



HUAKE TESTING

TEST REPORT

Prepared for:

HANGZHOU MERSCO TECHNOLOGY CO., LTD

**Room 907, Huaye Building No. 511, Jianye Road, Changhe Street, Hangzhou 310053, Zhejiang,
China**

Product Name: Mini Trampoline

Model Name: MSG-1001D-Printed

Trade Mark: N/A

Date of Test: From October 22, 2024 to November 07, 2024

Date of Report: November 07, 2024

Report Number: HK24102218003-1RR-R01

Prepared by:

Shenzhen HUAKE Testing Technology Co., LTD.

**1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community,
Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**

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Applicant: HANGZHOU MERSCO TECHNOLOGY CO., LTD
Address: Room 907, Huaye Building No. 511, Jianye Road, Changhe Street, Hangzhou 310053, Zhejiang, China
Manufacturer: HANGZHOU MERSCO TECHNOLOGY CO., LTD
Address: Room 907, Huaye Building No. 511, Jianye Road, Changhe Street, Hangzhou 310053, Zhejiang, China

The following sample was submitted and identified by/on behalf of the client as:

Sample Name: Mini Trampoline
Model No.: MSG-1001D-Printed
Trade Mark: N/A
Tested Age Grade: 1-6 years old
Labeled Age Grading: 1-6 years old
Appropriate Age Grade: 1-6 years old
Sample Receiving Date: October 22, 2024
Testing Period: From October 22, 2024 to November 07, 2024
Results: Please refer to next page(s).

Signed for and on behalf of HUAKE

Approved by: Jason Zhu
Lab Manager



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Information of the Test Laboratory

Shenzhen HUAKE Testing Technology Co., Ltd.

Add.: 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

Testing Laboratory Authorization:

A2LA Accreditation Code is 4781.01.

FCC Designation Number is CN1229.

Canada IC CAB identifier is CN0045.

CNAS Registration Number is L9589.

CPSC Certification Number is 1710



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Summary of Test Results:

TEST REQUEST

CONCLUSION

A

As specified in title 16, code of federal regulations, chapter II- consumer products safety commission of U.S.A

1. 16CFR 1500.50.51.52.53 Simulating use and abuse of toys

PASS

2. 16CFR 1501 Small Objects

PASS

3. 16CFR 1500.48 Sharp point

PASS

4. 16CFR 1500.49 Sharp edge

PASS

B

ASTMF381-16 Standard Safety Specification for Components, Assembly, Use, and Labeling of Consumer Trampolines

PASS

C

ASTM F2225-15(2020) Standard Safety Specification for Consumer Trampoline Enclosures

PASS

D

ASTM F963-23 Standard Consumer Safety Specification for Toy Safety

1. -Mechanical and Physical Tests

PASS

2. -Section 4.2 Flammability Tests

PASS

3. -Section 4.3.5.1 Heavy Metals Content in Paint and Similar Surface-coating Materials

PASS

4. -Section 4.3.5.2 Heavy Metals Content in Toy Substrate Materials

NA

5. -Section 4.3.8 Phthalates

PASS

E

- USA 16CFR Part 1303 Ban of Lead Containing Paint and Certain Consumer Products Bearing Lead- Containing Paint

NA

F

- USA Consumer Product Safety Improvement Act (CPSIA) Sec.101 Children's products containing Lead; Lead paint rule

PASS

- CPSIA section 101(a)(2)-Lead in accessible substrate materials and 15 U.S.C. § 1278a Lead in Children's products

- USA Consumer Product Safety Improvement Act (CPSIA) Sec.108 Prohibition on sale of certain products containing specified phthalates

PASS

G

- USA 16CFR Part 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates

H

- CPSA Section 14(a) (5) Tracking Labels for Children's Products (15 USC §2063(a)(5) (CPSA))

PASS



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Results:

A. As specified in title 16, code of federal regulations, chapter II- consumer products Safety commission of U.S.A

Section	Description	Result
16CFR 1500.50.51.52.53	Normal use testing	Pass
	Abuse testing	
	Impact test	Pass
	Bite test	Pass
	Flexure test	Pass
	Torque test (53e)	Pass
	Tension test (53f)	Pass
	Compression test(53g)	Pass
16CFR 1501	Identifying toys and other articles intended for use by Children under 3 years of age which present choking, aspiration, or ingestion hazards because of small parts.	Pass
16CFR 1500.48	Technical requirements for determining a sharp point in toys and other articles intended for use by children under 8 years of age.	Pass
16CFR 1500.49	Technical requirements for determining a sharp metal or glass edge in toys and other articles intended for use by children under 8 years of age.	Pass

--NA= Not Applicable



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B. ASTM F381-16 Standard Safety Specification for Components, Assembly, Use, and Labeling of Consumer Trampolines

