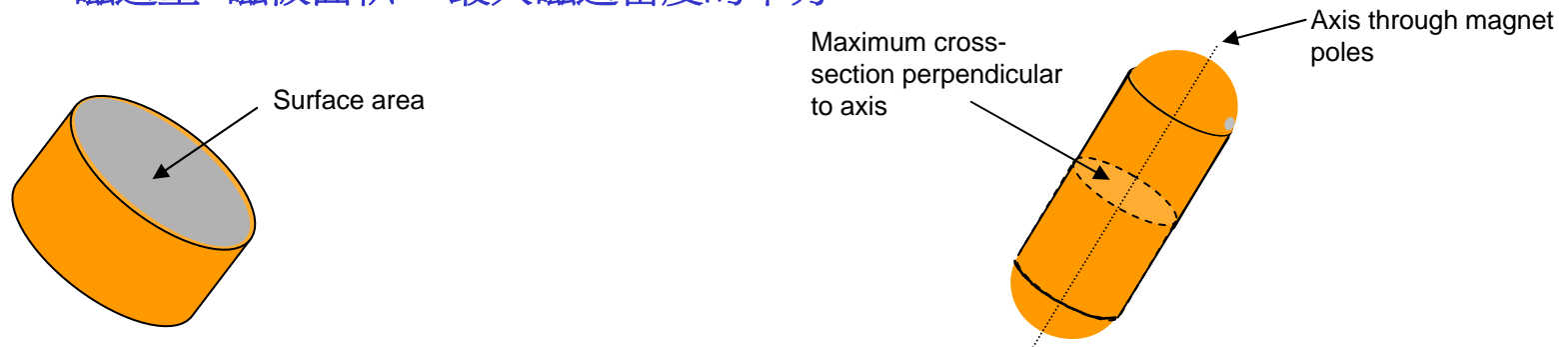


Amendment A8 – Determination of Magnetic Flux Index 修订本A8-磁铁(条款4.23 &8.35)

- Test equipment 仪器: DC Field Gauss meter DC高斯计
- Measure the maximum absolute flux density by placing the probe of meter in contact with the pole surface of the magnet 用DC高斯计在磁铁磁极表面测量出最大磁通密度(单位:kilo-Gauss)
- Measure the area of magnet's pole surface 计算出磁极的面积.(单位:mm²)
- Calculation of flux index (kilo-Gauss²mm²) 计算磁通量.

$$\text{Flux index} = \text{pole surface area} \times (\text{maximum flux density})^2$$

磁通量=磁极面积 X 最大磁通密度的平方



Amendment A9 –Glass , stuffed components, hemispheric toys

修订本A9-玻璃，软填充的部件，杯状物玩具

- Amendment A9 to EN 71-1: 2005 is published by CEN , but not be published in the OJEU to become a harmonised standard

修订本A9已被CEN出版但未在OJEU上发布，因此还不是协调标准。

Catalogue (Published Standards only)

Standard reference	Title	Citation in OJ	Directive	Sales Points
CEN/TC 52 - Safety of toys				
EN 71-1:2005+A9:2009	Safety of toys - Part 1: Mechanical and physical properties	Expected	88/378/EEC	More
1				

ICS: 97.200.50 - Toys
 Reference number: EN 71-1:2005+A9:2009
 Title: Safety of toys - Part 1: Mechanical and physical properties

Country	National Organization	National Document Reference
Finland	SFS	SFS-EN 71-1 + A9
Ireland	NSAI	I.S. EN 71-1:2005+A9:2009
Sweden	SIS	SS-EN 71-1:2005+A9:2009

Amendment A9 –Glass , stuffed components, hemispheric toys

修订本A9-玻璃，软填充的部件，杯状物玩具



- Glass 玻璃 (条款4.5): Non function glass is acceptable when compliant to drop and impact test (raised by SGS)非功能性的玻璃如果在跌落和冲击测试后无危险产生是可以接受的.

- Tightly packed stuffed components which can be fitted entirely in small part cylinder will be regarded as small parts.(条款5.1) 能放进小部件测试量筒的软填充部件被认为是小部件.

- The diameter requirements for hemispheric toys is corrected changing outer into inner diameter (raised by SGS)杯状物的开口直径由外径改为内径.



