

Laboratory **SGS India Pvt. Ltd., Testing Laboratory – Transportation, Consumer and Retail, Plot No. 21, Sector 3, IMT, Manesar, Gurgaon, Haryana**

Accreditation Standard **ISO/IEC 17025: 2005**

Certificate Number **TC-6442**

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Validity **17.10.2017 to 16.10.2019**

Last Amended on **26.09.2018**

Sl.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
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CHEMICAL TESTING

I.	PLASTIC & RESINS			
1.	Polymer & Plastics	Ash Content/Filler Content	ASTM D 5630:2013 (Method B); ISO 3451-1:2008 (Method A)	1% to 90%
		Water and Soap Spotting	FLTM BI 113-01:2005	Qualitative
		Water and Immersion	FLTM BI 104-01:2001	
		Polymer Identification	ASTM /E 1252:2013	
		Resistance to acid spotting	FLTM BI 113-02:2001	Qualitative (1 to 5 grade)
		Synthetic Perspiration	FLTM BI 113-03:2001	
II.	METALLIC COATINGS & TREATMENT SOLUTIONS			
1.	Metallic Coatings	Mass of Zinc Coating	IS:6745:2006	5 g/m ² to 1500 g/m ²
		Chrome Coating Thickness	IS 3203:2006	0.10 µm to 3.0 µm
III.	METALS AND ALLOYS			
1.	Carbon Steel)	Carbon	IS 228-1:2002	0.05 % to 2.5%
		Manganese	IS 228-2:2002	0.4 % to 2%
		Phosphorus	IS 228-3:2002	0.005 % to 0.5%
		Nickel	IS 228-5:2002	0.1% to 10.2%
		Chromium	IS 228-6:2002	0.1% to 18%
		Molybdenum	IS 228-7:2001	1% to 3%
		Silicon	IS 228-8:2004	0.05% to 1.5%
		Sulphur	IS 228-9:2004	0.01% to 0.15%
		Molybdenum	IS 228-10:2004	0.3% to 1.50%
2.	Low alloy Steel	Carbon	SO-IN-TRP-T01-MET-13	0.05% to 3.0%
		Manganese	Rev. 20.05.2017;	0.05% to 8.2%
		Silicon	ASTM E 415-17;	0.004% to 5%

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		Sulphur	IS 8811:98	0.001% to 0.30%
		Phosphorus		0.005% to 0.3%
		Chromium		0.01% to 29.0%
		Nickel		0.0 to 58.0%
		Molybdenum		0.006% to 27.0%
		Aluminium		0.003% to 6%
		Arsenic		0.003% to 0.02%
		Cobalt		0.004% to 15.0%
		Copper		0.003% to 32.0%
		Vanadium		0.003% to 1.2%
		Tungsten		0.01% to 15.0%
		Lead		0.001% to 0.30%
		Tin		0.001% to 0.20%
		Titanium		0.002% to 5%
		Niobium		0.002% to 5%
		Boron		0.0005% to 0.02%
3.	Aluminum & Aluminum Alloys	Copper	SO-IN-TRP-T01-MET-13	0.01% to 8%
		Magnesium	Rev. 20.05.2017;	0.001% to 8%
		Silicon	ASTM E1251-11;	0.1% to 11%
		Iron	IS 11035-1984 (RA 2000);	0.1% to 5%
		Manganese	SO-IN-TRP-T01-MET-13	0.02% to 0.4%
		Nickel	Rev. 20.05.2017;	0.02% to 0.1%
		Zinc	ASTM E1251-11;	0.02% to 2.5%
		Lead	IS 11035-1984 (RA 2000)	0.005% to 0.2%
		Tin		0.005% to 0.15%
		Titanium		0.01% to 0.2%
		Chromium		0.02% to 0.1%
		Calcium		0.002% to 0.01%
4.	Copper & Copper Alloys	Tin	SO-IN-TRP-T01-MET-13	0.005% to 8%
		Lead	Rev. 20.05.2017;	0.003% to 0.2 %
		Zinc	BS EN 15079-2015	0.003% to 17.0%
		Iron		0.005% to 5.0%
		Nickel		0.001% to 5.0%
		Aluminium		0.02% to 8.0%

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		Silicon		0.05% to 4.5%
		Arsenic		0.001% to 0.1%
		Manganese		0.02% to 5.0%
		Phosphorus		0.007% to 0.9%
		Chromium		0.04% to 0.1%
5.	Zinc & Zinc Alloys	Aluminium	SO-IN-TRP-T01-MET-13	0.5% to 4.0%
		Copper	Rev. 20.05.2017;	0.04% to 2.5%
		Magnesium	ASTM E 536:2016;	0.001% to 0.02%
		Lead	IS 2599-1983 (RA 2000)	0.002% to 0.1%
		Cadmium		0.001% to 0.01%
		Tin		0.001% to 0.01%
		Nickel		0.01% to 0.05%
		Iron		0.1% to 0.40%