Applicable Section	Description	Result
1.	Scope 1.1 This safety specification covers the components, the assembly, and the use of consumer trampolines. 1.2 This specification is delimited in its application to trampolines of (1) a minimum bed size of 3300 in. 2 (21 300cm 2), (2) a minimum height of 20 in. (51 cm), (3) intended for the purpose of continuous, vertical jumping activities and (4) intended for consumer use. 1.3 This specification is intended (1) to reduce the demonstrated hazards associated with the use of trampolines by consumers; (2) for trampolines used in a home environment by a single user; and (3) not to apply to institutional trampolines or trampolines intended for use on water. Trampolines that adhere to this specification are not recommended for use by children under six years of age. 1.4 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard. 1.5 This standard does not purport to address all of the hazards associated with trampolines. The standard's existence alone will not necessarily prevent injuries. Like other physical activities, trampoline use involves the risk of injury, particularly if the equipment is used improperly. 1.6 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. 1.7 This specification includes the following sections and selected subsections	
2.	Referenced Documents	
3.	Terminology	
4.	Included Components	
5	Material and Manufacture	
5.1	The provisions in section 5 shall apply to a trampolines assembled as instructed in the owner's manual.	Pass
5.2	Design Requirements	Pass
5.2.1	The trampoline shall be designed such that no part of the frame or legs can be contacted by the bed while bouncing.	Pass
5.2.2	The frame padding shall be of a color which contrasts with the color of trampoline bed	Pass
5.2.3	The suspension system shall be designed so as to protect the performer from injury due to contact with the sharp ends of the trampoline springs.	Pass
5.3	Performance Requirements	Pass
5.3.1	The frame padding where required shall be designed to remain securely attached to the frame when tested for the requirements of 6.2 and 6.3.	Pass
5.3.2	Materials used in any pad cover frame padding cover attachments, tie down and pad seams normally expose to sunlight shall be made from ultraviolet	Pass

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Applicable Section	Description	Result
	resistant materials and meet the performance requirements of 6.6.	
5.3.3	Material used in the trampoline mat shall meet the requirements specified in Practice F2774	Pass
5.3.4	Except for necessary seams, the frame padding, where required, shall cover the entire top surface of the frame and be wide enough to completely cover the entire top surface of the suspension system and frame when subjected to the tests specified in 6.2	Pass
5.3.5	All information, instructions, and warnings shall be provided in English in addition to any other formats used, for example, graphical, video, multilingual, etc	Pass
5.3.6	When installed in accordance with the manufacturer's instructions, fasteners, lock washers, self-locking nuts, or other locking means shall be provided for all nuts and bolts to protect them from unintentional loosening; self-locking nuts must fully engage with the bolt. Hardware in moving joints shall also be secured against unintentional loosening. Any other fastening systems shall comply with the requirement that effective locking requires two separate and distinct motions for release	Pass
5.3.7	There shall be no accessible sharp points or edges on fasteners when tested in accordance with 16 CFR 1500.48 and 16 CFR 1500.49.	Pass
5.3.8	Bolt ends projecting beyond the face of the nut shall be free of burrs, sharp points, and sharp edges when tested in accordance with 16 CFR 1500.48 and 16 CFR 1500.49. An accessible bolt end shall not extend more than the diameter of the bolt beyond the face of a nut when the nut is tightened to a torque between 20 and 25 lbf-in (2.3 to 2.8 N-m)	Pass
5.3.9	If the exposed bolt end is not free of burrs, sharp points, or sharp edges, or a combination thereof, then the threaded ends of bolts may be covered by smooth, tight-fitting caps that shall resist a torque of 4 lbf-in (0.45 N-m) and a tensile force of 15 lbf (67 N) without loosening	Pass
5.3.10	All fasteners shall be corrosion resistant to a level where no rust is evident after a 24-h salt spray test to Practice B117.	Pass
5.3.11	No welds shall be made to any steel frame or accessory component with a thickness of less than 0.059 in. (1.5 mm)	Pass
5.3.12	No "saddle" welds shall be made to any steel frame or accessory component with a thickness of less than 0.071 in. (1.8 mm). An example of a saddle-welded tee fitting	Pass
5.3.13	All welded joints shall be rendered corrosion resistant to a level where no rust is evident after a 24-h salt spray test to Practice B117	Pass
5.3.14	No component shall be capable of presenting a protrusion hazard during foreseeable use	Pass
5.3.15	There shall be no accessible burrs, sharp points, or sharp edges on tubing when tested in accordance with 16 CFR 1500.48 and 16 CFR 1500.49. End caps or plugs that cannot be removed without the use of tools on tubing may be used to meet this requirement	Pass
6	Performance requirements	