EN 71-1:2005+ A... 修订草案

- pr-Amendment A10 修订草案 **A10** – Cords 绳子
- pr-Amendment A11 修订草案 **A11** – Suction Cups 吸盘

pr-Amendment A10 – Cords

修订草案A10-绳子

Modified Definition 定义修订:

- Cord 绳子 – Length of **flexible textile or non-textile** material including elastic material, monofilament polymeric material, tape, ribbon, rope, woven and twisted material and string. **Straps and electrical cables in toys are not considered to be cords.**

由软性的纺织品或非纺织品材料制成的，包含弹性材料、单丝纤维材料、带子、丝带、粗绳、编织和扭搓材料以及细绳。背带和电线不被认作为绳子。

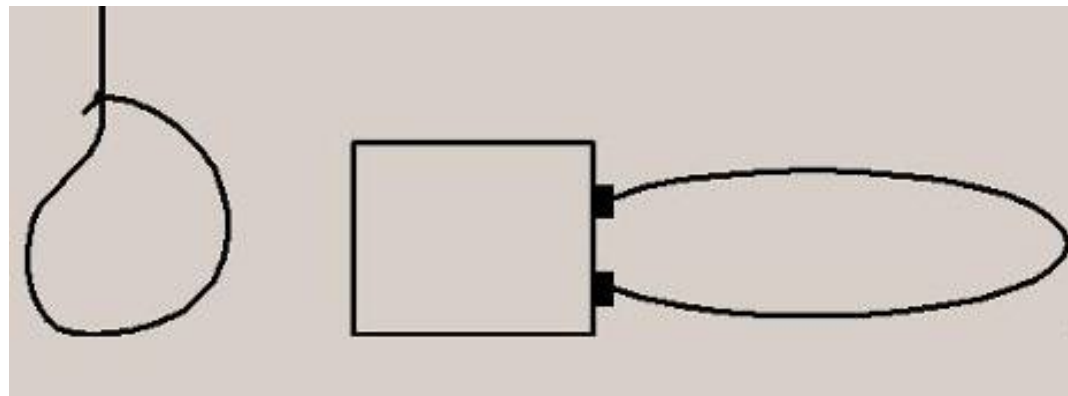


pr-Amendment A10 – Cords

修订草案A10-绳子

New Definitions 增加定义:

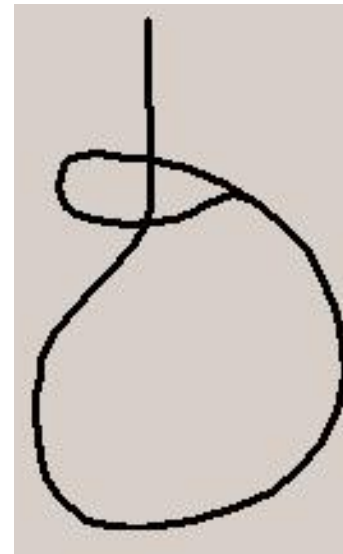
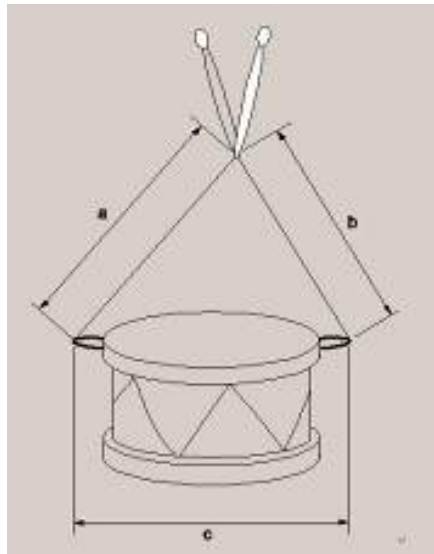
- Elastic 弹性绳 – material which is stretchable when subjected to an external force and which is able to recover or nearly recover its original length when the force is removed. 当施加外力时材料可以拉伸并且当外力撤销时可以会回复或近似回复到原始长度.
- Fixed loop 固定绳圈 – loop in a cord, the perimeter of which is fixed by any permanent means including a knot or knots. 绳圈的周长通过绳节永久固定.



