

Annexure A

Equipment Specification for Toy Test Lab
As per IS 9873 Part I (2019)

Sr. No.	Name of the Equipment	Cl. No. (IS 9873 Part I)(2019)	Equipment Specification
1	Accessibility of a Part or Component A & B	5.7 (DRAWING ATTACHED)	Articulated accessibility probe,
2	Sharp-edge test Equipment (with 1 inch PTFE Tape)	5.8	Sharp-edge test as per Figure 31, Steel Mandrel, Device for rotating the mandrel and applying a force to it, Pressure sensitive polytetrafluoroethylene (PTFE) tape
3	Sharp Point Tester	5.9	Point tester,
4	Test for Fixed Loop & Nooses Head Probe	5.11	Suitable apparatus capable of applying and measuring tensile forces up to (25 ± 2) N, instruments to measure length and cross sectional area of cords e.g. an optical projector, head probe (see Figure 35), hook test fixture (Figure 36), mass of $(1 \pm 0,1)$ kg, conditioning chamber to maintain samples at a temperature of (25 ± 3) °C and at a relative humidity of 50 % to 65%
5	Hook Test Fixture for Cords & Loops	5.11	Suitable apparatus capable of applying and measuring tensile forces up to (25 ± 2) N, instruments to measure length and cross sectional area of cords e.g. an optical projector, head probe (see Figure 35), hook test fixture (Figure 36), mass of $(1 \pm 0,1)$ kg, conditioning chamber to maintain samples at a temperature of (25 ± 3) °C and at a relative humidity of 50 % to 65%
6	Stability & Over Load Test	5.12	smooth surfaces inclined $10+0.5^\circ/-0.0^\circ$ and $15+0.5^\circ/-0.0^\circ$, $10 \pm 1^\circ$ to the horizontal plane, Loads for stability test $(25 \pm 0,2, 50 \pm 0,5)$ kg), Loads for overload test $(35 \pm 0,3, 80 \pm 1,0, 140 \pm 2,0)$
7	Durability for Toy Chest Lids Automatic	5.13	Suitable apparatus capable of applying and measuring tensile forces up to $(45 \pm 1,3)$ N in an outward direction to the inside of the closure perpendicular to the plane of the closure Durability test apparatus to subject the lid to 7 000 opening-and-closing cycles, where one cycle consists of raising the lid from its fully closed to its fully open position and returning it to fully closed. The time to complete one cycle shall be approximately 15 s. The 7 000 cycles shall be completed within a time period of 72 h
8	Kinetic Energy of Projectiles	5.15	Timing device for determining the velocity, to give a calculated kinetic energy to an accuracy of 0,005 J.
9	Free-wheeling facility and brake performance test	5.16	Apparatus for Stability and overload tests, surface covered with aluminium oxide paper P60, Apparatus to Pull the toy at a constant speed of $(2 \pm 0,2)$ m/s and apply