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Applicable Section	Description	Result
6.1	Shock Attenuation	Pass
6.2	Drop Test	Pass
6.2.5	Drop test weight and impactor shape	Pass
6.2.6	Drop test procedure	Pass
6.3	Padding Attachment System Strength	Pass
6.3.1	Padding Attachment System Strength Test	Pass
6.4	Drop test of Trampoline Edge Survivability	Pass
6.4.1	Drop test Procedure for Trampolines	Pass
6.5	Crush and Shear Points	Pass
6.6	Ultraviolet (UV) Resistant Material test	NA
6.6.1	Any pad cover, frame padding, cover attachments, tie down(s), and pad seams normally exposed to sunlight shall be exposed for ultraviolet (UV) resistance using accelerated weathering chambers and shall retain at least 80 % of its original tensile strength.	NA
6.6.2	Specimens to be tested shall be normal tensile test samples from the finished material.	NA
6.6.3	Tensile Test— Test exposed and non-exposed (control samples) tensile test samples, in accordance with Test Method D638, at a testing rate of 2 in. (51 mm)/min.	NA
6.6.4	The specimens are to be exposed according to the following procedures: Accelerated Weathering Procedure (Xe-non Lamp Exposure). The test procedure shall be in accordance with AATCC Method 169, except the following deviations shall apply:	NA
(1)	The apparatus shall be equipped with an automatic light monitor and shall be capable of automatically controlling irradiance, temperature, and humidity.	NA
(2)	The exterior (face) side of the cloth shall be exposed to the light source. The weathering test cycle shall be 40 min of light, 20 min of light with water spray on the fabric face, 60 min of light, 60 min of darkness. The test cycle shall be repeated until the total energy exposure is equal to 500 kJ/m ² at 340 nm (or 61 MJ/m ² at 300 nm – 400 nm), which is approximately 500 h exposure in the test apparatus	NA
(3)	The irradiance level shall be either: 0.40 W/m ² band pass at 340 nm, or 1.0 W/m ² at 300 nm – 400 nm	NA
(4)	The glass filter combination shall be a borosilicate type "S" filter in the inner position and a borosilicate type "S" in the outer position. Alternate filter combinations are acceptable, provided that the equipment manufacturer provides a letter certifying that the irradiance levels are comparable to those specified within 610 %	NA
(5)	The relative humidity shall be 50 ± 5 % during the light cycle and not lower than 95 % during the dark cycle.	NA

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Applicable Section	Description	Result
(6)	The control set points shall be as follows:	NA
(7)	The test specimens shall fit the specimen rack of the apparatus with no wrinkles or gaps. The test specimen shall be mounted on the outside of the rack with the use of appropriate stainless steel spring clips. After the required exposure period, the specimens shall be removed from the apparatus and allowed to dry and condition at standard atmospheric conditions. Then, test specimens for each required test shall be cut and tested appropriately	NA
6.7	Static Load tests	Pass
6.7.1	Static Load test on Trampoline Bed	Pass
6.7.2	Static Load test on Trampoline Frame	Pass
6.7.3	Static Load base shape	Pass
6.7.4	Procedure for Static Load Tests	Pass
6.8	Maximum User Weight	Pass
7.	Information Packet	Pass
7.1	Packet Marking and Contents:	Pass
7.2	Assembly and Installation Instructions:	Pass
7.3	Care and Maintenance Instructions:	Pass
7.4	Warning Information:	Pass
7.5	Use Instructions:	Pass
8	Product Marking	Pass
8.1	Identification	Pass
8.2	On-Trampoline Warnings	Pass
8.3	Instruction Sign	Pass
9	Packaging and Package Marking	Pass
9.1	Packaging on principal display panels, point-of-purchase displays, and promotional literature shall be clearly marked with the following information:	Pass
9.1.1	Trampolines over 20 in. (51 cm) tall are not recommended for children under 6 years of age.	Pass
9.1.2	It is strongly recommended that the customer purchase, install and maintain an enclosure that complies with Safety Specification F2225.	Pass
10	Access Devices	Pass
10.1	Trampoline Ladders:	Pass
10.2	Ladder Warning:	Pass

--NA= Not Applicable

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C. ASTM F2225-15(2020) Standard Safety Specification for Consumer Trampoline Enclosures

Applicable Section	Description	Result
1.	Scope 1.1 This safety specification covers the components, assembly, use, labeling, and performance requirements of consumer trampoline enclosures (see Safety Specification F381). 1.2 This specification is applicable to trampoline enclosures to be sold as an accessory to or packaged with trampolines of (1) a minimum bed size of 3300 in. 2 (2.1 m²), (2) a minimum height of 20 in. (510 mm), (3) intended for the purpose of continuous, vertical jumping activities, and (4) intended for consumer use. 1.3 This specification includes the following sections and selected subsections 1.4 This specification does not purport to address all of the hazards that may be associated with trampolines or trampoline enclosures, or both. The standard's existence alone will not necessarily prevent injuries. Like other physical activities, trampoline use involves the risk of injury, particularly if the equipment is used improperly. Similarly, the use of a trampoline enclosure alone will not necessarily prevent all injuries. 1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard. 1.6 The following precautionary caveat pertains only to the test methods portion of this specification. This standard does not purport to address all of the safety concerns, if any associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use. 1.7 This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee	
2.	Referenced Documents	
3.	Terminology	
4.	Components	
5.	General Requirements	
5.1	The barrier height shall have the following minimums:	
5.1.1	For round trampolines with bed diameter at less than 10 ft (2.5 m) – 60 in. (1.5 m).	Pass
5.1.2	For round trampolines with a bed diameter of 10 ft (2.5 m) (or more) – 72 in. (1.8 m).	NA
5.1.3	For rectangular trampolines—one-half the length of the longest bed dimension, but not less than 60 in. (1.5 m) minimum barrier height.	NA
5.2	The enclosure support (frame) system and barrier materials shall be of sufficient strength and rigidity to hold the enclosure barrier in place and withstand the loads outlined in Performance Requirement Test #1.	Pass
5.3	Support attachment system and hardware shall be subject to ready assembly by the original retail consumer and shall meet the requirements set forth in 6.1 (Performance Requirement Test #1).	Pass