pr-Amendment A10 – Cords

修订草案A10-绳子

- Tangled loop 缠绕绳圈 – loop created by twisting a cord with attachments or knots or fix loops. 由带有附属物或硬节或固定绳圈的绳子相互缠绕而形成的绳圈。
- Noose 活套 – loop in cord, usually but not always, with a running knot, which tightens as the cord is pulled. 绳子形成的绳圈，通常但不总是带有滑动的绳节，当拉动绳子时绳圈会收紧。



pr-Amendment A10 – Cords

修订草案A10-绳子

- Strap 扎带– strip of flexible material used for fastening, securing, carrying or holding typically used for support and or safety and often adjustable. 用于固定，安全，运送或用于支持和安全作用的柔性带，通常是可以调节的。
- Chain 链子– connected series of links or rings 由多个组件或圆环连接而成。
- Tape 带子– long narrow piece of non textile material the width of which is significantly greater than the thickness 宽度明显大于厚度的非纺织品狭长的材料。



pr-Amendment A10 – Cords

修订草案A10-绳子



- Electrical cable 电线 – flexible conductor used for connecting a toy to a supply of electricity or to a piece of electrical equipment which is not itself a toy or part of a toy. 用于连接玩具和电源或连接玩具到本身不是玩具或玩具一部分的电子设备上的柔软电导体.



- Yo-yo ball 溜溜球 – toy made from elastic material consisting of a tether usually having a loop at one end to place around a finger, and a flexible object at the other end. 玩具由弹性的绳子组成，通常在绳子的末端有个圈用于套在手指上，并且在绳子的另一末端有一个柔软的物体.

pr-Amendment A10 –Requirements for cords and chains in toys

修订草案A10-玩具中绳子和链子的要求

■ Exempt豁免

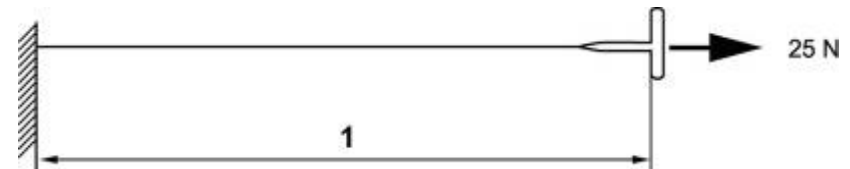
- Do not apply to ropes and chains on toys covered by EN 71-8
不适合EN 71-8中的绳子和链子.
- Do not apply to cords on toys which are intended to be placed out of the reach of children (e.g. mobile)
不适合设计上不是让儿童可触及的玩具上的绳子， 如果下右图中的童床玩具.



pr-Amendment A10 –Requirements for cords and chains in toys

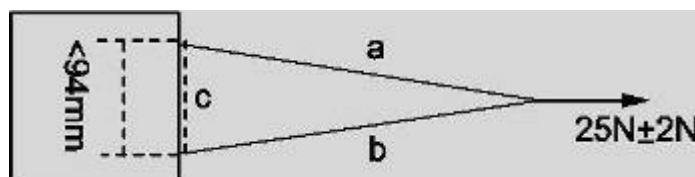
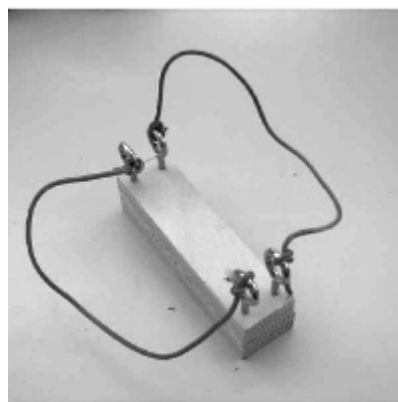
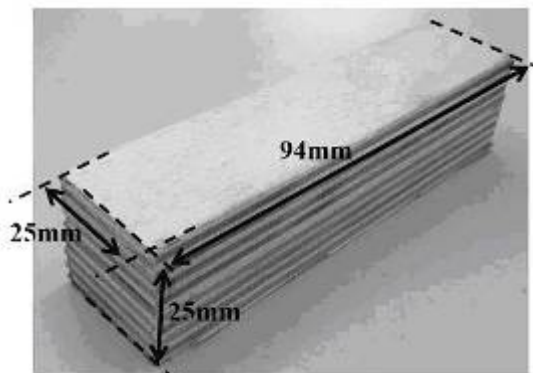
修订草案A10-玩具中绳子和链子的要求