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MECHANICAL TESTING

I.	PLASTICS AND PLASTIC PRODUCTS			
1.	Polymer/Plastics	Soiling & Cleanability	FLTM BN 112-08:2015	Qualitative (1 to 5 grade)
		Odor resistance	FLTM BO 131-03:2016; MS 300-34:2010; SAE J 1351:2015	Qualitative 1 to 6 grade 1 to 10 grade
		Migration Staining	FLTM BN 103-01:2001	Qualitative
		Flammability	ISO 3795:1989 / MS 300-08:2013 / MVSS-302:1999; SAE J 369:2013; EDS T 7602:2006	R:1 to 999 mm/min LC:0.5sec
		Crocking	FLTM BN 107-01:2007; MS 652-12:2004	Qualitative (1 to 5 grade)
		Resistance to temperature Cycling	EDS T 7007:2003	Qualitative
		Resistance to Low Temperature Impact	FLTM BO151-01:2006; MS 210-05:2014, CI 4.10	Qualitative
		Weather ability or Fading Resistance for color fastness to light	MS 210-05 CI-4.5:2016; MS 210-06:2013 CI:4.4.2; HN 1311 CI 4.4:2004 / SAE J 2412:2015/SAE J 2527:2004; ISO 105-B06:2002	Qualitative Grey Scale grade – Rating 1 to 5
		Bond Strength of Trim Assemblies	FLTM BN 113-01:2001	Qualitative 10 to 1000 kgf, Least Count 0.5N
		Bond Strength Test of interior Trim Assemblies	FLTM BN 121-01:2001	Qualitative 10kgf to 1000 kgf, Least Count 0.5N
	Environmental Cycle	FLTM BQ 104-07:2000/ HN 1311 C1-4:2004/ GMW 14124:2012	Qualitative Temp:(-) 40°C to 200°C Least Count 0.1°C	

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		Heat Ageing	WSS M15P4E:2009; WSK M98P5-A:1990; WSK M98P6-A:1996; WSK M98P9-A:2011; MS 210-05 CI-4.4:2016; MS 652-14 CI-5.6:2006; EDS T 7007, CI-5.3:1999; HN 1311 CI-4.3:2004,	Qualitative
		Acid Spotting of Finished Part	FLTM BI 113-05:2001	Qualitative
		Wear Resistance	MS 210-05:2014,CI-4.8	Qualitative (1 to 5 grade)
		Melt Flow Index	ASTM D 1238:2013; ISO 1133-1 & 2:2011	R:0.15-1500 g/10min
		Fogging Resistance	SAE J 1756:2006	Photometric:100% Fog Mass:0.01to80 g
		Scratch Resistance	FLTM BO162-01:2009; MS 652-12 CI-5.4:2004; MS 210-05 CI-4.9:2014	Qualitative 1 to 3grade 1 to 5 grade
		Tensile Strength	ASTM D 638:2014; ISO 527-1 & 2:2012	R:0.5 to 1000Mpa, L.C:0.5MPa
		Elongation	ASTM D 638:2014; ISO 527-1 & 2:2012	Extension:400 mm Max L.C:0.5MPa
		Flexural Strength/Modulus	ASTM D 790:2015; ISO 178:2013	R:0.5 to 1000Mpa, L.C:0.5MPa
		Abrasion Resistance Test	FLTM BN 108-02:2001; MS 300-31 CI 4.19:2002	Qualitative
		Humidity Ageing	MA-0130:2004	Qualitative
		Thermal Oxidation	HN 1311 CI 4.17:2004	Qualitative 30°C to200°C
		Paint Adhesion	FLTM BI 106-01:2010; ISO 2409:2013	Qualitative (0 to 5 grade)
		Shore A and Shore D Hardness Test	BS EN ISO 868:2003; DIN 53505:2000 ASTM D 2240:2015	Upto 100 Shore A & D L.C :1
		Density /Specific Gravity	ASTM D 792:2013; ISO 1183-1:2012	R:0.5 g/cm ³ to 5 g/cm ³