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Applicable Section	Description	Result
5.4	All fasteners shall be manufactured in accordance with Section 5.4.2 of Guide F1077. All fasteners, connecting, and covering devices shall be inherently corrosion resistant or be provided with corrosion resistant coating.	Pass
5.4.1	When installed in accordance with the manufacturer's instructions, fasteners, lock washers, self-locking nuts, or other locking means shall be provided for all nuts and bolts to protect them from unintentional loosening. Hardware in moving joints shall also be secured against unintentional loosening.	Pass
5.4.2	There shall be no accessible sharp points or edges on fasteners. A cut-off bolt end projecting beyond the face of the nut shall be free of burrs, sharp points, and sharp edges. An accessible bolt end shall not extend more than two full threads beyond the face of a nut.	Pass
5.5	Connecting devices such as but not limited to S-hooks and C-hooks shall be properly closed. These connectors are considered closed when there is no gap or space greater than 0.04 in. (1 mm) when measured with a feeler gage.	Pass
5.5.1	S-hook connectors are subject to the following additional requirements: (1) No portion of the closed end of an S-hook upper loop may project beyond the vertical boundary established by the upper loop; (2) an S-hook upper loop may align with, may partially overlap, or may completely overlap the connector body. If the upper loop completely overlaps the connector body, it must not extend past the connector body, or (3) an S-hook lower loop must align with the connector body and not overlap in any way.	Pass
5.6	The enclosure barrier shall be a durable weather resistant fabric suitable for extended outdoor life. Materials used in the barrier and any fabric, cord, or webbing connections supporting the barrier that are normally exposed to sunlight shall be made of ultraviolet (UV) resistant materials.	Pass
5.7	Support (frame) members exposed to contact during foreseeable usage shall be padded. The top end of such support (frame) members shall be capped.	Pass
5.8	The barrier attachment system shall include (1) upper attachment to upright supports (frame), and (2) lower attachment to trampoline bed or trampoline frame top rails. The barrier attachment system shall be of sufficient strength and durability to withstand tearing, deformation or failure as a result of the loads outlined in 6.1 (Performance Requirement Test #1).	Pass
5.9	Enclosure Openings—The enclosure barrier shall include an opening allowing entry and exit of the user from the jumping surface. This opening, when closed according to the manufacturer's instructions, shall be of sufficient strength and durability to withstand, without tearing, deformation or failure, a direct impact of the loads at the point of the opening and 8 in. to the left and to the right of the opening (outlined in 6.1, Performance Requirement Test #1) with no penetration of any portion of the test load beyond the outer edges of the opening or any opening of the barrier itself. If the enclosure barrier opening is overlapped, the opening point is considered the midsection of the overlap.	Pass
6.	Performance Requirements	
6.1	Barrier Impact and Enclosure Support Pole (Frame) Impact Tests— Performance Requirement Test #1 requires four impacts of the maximum	Pass