- Requirement 要求
 - Cords connected to a self-retraction mechanism or pull-along toys shall have an average thickness of 1.5mm or more 自回缩绳或拖拉玩具上的绳子的平均厚度至少有1.5mm.
 - Cords and chains that can form a tangled loop or a nooses shall either 能缠绕形成绳圈或活套的绳子和链子需满足下面的条件之一
 - (1) Have length less than 220mm (toys intended for children under 10 months) or 300mm (other toys) 给10个月以下儿童玩耍玩具中的绳子需小于220mm, 其他玩具需小于300mm.
 - (2) Separate into parts not exceeding 220mm (toys intended for children under 10 months) or 300mm (other toys), and it shall be possible to join the parts after they have been separated. 或者绳子被分离成几部分, 每部分的长度需满足10个月以下儿童玩耍玩具中的绳子需小于220mm, 其他玩具需小于300mm的要求, 另外这些分离开的部分能够重新连接在一起.



pr-Amendment A10 –Requirements for cords and chains in toys

修订草案A10-玩具中绳子和链子的要求



- Fixed loops or tangled loops shall either 固定的绳圈或缠绕形成的绳圈需满足下面的条件之一:

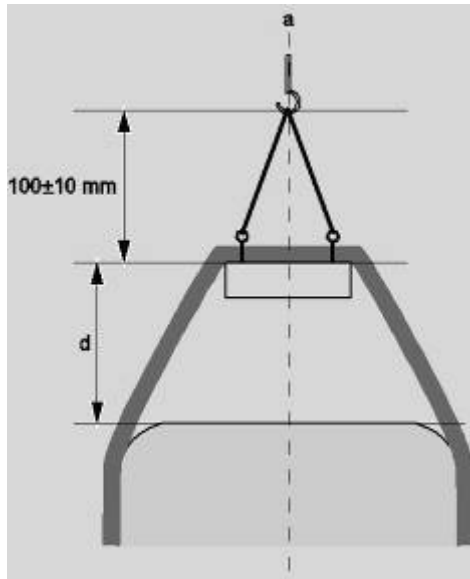
- (1) Have a perimeter not exceed 380mm (for cords and chains with a single fixing point or with fixing points less than 94mm apart) or distance “d” not exceeding 96mm (for cords and chains with fixing points greater than 94mm apart) 对于单个固定点的或有多固定点, 但固定点的距离小于94mm的绳圈, 其周长不能大于380mm. 或者下页图中d的距离不超过96mm (适合多个固定点的距离大于94mm的情况).
- (2) Separate into parts not exceeding 220mm (for toys intended for children under 10 months) or 300mm (for other toys) 或者绳子被分离成几部分, 每部分的长度需满足给10个月以下儿童玩耍的小于220mm, 其他玩具则小于300mm的要求.

pr-Amendment A10 –Requirements for cords and chains in toys

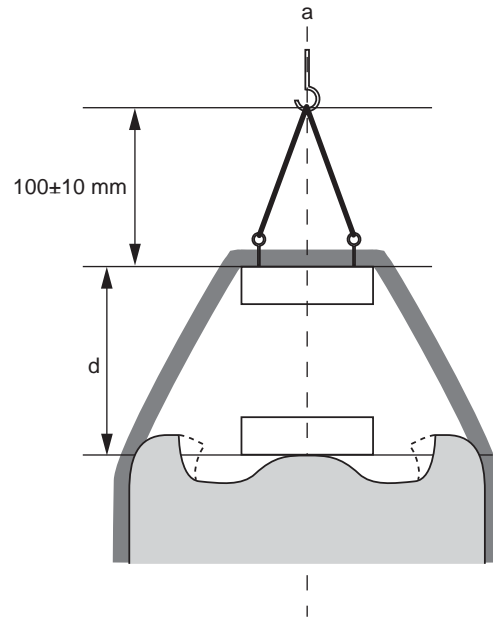
修订草案A10-玩具中绳子和链子的要求

■ Perimeter of noose shall not exceed 380mm or distance “d” shall not exceed 96mm.活套的周长不超过380mm 或图中d的距离不超过96mm.