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		Izod Impact	ISO 180:2013; ASTM D 256:2010	R:2J to 25J R:0.2 J to 20 J
		Charpy Impact	ASTM D 6110-2010; ISO 179-1:2010; ISO 179-2:2011	R:1J to 11J R:0.1 J to 8.85J
		Heat Deflection Temperature	ASTM D 648:2016; ISO 75-1&2:2013	R: Max 275°C L.C:1°C
		Vicat Softening Temperature	ASTM D 1525:2009; ISO 306:2013	R:Max 275°C L.C:1°C
		UV Test	ASTM G 154:2016	Qualitative (1 to 5 grade)
		Vibration Test	JIS D 1601:1995	Qualitative
II.	MECHANICAL PROPERTIES OF METALS			
1.	Metal and Alloys	Rockwell Hardness 1.)'A' at 60 Kgf load 2.)'B' at 100 Kgf load 3.)'C' at 150 Kgf load	ASTM E18:2016; IS 1586-1:2012; IS 1586-2:2012; IS 1586-3:2012	20 to 88 HRA/0.1HRA 20 to 100/0.1HRBW 20 to 70 HRC/0.1HRC
		Brinell Hardness	IS 1500 (Part 1-4):2013	33 to 650HBW 2.5/187.5 33 to 650HBW 5/750 33 to 650HBW10/3000
		Vickers Hardness Test	IS 1501-1:2013	10 to 900 HV 5 10 to 900 HV10 10 to 900 HV30
		Micro Vickers Hardness	ASTM E 384:2016; IS 1501-1:2013; IS 1501-4:2013	100 to 900 HV/0.01HV
		Tensile Strength	IS 1608:2005(RA 2017); ASTM E8/E8M:2016a; JIS Z 2241:1998	0.5 to 600 kN/LC:0.03kN 0.5 to 100kN/LC:0.005kN
		Yield Strength	IS 1608:2005(RA 2017); ASTM E8/E8M:2016a; JIS Z 2241:1998	0.5 to 600 kN/LC:0.03kN 0.5 to 100kN/LC:0.005kN

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		% Elongation	IS 1608:2005(RA 2017); ASTM E8/E8M:2016a; JIS Z 2241:1998	1% to 60 %
		Bend Test	IS 1599:2012(RA 2015)	Mandrel Diameter: 36,40,42,48,54,56,60,64, 66,72,75,80,88,100,112, 128,140,144,160,180, 200 mm
		Re-bend Test	IS 1786:2008(RA 2013)	Mandrel Diameter: 40,42,56,60,72,100, 112,128,140,144,160, 180,200mm
		Mass per Meter Run	IS 1786:2008(RA 2013)	0.222 to 9.86 kg/m
		Erichsen Cupping Test	IS 10175-1:1993 (RA2003)	0.2 to 2 mm / 0.1mm
		Izod Impact Test	ASTM E23:2016; IS 1598:1977(RA2003)	2 to168J / 2J
		V- Notch Charpy Impact Test at room Temp.	ASTM E23:2016; IS 1598:1977 RA2003; IS 1757:2014	2J to 300J / 2J at 23 ±5°C
		Case Depth of Steel	IS 6416:1988 (RA 2012)	1µm to 1000 µm
		Stone Chipping test	SAE J 400	Qualitative
		CASS Test	ASTM B368:2009 (RA2014)	Qualitative
		Resistance to Corrosion	ASTM B117:2016; ASTM G85(A1,A2):2011; ISO 9227:2012; ISO22775 Method 2:2004	Qualitative
III.	METALLOGRAPHY TEST			
1.	Metal and Alloys	Determination of Average Grain size	ASTM E 112:2013	Qualitative Magnification at 100X ASTM No - 1 to 10
		Determination of Inclusion content of Steel	ASTM E 45:2013	Qualitative analysis Magnification at 100X

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		Microstructure Analysis	ASM Handbook Vol.9	Qualitative 50X, 100X, 200X, 500X & 1000X
		Macrostructure Analysis	ASTM E 340:2015	Qualitative Magnification 5-20X
		Decarb Depth of Steel	IS 6396:2000; ASTM E1077:2001	1 to 1000 µm LC:1 micron Magnification 100 X
		Coating Thickness using Microscope	ASTM B487:1985; ISO 1463:2003; ASTM E376:2011	1 to 1000 µm LC:1 micron
IV.	TOYS AND SIMILAR PRODUCTS			
1.	All type of toys	Material Cleanliness/Assembly	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 (Clause -4.1/Clause4.2); ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.3} ASTM F 963 -2017; {Clause 4.1}	Qualitative (Visual Observation)
2.	Expanding Materials, Marbles, Spherical Hemi-spherical toys, Bolts/ Threads and rods, Projectiles, Wheels, Tires and Axles, Simulated Protective	Abuse Test	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.24(4.3.2, 4.5.7, 4.5.8,4.6.5,4.18)}; ASTM F 963 -2017 {Clause 8.6 -8.10, (4.14, 4.17,4.19,4.21,4.22,4.23,4.24,4.25,4.26,4.30,4.36)}; 16 CFR 1500.50 to 53	Qualitative