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Applicable Section	Description	Result
	specified user weight applied as a dynamic side load according to the following procedures. Two of the impacts are to be directed at a point on the barrier midway between the support poles (frame) at a height mid distance between the top and bottom of the enclosure barrier. The other two impacts are to be applied against the enclosure support poles (frame) at a height mid-distance between the top and bottom of the enclosure barrier. The impacts against the enclosure barrier and barrier attachment system shall not produce permanent deformation, tearing or breaking of any component of the enclosure barrier and barrier attachment system. The impacts against the enclosure support (frame) shall not produce permanent deformation, tearing or breaking of any component of the enclosure support (frame) or the support (frame) attachment hardware. If the measured angle of an enclosure pole is greater than 10° from its original measured angle after the test, it shall be interpreted as a permanent deformation.	
6.1.1	Procedure for Performance Requirement Test #1—The load shall be of mass equal to the maximum specified user weight. It should be composed of a bag approximately 16 in. (410 mm) in diameter by 36 in. (910 mm) tall, such as a large duffel bag filled with loosely compacted material such as sand. Alternating small bags of sand and wood chips can be used to fill the bag. The center of gravity of the duffel bag should be at the mid-point (approximately 18 in. (460 mm) from the bottom). The dynamic side load shall be applied in a pendulum motion against the enclosure barrier at the specified points (see 6.1).	Pass
6.1.1.1	Secure one side of the trampoline so that the trampoline cannot be moved or cannot slide along the surface on which the trampoline rests.	Pass
6.1.1.2	Suspend the bag (load) on a chain so that the distance to the top of the chain (pivot point) to the center of mass of the bag corresponds to one of the lengths specified in Table 1.	Pass
6.1.1.3	Position the bag (load) so that it hangs against the side of the enclosure barrier at a point midway between the enclosure support poles (frame) at a height mid-distance between the top and bottom of the enclosure barrier. The pivot point of the pendulum created by the load and chain should be positioned directly above the top of the enclosure barrier. The contact point of the bag (load) to the enclosure barrier should be on the opposite side of the enclosure from the point that secures the trampoline from movement.	Pass
(1)	Measure and record the angle of the enclosure pole nearest the intended barrier impact point, at the midpoint between the top of the enclosure pole and the uppermost point of connection to the trampoline frame with an angle finder designed for use on tubular/round surfaces. (If there are 2 enclosure poles at the same distance from the intended barrier impact point, select one as the test subject). Two measurements at this midpoint should be recorded. One measurement to be taken on the surface of the enclosure pole furthest from the center of the trampoline jump mat, and another measurement to be taken 90° around the circumference of the enclosure pole from the first measurement.	Pass
6.1.1.4	Pull the bag (load) back until the load support chain is at an angle that corresponds with the selected chain length distance in Table 1.	Pass
6.1.1.5	Release the bag (load) into the enclosure barrier. FIG. 1 Requirements for	Pass

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Applicable Section	Description	Result
	Connecting Devices F2225 – 15 (2020) (1) Re-measure the angles described in 6.1.1.3 (1) and record.	
6.1.1.6	Repeat the test in 6.1.1.1–6.1.1.5 (1).	Pass
6.1.1.7	Repeat the set up in 6.1.1.1 and 6.1.1.2 in preparation for impact tests against the enclosure support poles (frame) at a height mid-distance between the top and bottom of the support pole. Position the bag (load) so that it hangs against the enclosure support pole (frame) on the inside of the enclosure. The pivot point of the pendulum created by the load and chain should be positioned directly above the top of the enclosure support pole (frame). The contact point of the bag (load) should be on the opposite side of the enclosure from the secured point established in 6.1.1.1.	Pass
(1)	Measure and record the angle of the enclosure pole to be impacted at the midpoint between the top of the enclosure pole and the uppermost point of connection to the trampoline frame with an angle finder designed for use on tubular/round surfaces. Two measurements at this midpoint should be recorded. One measurement to be taken on the surface of the enclosure pole furthest from the center of the trampoline jump mat, and another measurement to be taken 90° around the circumference of the enclosure pole from the first measurement.	Pass
6.1.1.8	Pull the bag (load) back until the load support chain is at an angle that corresponds with the selected chain length distance in Table 1.	Pass
6.1.1.9	Release the bag (load) into the enclosure support pole (frame). (1) Re-measure the angles described in 6.1.1.7 (1) and record.	Pass
6.1.1.10	Repeat the test in 6.1.1.6–6.1.1.9 (1).	Pass
6.1.1.11	Repeat the set-up in 6.1.1.1 and 6.1.1.2 in preparation for impact tests against the enclosure opening at a height as close as possible to the mid-distance between the top and bottom of the opening. Position the bag (load) so that it hangs against the enclosure opening on the inside of the enclosure. The pivot point of the pendulum created by the load and chain should be positioned directly above the top of the enclosure opening. The contact point of the bag (load) should be on the opposite side of the enclosure from the secured point established in 6.1.1.1.	Pass
6.1.1.12	Pull the bag (load) back until the load support chain is at an angle that corresponds with the selected chain length distance in Table 1.	Pass
6.1.1.13	Release the bag (load) into the enclosure opening.	Pass
6.1.1.14	Repeat the preparation for impact tests as established in 6.1.1.11, except the position of the bag (load) is 8 in to the right, as measured from the inside of the enclosure, from the enclosure opening as established in 6.1.1.11.	Pass
6.1.1.15	Repeat the test methods in 6.1.1.12 and 6.1.1.13.	Pass
6.1.1.16	Repeat the preparation for impact tests as established in 6.1.1.11, except the position of the bag (load) is 8 in. to the left, as measured from the inside of the enclosure, from the enclosure opening as established in 6.1.1.11.	Pass
6.1.1.17	Repeat the test methods in 6.1.1.12 and 6.1.1.13.	Pass
6.2	Performance Requirement Test #2 requires that, following assembly of the	Pass