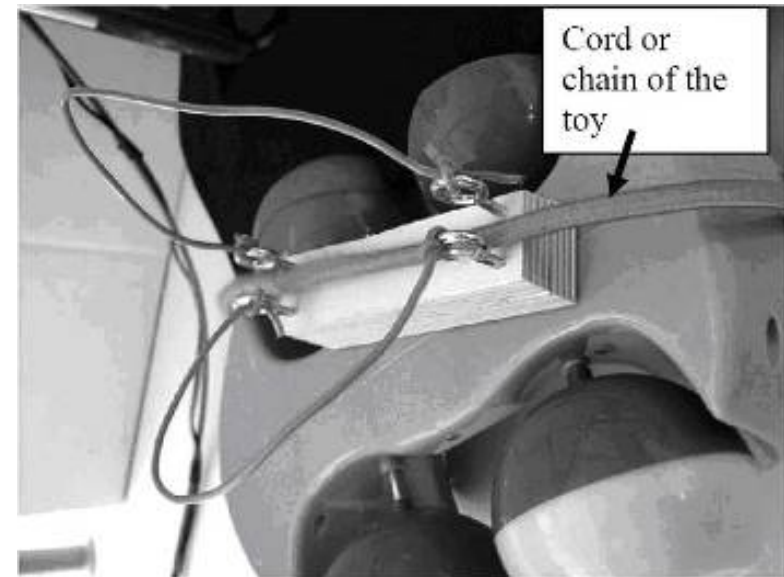
■ 25+/-2 N



flat surface 平的表面



irregular surface 不规则的表面



pr-Amendment A10 –Requirements for cords and chains in toys

修订草案A10-玩具中绳子和链子的要求

- Recoil force of self-retraction mechanism shall be less than 10N, testing method is as below.回缩绳的回缩力需小于10N. 测试方法如下:
- Attach a weight of $(1 \pm 0,1)$ kg to the free end of the cord. If the recoil mechanism cannot lift the weight when the cord is extracted as below three positions, the recoil force shall be considered to be less than 10 N.当在绳子的自由末端负载 $(1 \pm 0,1)$ kg 时, 如果在下面的3种状态下, 机械装置的回缩力都不能抬起 $(1 \pm 0,1)$ kg 的负荷时, 可以认为绳子的回缩力小于10N.
 - (1) Extract the cord from the toy to the extent of (20 ± 5) mm.
当绳子拉长到 (20 ± 5) mm时. (见下页图1)
 - (2) Fully extract the cord from the toy
当绳子被拉到最长时. (见下页图2)
 - (3) Let the cord be recoiled to half the fully extracted length
当绳子被拉到总长的一半时. (见下页图3)