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	devices, Small Objects, Projectile Toys, Teethers & Teething Toys, Rattles, Squeeze toys, Stuffed & beanbags, Toy Guns	Small parts/object Test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.2(4.6,4.11, 4.18, 4.23.2, 4.23.3, 4.25, 5.1, 5.2)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017; {Clause5.2(4.3.2,4.5.6, 4.22,4.18)} ASTM F 963 -2017 (clause 4.6); 16 CFR 1500.51 16 CFR 1501	Qualitative (Visual Observation)
		Torque test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.3(4.6, 4.11, 4.14.2, 4.17, 4.18, 4.22, 4.23.2, 4.25, 5.1,5.10, 5.12, 5.13 and clause 6)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.6 (4.5.4,4.5.6, 4.6.5, 4.18,4.22)}; ASTM F 963 -2017; (clause 8.8); 16 CFR 1500.52	Qualitative Torque:1 to 55c.Nm

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		Tension test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.4(4.6, 4.11, 4.14.2, 4.17, 4.18, 4.22, 4.23, 4.25, 5.1, 5.3, 5.10, 5.12, 5.13 and Clause 6)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.24.6.3, 5.5 (4.5.3,4.5.6,4.6.5,4.18,4.22)}; ASTM F 963 -2017 {clause 8.9, 8.16 (4.27,4.35)}; 16 CFR 1500.53	(Qualitative Tension:Max=45lbs, Min=0.25lbs),
		Drop test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.5(4.5, 4.6, 4.10.2, 4.14.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12 and 5.13)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.24.2 (4.5.6)}	Qualitative Scale Measurement(1-1000mm)
		Tip over test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.6 (4.10.2, 4.22, 4.23.2, 5.1, 5.10, 5.12 and 5.13)}; ISO 8124 Part 1:2014;	Qualitative (Visual Observation)

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			AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.24.3} ASTM F 963-2017; (clause 4.15)	
		Impact test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.7 (4.5, 4.6, 4.10.2, 4.14.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12, 5.13 and A.38)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017; {Clause 5.14 (4.17,4.18)}; ASTM F 963 -2017 (clause 8.7)	Qualitative Scale Measurement (1-1000mm)
		Compression test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.8(4.6, 4.14.2, 4.22, 4.23.2, 4.25, 5.1, 5.10, 5.12, 5.13 and A.39)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017; {Clause 5.24.7 (4.6.5)}; ASTM F 963 -2017 (clause 8.10)	Qualitative (Max=45lbs, Min=0.25lbs),

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		Flexural test	ASTM F 963-2017 (clause 8.12, 4.10)	Qualitative
		Rattle test	ASTM F 963 -2017 (clause 4.23) / 16 CFR 1510	Qualitative
		Test for Pacifier	ASTM F 963-2017 / 16 CFR 1511	Qualitative
3.	Mouth actuated Toys, Hemi spherical-shaped Toys	Soaking test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.9 (see 4.11, 4.23.2, 5.1, 5.10 and 5.12)}	Qualitative Timer R:Upto 99 min L.C:0.01 sec Visual Observation
4.	Balloons & Expanding Material	Dimension of Expanding material/ Balloons	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.14(se e 4.6) Clause 4.12}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.21 (4.3.2, 4.5.6)}	Qualitative (Visual Observation)
5.	Glass & Marbles, Metallic wire & rods, Toy with edges, Folding, sliding & Locking Mechanism, Soft Toys	Accessibility of a part or component	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.10 (4.5, 4.7, 4.8, 4.10.2, 4.10.4, 4.15.1.3, 4.21, 5.2 and 5.7)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.14 , 4.13}; ASTM F 963 -2017 (clause 4.18)	Qualitative (Visual Observation)

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		Sharpness of edges	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014; {Clause 8.11 (4.5, 4.7, 4.9, 4.10.2, 4.14.2, 4.15.1.3 and 5.1) }; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017; {Clause 5.8 (4.6.1 to 4.6.4, 4.18, 4.22)}; ASTM F 963-2017 (clause 4.7, 4.11,4.21); 16 CFR 1500.49	Qualitative (Visual Observation)
		Sharpness of points	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.12 (4.5, 4.8, 4.9, 4.10.2, 4.14.2, 4.15.1.3, 5.1 and A.40)}; ISO8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.9 , 4.7 (4.18, 4.22)}; ASTM F 963 -2017; (clause 4.9, 4.11,4.21); 16 CFR 1500.49	Qualitative (Visual Observation)
		Flexibility Test of metallic wires	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014; {Clause 8.13 (see 4.8 and A.41)};	Qualitative (Visual Observation)