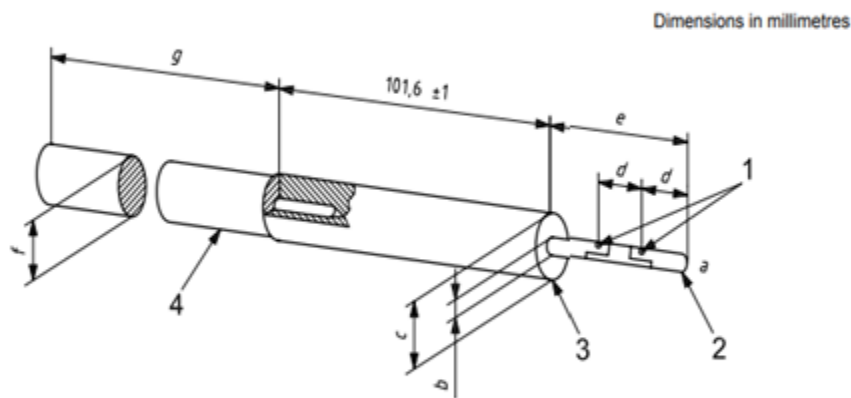
			and measure forces of (50 ± 2) N to the pedal in the operating direction producing the effect of the brake, mass of $(50 \pm 0,5)$ kg
10	Determination of Speed of electrically driven ride on toys.	5.17	mass of $(25 \pm 0,2)$ kg, horizontal surface, Apparatus to check if velocity exceeds 8 km/h.
11	Lickage of liquid filled toys (Needle)	5.19	Conditioning chamber to condition toy at a temperature of (37 ± 1) °C, Apparatus to apply a force of 5 N to the external surface of the toy through a steel needle with a diameter of $(1 \pm 0,1)$ mm and with a tip radius of $(0,5 \pm 0,05)$ mm
12	Durability of Mouth Actuated Toys Automatic	5.20	Durability test apparatus comprising piston pump capable of discharging and receiving more than 300 cm ³ of air in less than 3 s to the mouthpiece of the mouth-actuated toy with a relief valve so arranged that the pump will not generate a positive or negative pressure of more than 13,8 kPa.
13	Tip Over test Apparatus	5.24.3	Tip-over test for large and bulky toys: Apparatus to Gradually apply a force, which is not to exceed 120 N, in a horizontal direction and 1 500 mm above the horizontal surface or at the top edge of the toy for toys less than 1 500 mm in height. A non-resilient step with a height of (25 ± 2) mm shall be positioned such that it prevents sliding or rolling of the toy during the test.
14	Torque test (Torque gauge)	5.24.5	Torque test: torque gauge or torque wrench to apply torque of $(0,45 \pm 0,02)$ N·m
15	Flexure test	5.24.8 (DRAWING ATTACHED)	Flexure test: Apparatus as per 5.24.8
16	Determination of sound pressure levels	5.25	Environment that meets the qualification requirements of either ISO 11201 or ISO 11202, Equipment for Noise measurement in dB including instrumentation system, including the microphone and cable as per class 1 instrument as specified in IEC 61672-1, standard test table as described in ISO 11202 (wooden top with a thickness of 4 cm or larger and leg construction providing a stable test surface), hypothetical box-shaped measurement surface (see Figure 43), reflecting plane (for example, concrete, tile or another hard surface) and a test rig for Pull or push toys, test rig for Cap firing toys
17	Static strength for toy scooters	5.26	Test masses for toy scooters of $(50 \pm 0,5)$ kg, (100 ± 1) kg of dimensions as per Figure 47
18	Dynamic strength for toy scooters	5.27	Load as specified in Figure 48, equipped with two articulated arms and a removable cushion with straps, platform
19	Brake performance for toy scooters	5.28	250 mm high platform (with stabilizers) with a total mass of $(4,8 \pm 0,2)$ kg as

			shown in Figure 49, mass of $(50 \pm 0,5)$ kg, $(25 \pm 0,2)$ kg, Setup to apply and measure force applied up to 20 kg/30 N.
20	Strength of toy scooter steering tubes	5.29	horizontal plane equipped to secure the toy scooter, mass of $(25 \pm 0,2)$ kg, $(50 \pm 0,5)$ kg, (100 ± 1) kg
21	Resistance to separation of handlebar	5.30	Setup to apply and measure force applied up to 90 N
22	Tension test for magnets	5.31	Tension test apparatus with Nickel disc with a minimum nickel content of 99 %, a diameter of $(30 \pm 0,5)$ mm and thickness of $(10 \pm 0,5)$ mm.
23	Magnetic flux index	5.32	Magnetic flux index test apparatus with Direct current field Gauss meter, with a resolution of 5 G, capable of determining the field to an accuracy of 1,5 % or better. The meter shall have an axial type probe with an active area diameter of $(0,76 \pm 0,13)$ mm and a distance between the active area and probe tip of $(0,38 \pm 0,13)$ mm, Caliper, or similar device, with an accuracy of 0,1 mm.
24	Determination of projectile range	5.35 (DRAWING ATTACHED)	Apparatus to Discharge the projectile using a discharge angle that will maximize the distance travelled (typically this is 45°). At the point of discharge, the projectile shall be disengaged from the discharge mechanism and in free flight
25	Tension and Compression test	5.24.6	Tension and Compression test: Tension and Compression Test Apparatus with loading device equipped with a self-indicating gauge or other appropriate means to measure force applied to accuracy of 1 N.