pr-Amendment A10 –Requirements for cords and chains in toys

修订草案A10-玩具中绳子和链子的要求

图1

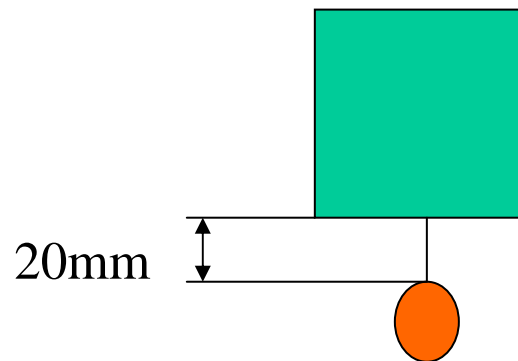


图2

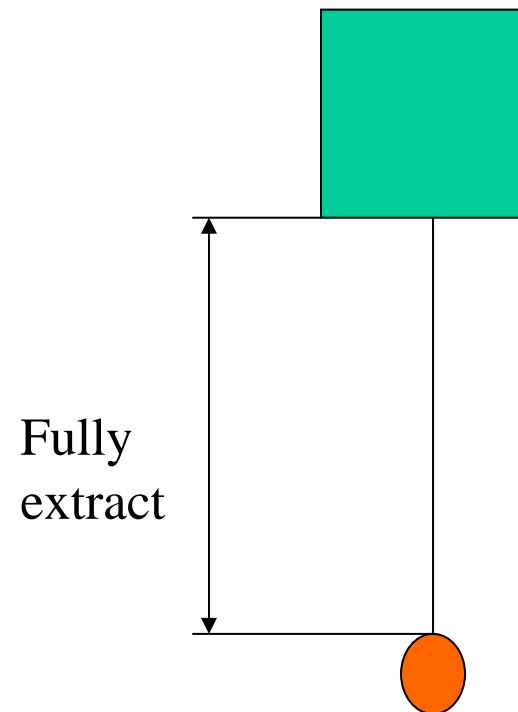
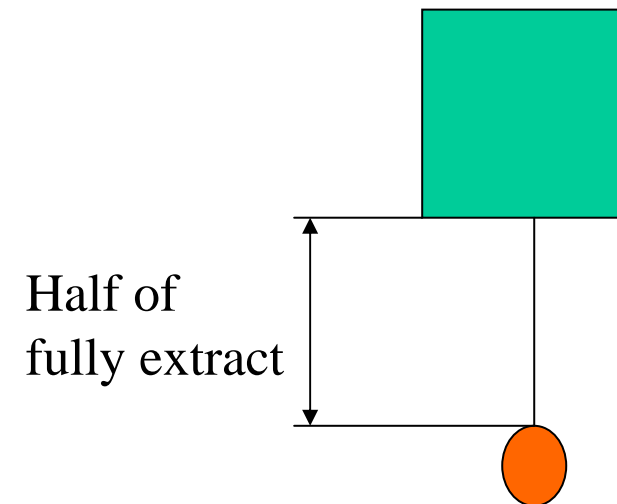


图3



pr-Amendment A10 –Requirements for cords and chains in toys

修订草案A10-玩具中绳子和链子的要求

- Toys with cords intended to be strung across a cradle, cot or perambulator shall carry a warning. This requirement applies also to toys with cords intended to be attached to a cradle, cot or perambulator and that are intended to be out of reach of the children. 横跨摇篮，童床或婴儿车并带有绳子的玩具需附有下面的警告语。这个要求同样适合不是用来让儿童触及的固定在摇篮，童床或婴儿车上的带有绳子的玩具。



Warning! To prevent possible injury by entanglement, remove this toy when the child begins to push up on hands and knees.