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			ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017; {Clause 5.24.8.2, 5.24.8.3 (4.9)}	
6.	Play Figures	Template Test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014; {Clause 8.16 (see 5.8, 5.11 and A.43), 8.33 (5.11)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.6 (4.5.4)}	Qualitative (Visual Observation)
7.	Cord, straps and Elastics in Toys	Dimension of Cords cross-sectional	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.20 (see 5.4 a)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.11.1 (4.11)}; ASTM F 963 -2017 (clause 8.23)	Qualitative (Visual Observation)
8.	Rocking Horses, Propellers	Static strength Test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014; {Clause 8.21 (see 4.15.1.3, 4.15.1.5, 4.15.3, 4.15.4 and A.46)}	Qualitative (Visual Observation)

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		Stability Test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.23.1 (see 4.15.1.4, 4.15.3 and 4.15.4)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 4.30.4, 5.12.2, 5.12.3, 5.12.4, 5.12.6 (4.15, 5.12.2)}; ASTM F 963-2017 (Clause 4.15)	Qualitative (Visual Observation)
9.	Flexi plastic sheeting & Packagings	Thickness of Plastic sheeting	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.25 (4.3, 5.3 & 6)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.10 (4.10)}; ASTM F 963-2017 (clause 8.22, 4.12)	0-1mm
10.	Projectiles, Suction Cup & Small Balls	Small balls and suction cups test	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.32 (4.17, 4.22, 4.25, 5.10 and 5.13)}; ISO 8124 Part 1:2014 AS/NZS/ISO 8124 Part 1: 2016; 9873 Part 1:2017 {Clause 5.4 (4.5.2)}	Qualitative (Visual Observation)

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11.	Cord, Chains, straps and Electrical cables in Toys	Perimeter of cords and chains	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.36(5.4c and 5.4 d)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.11.1}; ASTM F 963 -2017 (clause 4.14)	Qualitative Scale up to 1000m
		Length of cords, chains and electrical cables	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 {Clause 8.40 (5.4 b), 5.4 c), 5.4 g), 5.4 h) and 5.4 i)}; ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.11.1}; ASTM F 963-2017 (clause 4.14)	Qualitative Scale up to 1000m
		Label / Verification	BS EN 71-1:2014/ EN 71-1:2014; NF EN 71-1:2014 (Clause 7); ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017; ASTM F 963 -2017 {Clause 5, 6, 7, (clause 4.26,4.28,4.31, 4.32,4.33,4.34)}	Qualitative (Visual Inspection)

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12.	Pacifiers, Projectiles, Toy With Spherical/ Hemispherical ends, Tethers & Teething Toys, Mouth actuated Toys, Locking/ Folding Mechanism & Hinges	Shape & Size	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.3 (4.5.1.2 to 4.5.1.4)}; ASTM F 963-2017 clause 4.14,4.20, 4.32,4.36) 16 CFR 1511	Qualitative
		Test for Mouth Actuated Toys	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.26 (4.5.6)}; ASTM F 963-2017(clause 4.22); 16 CFR 1510	Qualitative
		Test for Projection	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 4.8}; ASTM F 963 -2017 (clause 4.8)	Qualitative
		Load test	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1:2016; IS 9873 Part 1:2017 {Clause 5.22.2, 5.22.3 (4.12)}; ASTM F 963-2017- 8.26.1 & 8.26.2, (clause 4.13)	Qualitative

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13.	Toys with confined spaces & enclosures	Dimension Test for enclosures	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.13.1 (4.16)}; ASTM F 963-2017 (clause 4.16)	Qualitative
		Lid Support Test	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.13.2.1 (4.16)}	Qualitative
		Durability Test	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5.13.2 (4.16)}	Qualitative
14.	Aquatic Toys	Labeling and warning Verification.	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 4.20}	Qualitative
15.	Liquid Filled Toys Mouth Actuated Toys Teethers and Teething Toys	Leakage Test	ISO 8124 Part 1:2014; AS/NZS/ISO 8124 Part 1: 2016; IS 9873 Part 1:2017 {Clause 5, 5.19}	Qualitative
16.	All Type of Toys	Flammability Test	BS EN 71-2:2014/ EN 71-2:2014; NF EN 71-2:2014; ISO 8124 Part 2:2014; AS/NZS/ISO 8124 Part 2: 2016; IS 9873 Part 2:2017;	Qualitative