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Applicable Section	Description	Result
	trampoline enclosure in accordance with the instructions provided to the consumer, there shall be no sharp edges or points on any portion of the trampoline enclosure capable of inflicting a cut on a child during normal use or reasonably foreseeable abuse. All points and edges on the trampoline enclosure shall be tested for sharpness in accordance with the federal technical requirements in 16 CFR 1500.48 and CFR1500.49 referenced in 2.3.	
6.3	Performance Requirement Test #3 requires that there shall be no pinch, crush, or shear points caused by junctures of two components moving relative to one another, or at an opening present in the enclosure support (frame) attachment system or the enclosure barrier attachment system while the enclosure system is in normal use. Pinch, crush, or shear points shall be deemed to be any point that allows a 3/16 in. (5 mm)diameter neoprene rod to enter at one or more positions or entraps a 1/2 -in. (13-mm) diameter neoprene rod. Entrapment shall mean that a force of more than 2 lbf (9 N) is required to pull out the rod. The neoprene rods shall have a hardness reading between 50 and 60 as determined by a Type A durometer in accordance with Test Method D2240.	Pass
6.4	User Containment—Performance Requirement Test #4 requires that a trampoline enclosure shall be designed and constructed so that when assembled and the enclosure opening is closed (see 5.9), there shall be no accessible opening that presents the risk of accidental head or neck entrapment, or unintentional user exit, by either a head first or feet first entry into the opening. Openings between the ground and the bottom edge of the equipment (such as rails and the base of the frame, etc.) are exempt from this requirement.	Pass
6.4.1	Accessible Openings—Any completely bounded opening that completely accepts the torso test probe. A completely bounded opening is accessible when a torso test probe (see Fig. 2) may be inserted into the opening to a depth of 4 in. (100mm) using the following test method.	Pass
6.4.2	Containment Test Procedure for Completely Bounded Rigid Openings—Place the torso probe in the opening, tapered end first, with the plane of its base parallel to the plane of the opening; rotate the probe while keeping its base parallel to the plane of the opening.	Pass
6.4.2.1	An opening can pass this test if the opening does not admit the torso probe.	Pass
6.4.2.2	An opening fails the test under the following condition: The opening admits the test probe.	Pass
6.4.3	Containment Test Procedure for Non rigid Openings—A non rigid opening located in components such as, but not limited to, flexible netting and barriers, tarps and plastic barriers, is considered accessible if a torso probe will penetrate the opening to a depth of 4 in. (100 mm) when tested in accordance with 6.4.1. Place the torso probe in the opening, tapered end first, with the plane of its base parallel to the plane of the opening; rotate the probe while keeping its base parallel to the plane of the opening; apply 50 lbf (222 N) while attempting to push the probe through the opening.	Pass
6.4.3.1	A nonrigid opening can pass this test if the opening does not allow the torso probe to be inserted so deep that the opening admits the base of the probe	Pass

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	when it is rotated to any orientation about its own axis.	
6.4.3.2	A nonrigid opening fails the test under the following condition: The opening allows full passage of the torso probe.	Pass
6.5	Ultraviolet (UV) Resistant Materials Test:	Pass
6.5.1	The barrier and any fabric, cord, or webbing connections supporting the barrier that are normally exposed to sunlight shall be exposed for ultraviolet (UV) resistance using accelerated weathering chambers and shall retain at least 80 % of its original tensile strength.	Pass
6.5.2	Specimens to be tested shall be normal tensile test samples from the finished material.	Pass
6.5.3	Tensile Test—Test exposed and non-exposed (control samples) tensile test samples, in accordance with Test Method D638, at a testing rate of 2 in./min (55 mm/min).	Pass
6.5.4	The specimens are to be exposed according to the following procedures: Accelerated Weathering Procedure (Xenon Lamp Exposure). The test procedure shall be in accordance with AATCC 169, except the following deviations apply:	Pass
(1)	The apparatus shall be equipped with an automatic light monitor and shall be capable of automatically controlling irradiance, temperature, and humidity.	Pass
(2)	The exterior (face) side of the cloth shall be exposed to the light source. The weathering test cycle shall be 40 min of light, 20 min of light with water spray on the fabric face, 60 min of light, 60 min of darkness. The test cycle shall be repeated until the total energy exposure is equal to 500 kJ/m ² at 340 nm (or 61 MJ/m ² at 300 nm – 400 nm), which is approximately 500 h exposure in the test apparatus.	Pass
(3)	The irradiance level shall be either 0.40 ± 0.01 W/m ² band pass at 340 nm, or 46 ± 1.0 W/m ² at 300 nm – 400 nm.	Pass
(4)	The glass filter combination shall be a borosilicate type "S" filter in the inner position and a borosilicate type "S" in the outer position. Alternate filter combinations are acceptable, provided that the equipment manufacturer provides a letter certifying that the irradiance levels are comparable to those specified within 610 %.	Pass
(5)	The relative humidity shall be 50 ± 5 % during the light cycle and not lower than 95 % during the dark cycle.	Pass
(6)	The control set points shall be as follows: (7) The test specimens shall fit the specimen rack of the apparatus with no wrinkles or gaps. The test specimen shall be mounted on the outside of the rack with the use of appropriate stainless steel spring clips. After the required exposure period, the specimens shall be removed from the apparatus and allowed to dry and condition at standard atmospheric conditions. Then, test specimens for each required test shall be cut and tested appropriately	Pass
7.	Information Packet	Pass
7.1	Packet Marking and Contents:	Pass
7.2	Assembly and Installation Instructions:	Pass

