

ICTI Review of International Standards Use and Abuse Tests

The ISO Standard as the Base

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

Use and Abuse Tests

Use and abuse tests must be harmonised.

This will be difficult if the EN Standard does not move to a broader set of age grading.

Attached is a set of new suggested test parameters, marked in red.

This is the most contentious of my recommendations and may still need to be modified, BUT it does bring the standards into closer harmonization and offers no less and in some instances greater protection across the ages to which these provisions should apply - 0 to 36 months and 36 to 96 months.

I have removed the 0 to 18 months requirement which has increased the level of protection for this age group and brings it more in line with the EN requirements

Legend:

Marking in Red – Recommended changes.

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Use and Abuse Tests

Test	Standard	AGE (MONTHS)	ASTM F963-07	EN 71 **	ISO 8124
Drop Test		0 to ≤ 18	10 drops × 4.5 ft ± 0.5 in.	All age groups: 5 drops × 850 ± 50 mm	10 drops × 138 ± 5 cm
		> 18 to ≤ 36	4 drops × 3.0 ft ± 0.5 in.		4 drops × 93 ± 5 cm
		> 36 to ≤ 96	4 drops × 3.0 ft ± 0.5 in.		4 drops × 93 ± 5 cm

* For mouth toys only ** For 0 to 14 years *** For toys under 36 months only A, Dim = Accessible Dimension

Drop Test **		0 to ≤ 36	8 drops × 3.3 ft ± 0.5 in.	0 to ≤ 96:	8 drops × 100 ± 5 cm
		> 36 to ≤ 96	4 drops × 3.3 ft ± 0.5 in.	8 drops × 100 ± 5 cm Need change to age grading to harmonize	4 drops × 100 ± 5 cm

** Drop Test with 8 drops: 4 to be most onerous position, 4 to be Random. Use impact service as per ASTM963-07.

Drop Test with 4 drops: 2 to be most onerous position, 2 to be Random

Impact Test (for EN 71 only)				1 ± 0.02 kg from height of 100 ± 2 mm	
Impact Test ***		Ø80 ± 2mm impact surface 1 kg ± 0.02 kg from height of 100 ± 2 mm (for EN 71 only) is for all toys	Ø80 ± 2mm impact surface 1 kg ± 0.02 kg from height of 100 ± 2 mm	Ø80 ± 2mm impact surface 1 kg ± 0.02 kg from height of 100 ± 2 mm	Ø80 ± 2mm impact surface 1 kg ± 0.02 kg from height of 100 ± 2 mm
Impact Test for Products Cover the Face		0 to ≤ 96	Ø5/8 in, 0.56 + 0.03 / -0 oz steel ball from height of 50 in.	Is covered above. Need to limit age to 0 to 96 months	Ø16 mm, 15g + 0.8- 0g steel ball from height of 130 ± 0.5 cm

*** Recommend include in ASTM and ISO

Bite Test (for CPSC only)		0 to ≤ 18	25 ± 0.5 lbf		
		> 18 to ≤ 36	50 ± 0.5 lbf		
		> 36 to ≤ 96	100 ± 0.5 lbf *		
Bite Test (for CPSC only)		0 to ≤ 18	25 ± 0.5 lbf		
		> 18 to ≤ 36	50 ± 0.5 lbf		
		> 36 to ≤ 96	100 ± 0.5 lbf *		

Use and Abuse Tests

Test	Standard	AGE (MONTHS)	ASTM F963-07	EN 71 **	ISO 8124
Torque Test		0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 96	2 ± 0.2 in-lbf 3 ± 0.2 in-lbf 4 ± 0.2 in-lbf	All age groups: 0.34 Nm	All age groups: 0.45 ± 0.02 Nm
Torque Test		0 to ≤ 96	4 ± 0.2 in-lbf	0.45 ± 0.02 Nm	0.45 ± 0.02 Nm
Tension Test / Seams Tension		0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 96	10 ± 0.5 lbf 15 ± 0.5 lbf 15 ± 0.5 lbf	All age groups: A.Dim ≤ 6mm : 50 ± 2N A.Dim > 6mm : 90 ± 2N	All age groups: 70 ± 2N
Tension Test / Seams Tension		0 to ≤ 96	15 ± 0.5 lbf	For protective tip of rigid components: 60 ± 2 N For seams *** : 70 ± 2N	For protective components: 70 ± 2 N
Tension Test / Seams Tension		0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 96	20 ± 0.5 lbf 25 ± 0.5 lbf 30 ± 0.5 lbf	70 ± 2 N For protective components / seams : 70 ± 2N	70 ± 2N For protective component / seams : 70 ± 2 N
Compression Test		0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 96	25 ± 1.0 lbf 30 ± 1.0 lbf	All age groups: 110 ± 5N	114 ± 2 N 114 ± 2 N 136 ± 2 N
Compression Test		0 to ≤ 36 > 36 to ≤ 96	25 ± 1.0 lbf 30 ± 1.0 lbf	114 ± 5 N 136 ± 5N	114 ± 5 N 136 ± 5 N
Flexure Test		0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 96	10 ± 0.5 lbf 15 ± 0.5 lbf 15 ± 0.5 lbf	All age groups: 70 ± 2 N	All age groups: 70 ± 2 N
Flexure Test		0 to ≤ 96	15 ± 0.5 lbf	70 ± 2 N	70 ± 2 N