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			ASTM F 963-2017 (clause 4.2); 16 CFR1500.44	
17.	Acoustic Toys	Determination of sound pressure level	IS 9873-1:2017/ISO 8124-1:2014 Clause 5.25 (Clause 4.29)	Qualitative
18.	Activity Toys	Static Strength Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.2.1 (Clause 4.1.1)	Qualitative
		Height Measurement	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.1.2	
		Corners and Edges Vérification Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.1.3	
		Protruding Parts	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.7.1 & 6.7.2 (Clause 4.1.4)	
		Entrapment	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.5.1 & 6.5.2 (Clause 4.4)	Qualitative
19.	Climbing and swinging Toys	Dimension Measurement	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.1.5	Qualitative
20.	Open Tubing Toys	Sharp Point test	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.1.6 As Per IS 9873-1:2017/ISO 8124-1:2014	Qualitative
		Sharp Edge test		
		Torque Test		
		Tension Test		
21.	Ladders & stairways	Dimension and Inclination Mesurément	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.3	Qualitative
22.	Activity Toys other than slides, swings and crossbeam	Stability Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.1.1 & 6.1.2 (Clause 4.5)	Qualitative
23.	Slide Toys	Stability Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.1.3 (Clause 4.6.1)	Qualitative

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		Dimension verification	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.6.2 & 4.6.3	Qualitative
24.	Seesaws	Dimension Verification	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.8	Qualitative
25.	Carousels and Rocking Toys	Stability Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.1.1 (Clause 4.9)	Qualitative
		Strength Test	IS 9873-4:2017/ISO 8124-4:2014 Clause 6.2.1 (Clause 4.9)	
26.	Inflatable activity Toys	Tension Test	IS 9873-4:2017/ ISO 8124-4:2014 Clause 4.10.2	Qualitative
		Length Measurement Test	IS 9873-4:2017/ ISO 8124-4:2014 Clause 4.10.3	
		Dimension Verification	IS 9873-4:2017/ISO 8124-4:2014 Clause 4.10.4.2 & 4.10.4.3	
		Safe Collapse	IS 9873-4:2017/ ISO 8124-4:2014 Clause 6.9 (Clause 4.10.4.4)	Qualitative
27.	Paddling pools	General	IS 9873-4:2017/ ISO 8124-4:2014 Clause 4.11.1	Qualitative
		Sharp Edge , Point & Small Part Test	IS 9873-4:2017 /ISO 8124-4:2014 Clause 6.10 (Clause 4.11.2) As per IS 9873-1:2017/ISO 8124-1:2014	
		Dimension Mesurément	IS 9873-4:2017/ ISO 8124-4:2014 Clause 4.11.3	
28.	Activity, Paddling Pools, Non-Activity, Inflatable Activity Toys	Warnings and Labelling in Toys	IS 9873-4:2017/ ISO 8124-4:2014 Clause 5	Visual Examination

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V. PAPER & PAPER PRODUCTS				
1.	Packaging (Corrugated Boards/Paper & paper boards)	Thickness Test	ISO 3034:2011	Upto 25mm, LOD:0.01mm
		Bursting Strength Test(corrugated sheet) Paper sheet	ISO 2759:2014; TAPPI T 810:2011; ISO 2758:2014/ TAPPI T 403:2010; IS 1060-1:1966 RA 2009	2.9 kg/cm ² to 45 kg/cm ² 0.71 kg/cm ² to 14 kg/cm ²
		Puncture Resistance Test	ISO 3036:1975; IS 4006 Part 2:2002; TAPPI T 803:2010	R:0-1600 Beach unit, LC:Scale A=20, Scale B=40, Scale C=100
		Cobb Test	IS 1060 Part 1:1966 RA 2009; ISO 535:2014; TAPPI T 441:2013	Range:0 to 450g/m ²
		Compression Test (Empty carton box)	TAPPI T 804:2012; IS 7028 Part 6:1987 RA 2002	Visual observation/ damage at load upto 1300kgf,
		Moisture Content	ISO 287:2009; IS 1060 Part-1:1966 RA 2004	R:25°C to 250°C LC:1°C
		GSM (Grammage)	TAPPI T 410:2013; ISO 536:2012; ASTM D 646:2013	R:50g/m ² to 1900 g/m ²
		Edge Crush Testing	TAPPI T811-om 11; ISO 3037-2013	562 Lb/inch 50 KN/m
2.	Packaging (shipping box)	Transit Test (Drop/vibration/compression)	ISTA 1A:2014; ISTA 2A:2011; ISTA 1C:2014	Qualitative (Visual Observation)
		Vibration Testing of the shipping Containers	ASTM D 999:2008	Qualitative (Visual Observation)