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Applicable Section	Description	Result
7.3	Care and Maintenance Instructions	Pass
7.4	Warning Information	Pass
7.5	Use Instructions	Pass
8.	Product Marking	Pass
8.1	Identification	Pass
8.2	On-Enclosure Warnings	Pass
8.3	Instruction Placard	Pass
9.	Packaging and Package Marking	Pass
10.	Keywords	

Note:

--NA= Not Applicable



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D.1 ASTM F963-23 Standard Consumer Safety Specification for Toy Safety -Mechanical and Physical Tests

Applicable Section	Description	Result
4	Safety Requirements	
4.1	Material Quality	Pass
4.3.6	Cosmetics, Liquids, Pastes, Putties, Gels, Powders, and Items of Avian Feather Origin	NA
4.3.7	Stuffing Materials	NA
4.4	Electrical/Thermal Energy—Toys operating from nominal 120-V branch circuits shall conform to 16 CFR 1505, issued under the FHSA.	NA
4.5	Sound-producing Toys	NA
4.6	Small Objects	Pass
4.7	Accessible Edges	Pass
4.8	Projections	NA
4.9	Accessible Points	NA
4.10	Wires or Rods	Pass
4.11	Nails and Fasteners	Pass
4.12	Plastic Film	Pass
4.13	Folding Mechanisms and Hinges	NA
4.14	Cords, Straps, and Elastics	NA
4.15	Stability and Over-load Requirements	Pass
4.16	Confined Spaces	NA
4.17	Wheels, Tires, and Axles	NA
4.18	Holes, Clearance, and Accessibility of Mechanisms	Pass
4.19	Simulated Protective Devices (such as helmets, hats, and goggles)	NA
4.19.1	Eye Protection—All rigid toys that cover the face, such as goggles, space helmets, or face shields, shall be constructed of impact-resistant material that will not have sharp edges, sharp points, or loose parts that could enter the eye before or after being tested in accordance with 8.5 – 8.10. This applies to items with cutout eye holes as well as items that cover the eyes.	NA
4.19.2	Toys that simulate safety protective devices (examples include, but are not limited to, construction helmets and sports helmets) and their packages shall be labeled clearly in accordance with 5.9 to warn the purchaser that they are not safety protective devices.	NA
4.20	Pacifiers	NA
4.21	Projectile Toys	NA

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Applicable Section	Description	Result
4.22	Teethers and Teething Toys	NA
4.23	Rattles	NA
4.24	Squeeze Toys	NA
4.25	Battery-operated Toys	NA
4.26	Toys Intended to be Attached to a Crib or Playpen	NA
4.27	Stuffed and Beanbag-type Toys	NA
4.28	Stroller and Carriage Toys	NA
4.29	Art Materials	NA
4.30	Toy Gun Marking	NA
4.31	Balloons	NA
4.32	Certain Toys with Nearly Spherical Ends	NA
4.33	Marbles	NA
4.34	Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-Shaped Objects	NA
4.37	Yo Yo Elastic Tether Toys	NA
4.38	Magnets	NA
4.39	Jaw Entrapment in Handles and Steering Wheels	NA
4.40	Expanding Materials	NA
4.41	Toy Chests	NA
5	Labeling Requirements	
5.1	Federal Government Requirements	Pass
5.2	Age Grading Labeling	Pass
5.3	Safety Labeling Requirements	Pass
5.4	Aquatic Toys	NA
5.5	Crib and Playpen Toys	NA
5.6	Mobiles	NA
5.7	Stroller and Carriage Toys	NA
5.8	Toys Intended to be Assembled By an Adult	Pass
5.9	Simulated Protective Devices	NA
5.10	Toys with Functional Sharp Edges or Points	NA
5.11	Small Objects, Small Balls, Marbles, and Balloons	NA

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Applicable Section	Description	Result
5.12	Art Materials—Toys and components of toys that fall within the definition of art material as found in 16 CFR 1500.14(b)(8) shall be labeled in accordance with the provisions of that section and Practice D4236.	NA
5.13	Electric Toys—Refer to 16 CFR 1505.3 for required labeling.	NA
5.14	Battery-operated Toys	NA
5.15	Promotional Materials	NA
5.16	Magnets	NA
6	Instructional Literature	
6.1	Definition and Description	Pass
6.2	Crib and Playpen Toys	NA
6.3	Mobiles	NA
6.4	Toys Intended to be Assembled By an Adult	Pass
6.5	Battery-Operated Toys	NA
6.6	Battery-powered Ride-on Toys	NA
6.7	Toys in Contact with Food	NA
6.8	Toys Chests	NA
6.9	The instructional material for toys which require a manufacturer-supplied specialty or custom tool to access the battery(ies) shall direct caregivers to retain the tool for future use, to store it where the child cannot access it, and state that the tool is not a toy.	NA
7	Producer's Markings	
7.1	Either a principal component of a toy or the package of a toy shall be marked with the name and address of the producer or the distributor.	Pass
7.2	Battery-powered Ride-on Toys	NA
7.3	Toy chests	NA

