



Hong Kong Standards and Testing Centre

10 Dai Wang Street, Taipo Industrial Estate, NT, Hong Kong

Tel: (852) 2666 1888 Fax: (852) 2663 9612 Email: tcd@hkstc.org

Flammability Test Parameters for Major Toy Safety Standards

Sample	Australia/New Zealand AS/NZS ISO 8124 Part 2 : 2009	Europe EN71 Part 2 :2011	Canada SOR/2011-17	Japan Toy Safety Standard Part 2 : 2002	USA ASTM F963-11
General	- no celluloid - no cellulose nitrate except when used in varnish or paint - no flammable gas, liquid and gels		-	- no celluloid - no cellulose nitrate except when used in varnish or paint - no flammable gas, liquid and solid	-
Finished Products	<p>1) Beards, moustaches, wigs, etc. made from pile, hair or material with similar features ≥ 50 mm: duration of flame ≤ 2 s and max burnt length $< 50\%$ (of initial length ≥ 150 mm) or $< 25\%$ (of initial length < 150 mm); Beards, moustaches, wigs, etc. made from pile or hair < 50 mm: duration of flame ≤ 2 s and max burnt dimension ≤ 70 mm.</p> <p>2) Full or partial moulded head masks: duration of flame ≤ 2 s and max burnt dimension ≤ 70 mm.</p> <p>3) Flowing elements of toys to be worn on the head, hoods, head-dresses, etc. and fabric masks which partially or fully cover the head: burn rate ≤ 10 mm/s</p> <p>4) Disguise costumes: burn rate ≤ 30 mm/s. "Warning! Keep away from fire." required on both toy and packaging if burn rate is 10-30 mm/s.</p> <p>5) Product child can enter: burn rate ≤ 30 mm/s. No flaming debris if rate > 20 mm/s; "Warning! Keep away from fire." required on both toy and packaging if burn rate is 10-30 mm/s.</p> <p>6) Filled soft toy: burn rate ≤ 30 mm/s.</p> <p><u>Excluding</u>: soft toy with max dimension ≤ 150 mm</p>		-	<p>1) Beards, moustaches, wigs, etc. made from pile, hair or material with similar features ≥ 50 mm: duration of flame ≤ 2 s and max burnt length $< 50\%$ (of initial length ≥ 150 mm) or $< 25\%$ (of initial length < 150 mm); Beards, moustaches, wigs, etc. made from pile or hair < 50 mm: duration of flame ≤ 2 s and max burnt dimension ≤ 70 mm.</p> <p>2) Disguise costumes: burn rate ≤ 30 mm/s. "Warning! Keep away from fire." required on both toy and packaging if burn rate is 10-30 mm/s.</p> <p>3) Product child can enter: burn rate ≤ 30 mm/s. No flaming debris if rate > 20 mm/s; "Warning! Keep away from fire." required on both toy and packaging if burn rate is 10-30 mm/s.</p> <p>4) Filled soft toy: burn rate ≤ 30 mm/s.</p> <p><u>Excluding</u>: soft toy with max dimension ≤ 150 mm</p>	<p>16 CFR 1500.44 (candle test) Burn rate ≤ 0.1 in/s, or Not ignited.</p> <p><u>For ASTM F963</u>: If burn rate of 4 samples > 0.1 but < 0.15 in/s, accept; if 1/4 samples ≥ 0.15 in/s, retest; if more than 1 samples ≥ 0.15 in/s, fail. Major axis is placed horizontally.</p> <p><u>Excluding</u>: strings, paper, sleeping bags, packaging, ping-pong balls, and accessible components of major dimension ≤ 1 in</p>



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Textile Materials	Pile surface: no surface flash <u>Excluding:</u> material of dimension < 310 x 100 mm.		Burning time: Flat or raised fibre textile material or natural fur: > 7 sec Yarn of spun staple or bulked continuous filament form: > 7 sec Hair, mane or similar hair or mane: not burn or self-extinguishing within 2 sec	Pile surface: no surface flash	16 CFR 1610 Sample size: 5 samples for each location Acceptable fabrics for clothing use: 1) Raised surface fabric: All DNI, IBE, or average burn time ≥ 4 sec; or average burn time < 4 sec and all with surface flash insufficient to ignite, char or melt the base fabric; or only 1/5 sample ignited and burnt in < 4 sec and the base fabric did not ignite or fuse; if only 1/5 sample ignited and burnt in < 4 sec and the base fabric ignited or fused, test another 5 samples, average results of all 10 samples; if $\geq 2/10$ samples ignited, average results from those; if only 1/10 sample ignited, accept; or only 1/5 sample ignited and burnt in > 4 sec. 2) Plain surface fabric: All DNI, IBE, or average burn time ≥ 3.5 sec; or 1/5 sample ignited and burnt with time ≥ 3.5 sec, accept; if 1/5 sample ignited and burnt with time < 3.5 sec, test another 5 samples, average all results from 10 samples; if $\geq 2/10$ samples ignited, average results from those; if only 1/10 sample ignited, accept.
Test conditions	Conditioning: at least 7 hrs at $20 \pm 5^{\circ}\text{C}$ and RH $65 \pm 5\%$. Test chamber: air movement < 0.2 m/s; 10-30 $^{\circ}\text{C}$, RH 15-80%		Test condition: 20-30 $^{\circ}\text{C}$, RH 20-70%	Conditioning: at least 7 hrs at $20 \pm 5^{\circ}\text{C}$ and RH $65 \pm 5\%$. Test chamber: air movement < 0.2 m/s; 10-30 $^{\circ}\text{C}$, RH 15-80%	Precondition of fabric: 30 min at $221 \pm 10^{\circ}\text{F}$ Test condition: 20-30 $^{\circ}\text{C}$, RH 20-70% <u>Excluding:</u> fabric where a 2x6 in piece cannot be extracted