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		Compressive Resistance of the Shipping Container/Stacking	ASTM D 642:2015; TAPPI T 804:2012; IS 7028 Part 6:1987 RA 2002; ISO 12048:1994; BS EN 12048:2001; ISO 2234:2000	Visual observation at Load upto 1300kgf,
		Drop Test /of the transport boxes by free fall	ASTM D 5276:1998 RA 2009; ISO 2248:1985	Qualitative (Visual Observation)
		Performance testing for shipping containers and system	ASTM D 4169:2016 (Schedule A, B, C, F, H, J)	Qualitative (Visual Observation)
VI.	PERFORMANCE/DURABILITY/ SAFETY TEST			
1.	Glass Containers	Annealing Test	ASTM F 2179:2014 (Scratch Test)	Qualitative (Visual Observation)
		Thermal Shock Resistance of Glass Containers	ASTM C149:2014; EN 1183:1997	Qualitative (Visual Observation)
2.	Metal plated items	Cross Cut Adhesion	ASTM D 3359:2017	Scale 0 to 5
3.	Candles/ candle holder	Product safety of labels	EN 15494:2007	Qualitative (Visual Observation)
		Specification for sooting behavior	EN 15426:2007	Soot Index < 1/hr (Individual), Soot Index < 2/hr (Avg)
		Candle fire safety Labeling	ASTM F 2058:2014	Qualitative (Visual Observation) / Time (0-60 sec)
		Candle burning Performance, Stability, Tea light cup stability Test	ASTM F 2417:2016	Qualitative (Visual Observation)/ Flame height (0-150mm)

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		Burning performance, Flame height, Stability	EN 15493:2007	Qualitative (Visual Observation)/ Flame height (0-150mm)
		Labeling/Packaging	16 CFR 500.500.7:2013; 16 CFR 501.7:2013; 16 CFR 500.27:2013; 16 CFR 500.28:2013;	Qualitative (Visual Observation)
4.	Candles/ candle holder	Country of Origin Marking	19 CFR 134:2013	Qualitative (Visual Observation)
		Temperature Raise Test for Candleholder	SGS-TM-HL-00155-2	Upto 150°C
		Fire Safety for Candle Accessories	ASTM F 2601:2016a	Qualitative (Visual Observation)
5.	Glass/ ceramic/ plastic containers	Microwave test	SGS-TM-HL-00123/ EN 15284:2007	Qualitative (Visual Observation)
		Dishwasher test	SGS-TM-HL-00010	
6.	Furniture Testing	General Purpose Office Chairs - Tests	ANSI/BIFMA X5.1-2017	Qualitative (Visual Examination)
		Backrest strength test—static—type I & II	Clause 5	
		Backrest strength test—static—type III	Clause 6	
		Swivel test—cyclic	Clause 8	
		Tilt mechanism test—cyclic	Clause 9	
		Seating durability test—cyclic	Clause 10	
		Front corner load-ease test (cyclic- off center)	Clause 10.4	
		Stability test	Clause 11	
		Rear stability	Clause 11.3	
		Front stability	Clause 11.4	
Arm strength test—vertical—static	Clause 12			

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		Arm strength test—horizontal—static	Clause 13	Qualitative (Visual Examination)
		Backrest durability test—cyclic—type I	Clause 14	
		Backrest durability test—cyclic—type II & III	Clause 15	
		Caster/chair base Test	Clause 16	
		durability test—cyclic Caster/Chair Base Durability Test for Pedestal Base Chairs	Clause 16.1	
		Caster/Chair Frame Durability Test for non pedestal Chair with castors	Clause 16.2	
		Leg strength test—front and side application	Clause 17	
		Footrest Static Load Test - Vertical	Clause 18	
		Footrest durability test—vertical—cyclic	Clause 19	
		Arm durability test - cyclic	Clause 20	
		Out stop tests for chairs with manually adjustable seat depth	Clause 21	
		Tablet arm chair static load test	Clause 22	
		Tablet arm chair load ease test - cyclic	Clause 23	
		Structural Durability Test - Cyclic	Clause 24	