pr-Amendment A10 –Requirements for cords and chains in toys

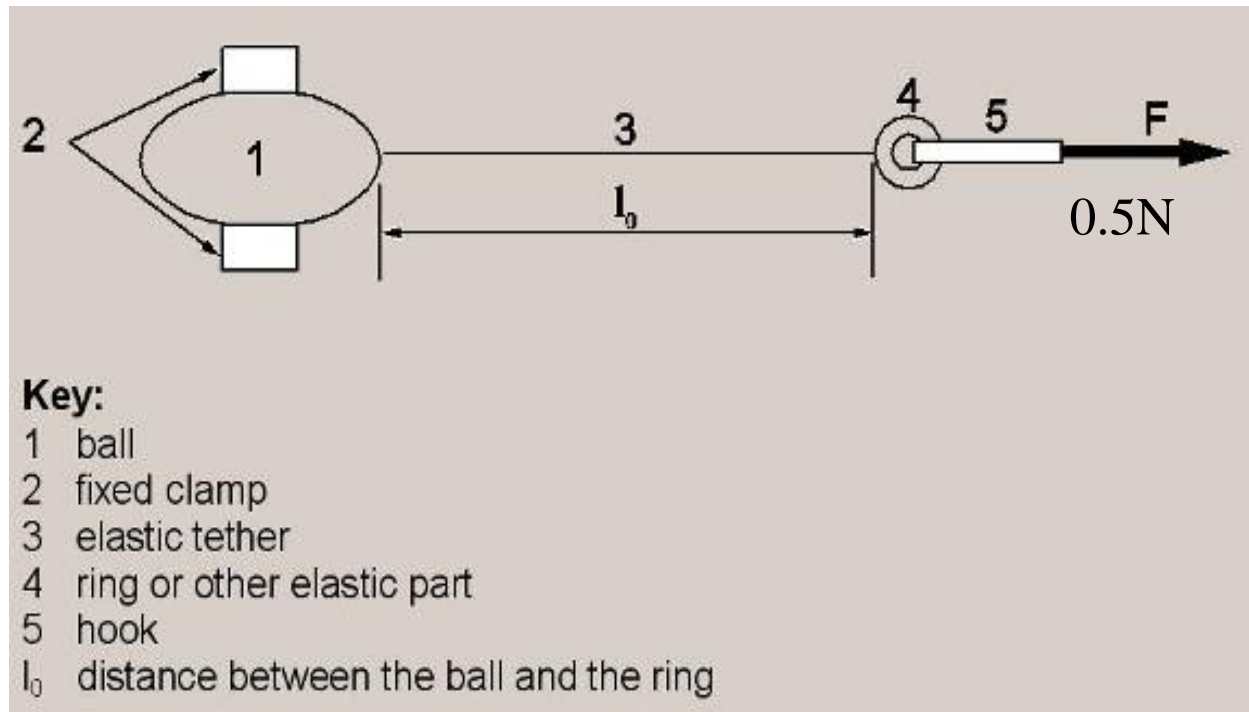
修订草案A10-玩具中绳子和链子的要求

- Cords with a free end on toys intended for children under 10 months shall have a free length of less than 300mm给10个月以下儿童玩耍的含有自由末端(无附属物)绳子的玩具，其绳子的自由长度需小于300mm
- Toys with straps intended to be worn fully or partially around the neck shall have breakaway feature which breaks at (25 ± 2) N (e.g. guitar straps, but does not apply to shoulder straps) 全部或部分环绕着脖子的玩具背带需在 (25 ± 2) N的力下自动散开(例如：吉他上的背带，但不适合肩背带).



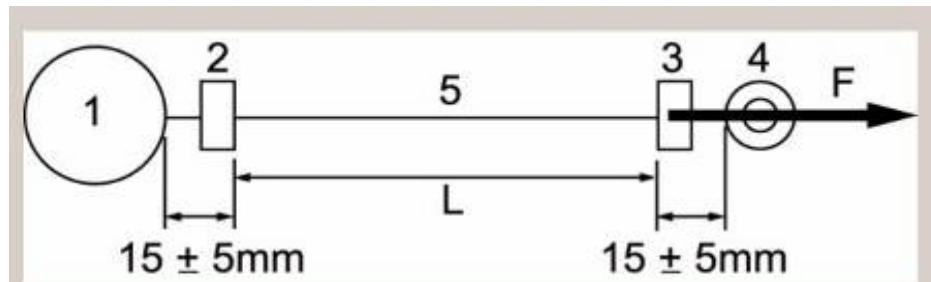
pr-Amendment A10 –Requirements for Yo-yo balls 修订草案A10-溜溜球的要求

- Initial length l_0 shall not be greater than 370mm. 下图中绳子的原始长度 l_0 不能超过370mm.



pr-Amendment A10 –Requirements for Yo-yo balls 修订草案A10-溜溜球的要求

- The ratio of mass “m” (in grams) to elastic constant “k” shall be less than 2.2 质量 “m” (单位为克) 与弹性恒定系数 “k” 的比值需小于2.2. ($m/k < 2.2$)
- Calculation of elastic constant “k” 弹性恒定系数 “k” 的计算(见下图)



$$F_{L2} = 2N$$

$$F_{L1} = 1N$$

Key

- 1 ball
- 2 fixed clamp
- 3 free clamp
- 4 ring or other elastic part
- 5 elastic tether
- L distance between the two clamps

$$k = \frac{1}{L2 - L1}$$

(L in meters)
(L单位为米)

pr-Amendment A11 – Suction cups on projectiles 修订草案A11 - 弹射物上的吸盘

- European Commission decision 2007/224/EC requires projectiles with suction cup impact surface conduct EC-type examination

欧盟委员会决议2007/224/EC 要求带吸盘的弹射物需进行EC型式试验。

- Suction cup tip project, the tip shall not fully detached after torque and tension tests 弹射物上的吸盘在扭力和拉力测试后不能脱落。
- Apply general tension test (90N instead of 60N) 应承受的拉测试为90N，代替之前的60N。





欧美玩具技术性贸易措施 最新动态培训班

答 疑 时 间



陈建林 技术经理

SGS通标标准技术服务有限公司 深圳玩具实验室

电话: 0755-2532 8242

传真: 0755-8310 6190

邮箱: frank.chan@sgs.com