- Standard: Must comply IS 9873 Part I (2019)
- Material :MS Powder Coated and/or suitable material to comply the standard
- Dimension of the equipment As per respective clauses of IS 9873 Part I (2019)
- Calibration: NABL calibration certificate required (as per the requirement of respective clauses of IS 9873 Part I) (2019)
- Reference Material: NIST Traceable (as per the requirement of respective clauses of IS 9873 Part I) (2019)
- Accessories/Apparatus: Must Provided as per requirement of respective clause/equipment
- Accuracy: As per respective clauses of IS 9873 Part I (2019)
- Warranty: 2 Years

5.7 Articulated Accessibility Probe

Clause	5.7
Specification	As per IS 9873 (Pt-1)



Key

- 1 pivot points
- 2 spherical radius (a)
- 3 collar
- 4 extension

Fig. A schematic of prospective Apparatus

5.24 Reasonably forceable abuse

Clause	4.2
Specification	
Name of Equipment	Flexure test apparatus

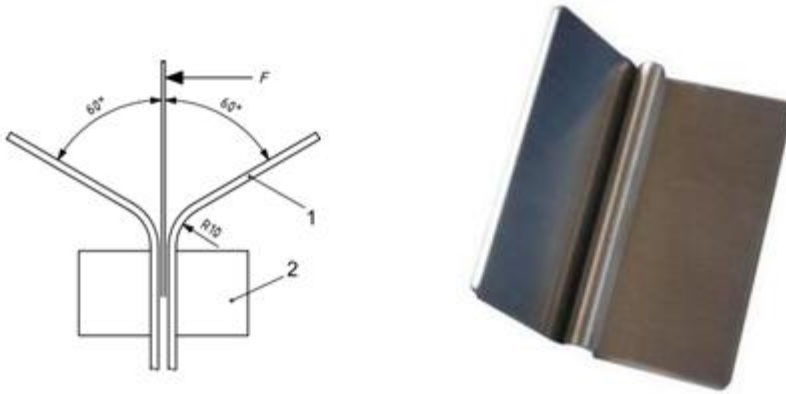


Fig. A schematic of prospective Apparatus

5.35 Determination of projectile range

Clause	4.18
Specification	Apparatus to Discharge the projectile using a discharge angle that will maximize the distance travelled (typically this is 45°). At the point of discharge, the projectile shall be disengaged from the discharge mechanism and in free flight and as per IS 9873 (Pt-1)
Name of Equipment	Projectile range

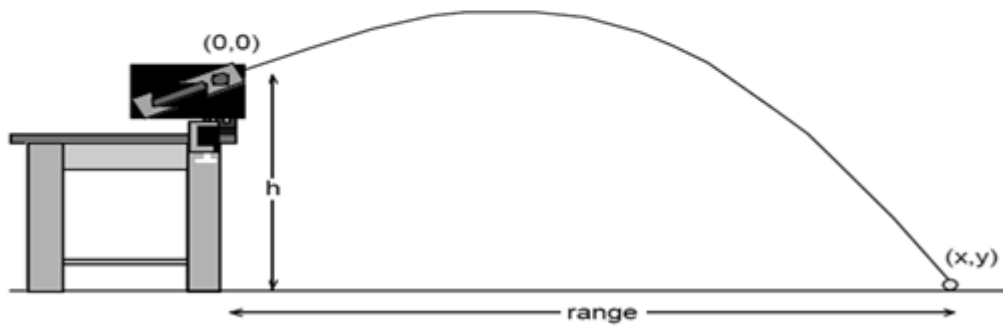


Fig. A schematic of prospective Apparatus