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		<u>Desk/Table Products – Tests</u>	<u>ANSI/BIFMA X5.5 – 2014</u>	Qualitative (Visual Examination)
		Clearance Between Adjusting primary & secondary Surfaces	Clause 3.3	
		Loading configuration Test	Clause 3.9	
		Stability with Extendible Elements Open Test	Clause 4.2	
		Stability Under Vertical Load Test	Clause 4.3	
		Horizontal Stability Test for Desk/Tables with Casters	Clause 4.4	
		Stability Test for Keyboard/Laptop Tables (with and without casters)	Clause 4.5	
		Force Stability Test for Tall Desk/Table Products	Clause 4.6	
		Unit Strength Test	Clause 5	
		Concentrated Functional Load Test	Clause 5.2	
		Distributed Functional Load Test	Clause 5.3	
		Concentrated proof load test	Clause 5.4	
		Distributed proof load test	Clause 5.5	
		Transaction Surface Torsion Load Test	Clause 5.6	
		Extendible Element Static Load Tests	Clause 5.7	

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		Benching Systems – Distributed Functional Load and Stability Test	Clause 5.8	Qualitative (Visual Examination)
		Benching Systems – Distributed Proof Load Test	Clause 5.9	
		Top Load Ease Cycle Test	Clause 6	
		Desk/Table Unit Drop Test	Clause 7	
		Leg Strength Test	Clause 8	
		Separation Tests for Tall Desk/Table Products	Clause 9	
		Extendible Element Cycle Test	Clause 10	
		Cycle Test for Extendible Elements Deeper Than Wide	Clause 10.2	
		Cycle Test for Extendible Elements Wider Than Deep	Clause 10.3	
		Cycle Test for Low Height Drawers	Clause 10.4	
		Extendible Element Retention Impact and Durability (Out Stop) Tests	Clause 11	
		Extendible Element Rebound Test	Clause 12	
		Interlock Strength Test	Clause 13	
		Lock tests	Clause 14	
		Force Test for Extendible Element Locks	Clause 14.2	
		Force Test for Door Locks	Clause 14.3	

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		Locking Mechanism Cycle Test	Clause 14.4	Qualitative (Visual Examination)
		Work Surface Vertical Adjustment Test (4000 cycles)	Clause 15	
		Keyboard Support and Input Device Support Adjustment Tests	Clause 16	
		Door test	Clause 17	
		Strength Test for Vertically Hinged Doors, Bi-fold Doors and Vertically Receding Doors	Clause 17.2	
		Hinge Override Test for Vertically Hinged Doors	Clause 17.3	
		Vertical Receding Doors Strength Test	Clause 17.4	
		Horizontal Receding Doors Strength Test	Clause 17.5	
		Wear and Fatigue Test for Hinged, Horizontally Sliding, and Tambour Doors	Clause 17.6	
		Wear and Fatigue Test for Vertical Receding Doors	Clause 17.7	
		Wear and Fatigue Test for Horizontal Receding Doors	Clause 17.8	
		Vertical and Horizontal Receding Door Out Stop Test – Cyclic Impact and Durability	Clause 17.9	

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		Slam Closed Test for Vertically Hinged and Vertically Receding Doors	Clause 17.10	Qualitative (Visual Examination)
		Drop Cycle Test for Horizontally Hinged and Horizontally Receding Doors	Clause 17.11	
		Slam Test for Doors Which Free Fall Open or Closed	Clause 17.12	
		Slam Open and Closed Test for Doors Which Do Not Free Fall	Clause 17.13	
		Door Latch Test	Clause 17.14	
		Durability Test for Desks and Tables with Casters	Clause 18	
		Pull Force Test	Clause 19	
		Tilting Top Table -- Cycle Test	Clause 20	
		Tilting Top Table – Latch Strength Test	Clause 21	
		Monitor Arm Strength Test	Clause 22	
		Monitor Arm Cycle Test	Clause 23	
		Monitor Arm Adapter Dislodgement Test	Clause 24	
		Panel Systems - Tests	ANSI/BIFMA X5.6- 2016 (Excluding Clause:4, 11.6, 11.7, 11.8, 11.9 11.14)	
		Storage Unit - Tests	ANSI/BIFMA X5.9- 2012 (Excluding Clause:7.1,7.2, 7.3)	

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		Outdoor furniture – Seating and Tables for Camping, Domestic and Contract use – Part 1. General Safety Requirments	BS EN 581-1:2017.	Qualitative (Visual Examination)
		Outdoor furniture - Seating and Tables for Camping, Domestic and Contract use – Part 2. Mechanical Safety Requirement s and Test Methods for Seating	BS EN 581-2:2015 (Excluding for multiple seating and Clause:6, 6.1, 6.2, 8, 8.1, 8.2)	
		Outdoor furniture - Seating and Tables for Camping, Domestic and Contract use - Part 3. Mechanical Safety Requirements and Test Methods for Tables	BS EN 581-3:2007	
		Furniture Domestic and kitchen storage units and kitchen worktops - Safety requirements and test methods	EN 14749:2016	