



Hong Kong Standards and Testing Centre

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Abuse Test Parameters for Physical and Mechanical Test of Major Toy Safety Standards

| Tests | Age (Months) | Australia/New Zealand AS/NZS ISO 8124-1:2010 | Canada Toys Regulations | Europe EN71 Part 1:2011 | Japan Toy Standard 2002 | USA CPSC / ASTM F963-11 |
|-------------|--|---|--|--|---|--|
| Drop | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | 138 ± 5 cm, 10 drops 93 ± 5 cm, 4 drops 93 ± 5 cm 4 drops (≥ 36 to ≤ 96 months) | 4.5 ft (137 cm) 4 drops 4.5 ft (137 cm) 4 drops (< 3 yrs) 3 ft (91 cm) 4 drops (≥ 3 yrs) | 850 ± 50 mm, 5 drops (≤ 168 months) | 130 ± 5 cm, 10 drops (< 18 months) 850 ± 50 mm, 5 drops (< 36 months) | 4.5 ft ± 0.5 in (137 cm) 10 drops 3 ft ± 0.5 in (91 cm) 4 drops 3 ft ± 0.5 in (91 cm) 4 drops (> 36 to ≤ 96 months) |
| Compression | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | 114N ± 2.0N 114N ± 2.0N 136N ± 2.0N (up to 96 months) | 10 lbs (44.5 N) | For mask & helmets and toys < 36 months only 110 ± 5 N (24.7 lbs) | 110 ± 5 N through a 30 ± 1.5 mm disc (< 36 months) | 20 ± 0.5 lbs (89.0 ± 2 N) 25 ± 0.5 lbs (111.3 ± 2 N) 30 ± 0.5 lbs (133.5 ± 2 N) (> 36 to ≤ 96 months) |
| Torque | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | 0.45N.m ± 0.02 N.m 0.45N.m ± 0.02 N.m 0.45N.m ± 0.02 N.m (up to 96 months) | For rattle: 1 Nm (10.2 kg-cm) | For mouth-actuated toys, masks & helmets, aquatic toys, and toys < 36 months. 0.34 Nm (3.5 kg-cm) or a rotation of 180° | 0.34 Nm (3.5 kg-cm) or a rotation of 180° (< 36 months) | 2 ± 0.2 in-lbs (2.3 ± 0.2 kg-cm) 3 ± 0.2 in-lbs (3.5 ± 0.2 kg-cm) 4 ± 0.2 in-lbs (4.6 ± 0.2 kg-cm) (> 36 to ≤ 96 mths) |
| Tension | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | 70N ± 2N 70N ± 2N 70N ± 2N (up to 96 months) | For eye/nose: 20 lbs (9 kg) For rattle: 50 N (11.23 lbs) Others: 10 lbs (44.5 N) | ≤ 6 mm: 50 ± 2 N (11.2 lbs) > 6 mm: 90 ± 2 N (20.2 lbs) Seams: 70 ± 2 N Protective: 60 ± 2 N | ≤ 6 mm: 50 N (5.1 kg) > 6 mm: 90 N (9.2 kg) (< 36 months) Seams: 70 ± 2 N (< 36m) Protective: 60N (≥ 3 yrs) | 10 ± 0.5 lbs (44.5 ± 2 N) 15 ± 0.5 lbs (66.8 ± 2 N) 15 ± 0.5 lbs (66.8 ± 2 N) (> 36 to ≤ 96 months) |
| Flexure* | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | 70N ± 2N 70N ± 2N 70N ± 2N (up to 96 months) | - | 70 ± 2 N (15.7 lbs) (≤ 168 months) | 4.5 kg (< 18 months) 6.8 kg (≥ 18 months) | 10 ± 0.5 lbs (44.5 ± 2 N) 15 ± 0.5 lbs (66.8 ± 2 N) 15 ± 0.5 lbs (66.8 ± 2 N) (> 36 to ≤ 96 months) |
| Bite | 0 to ≤ 18 > 18 to ≤ 36 > 36 to ≤ 168 | - | - | - | 11 kg (< 18 months) For toy with external dimension ≤ 32 mm and depth ≥ 6 mm. | For CPSC only 25 lbs (11.3 kgf) 50 lbs (22.6 kgf) 100 lbs (45.5 kgf) (> 36 to ≤ 96 months) |

* 1 cycle per 2 sec, with a rest of 60 sec after each 10 cycles, for 30 cycles; For Japan: 1 cycle per sec, with a rest of 20 sec after each 10 cycles, for 30 cycles.