--NA= Not Applicable



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Use and abuse testing:

Applicable Section	Description	Age Group	Test condition, lb (kg)	Result
8.5	Normal use testing		--	Pass
8.6	Abuse testing		--	Pass
8.7	Impact test	0 to 18	less than 3 ± 0.01 (1.4)	Pass
		over 18 to 36	less than 4 ± 0.01 (1.8)	NA
		over 36 to 96	less than 10 ± 0.01 (4.5)	NA
8.8	Torque test	0 to 18	2.2 in.·lbf (0.25 N·m)	Pass
		over 18 to 36	3.2 in.·lbf (0.36 N·m)	NA
		over 36 to 96	4.2 in.·lbf (0.47 N·m)	NA
8.9	Tension test	0 to 18	10.5 lbf (46.7 N)	Pass
		over 18 to 36	10.5 lbf (46.7 N)	NA
		over 36 to 96	10.5 lbf (46.7 N)	NA
8.10	Compression test	0 to 18	20.5 lbf (91.2 N)	Pass
		over 18 to 36	25.5 lbf (113.5 N)	NA
		over 36 to 96	30.5 lbf (135.7 N)	NA
8.11	Tests for Tire Removal and Snap-in Wheel and Axle Assembly Removal			NA
8.12	Flexure Test			Pass
8.15	Test for Stability of Ride-on Toys or Toy Seats			Pass

D.2 Section 4.2 Flammability Tests

(A5) FLAMMABILITY TESTING PROCEDURE FOR SOLIDS AND SOFT TOYS

Flammability test of material

Sample	Burn rate (in/sec.)	Result
Black jumper	<0.1	Pass

Note: In accordance with the ASTM F963, the burning rate should not be greater than 0.1 inch per second.

DNI = Did Not Ignite

SE = Self-Extinguished

IBE = Ignite but Extinguished

Remark:

A5.2.2 soft toy—any stuffed or plush toy, that may or may not be parts or components of other toys.

A5.2.3 solids—toys or toy parts constructed of rigid, flexible, or pliable solids.

A5.2.4 accessories—an item intended to be removed to enhance the play pattern.

- A5.2.5 strings—long slender flexible material usually consisting of several strands (as of thread or yarn) woven or twisted together, usually used to bind, fasten, tether, or tie.

A5.2.6 paper—Examples of paper products are traditional playing cards, newspaper, magazines, and construction paper.



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Tested part(s):

Seq. no	Part(s) name	Sample description
1	Black jumper	Trampoline body
2	White coating	Trampoline rack

D.3 Section 4.3.5.1 Heavy Metals content in paint and similar surface coating material**(1) Total Lead Content**

Test method: With reference to ASTM F963-23 Section 8.3.1, sample was digested with acid mixture and analyzed by inductively coupled plasma atomic emission spectrometer (ICP-AES).

Item	Unit	MDL	Results	Limit(Each)
			2	
Lead Content (Pb)	mg/kg	2	6	90
Conclusion	/	/	Pass	/

(2) Soluble Heavy Metals Content

Test method: With reference to ASTM F963-23 Section 8.3.2. The heavy metals content was determined by inductively Coupled plasma atomic emission spectrometer (ICP-AES).

Item	Unit	MDL	Results	Limit
			2	
Soluble Lead (Pb)	mg/kg	2	N.D.	90
Soluble Antimony (Sb)	mg/kg	2	N.D.	60
Soluble Arsenic (As)	mg/kg	2	N.D.	25
Soluble Barium (Ba)	mg/kg	2	311	1000
Soluble Cadmium (Cd)	mg/kg	2	N.D.	75
Soluble Chromium (Cr)	mg/kg	2	N.D.	60
Soluble Mercury (Hg)	mg/kg	2	N.D.	60
Soluble Selenium (Se)	mg/kg	2	N.D.	500
Conclusion	/	/	Pass	/



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D.4 Section 4.3.5.2 Heavy Metals Content in Toy Substrate Materials

(1) Total Lead Content

Test method: With reference to ASTM F963-23 Section 8.3.1, sample was digested with acid mixture and analyzed by inductively coupled plasma atomic emission spectrometer (ICP-AES).

Item	Unit	MDL	Results	Limit(Each)
			NA	
Lead Content (Pb)	mg/kg	2	NA	100
Conclusion	/	/	NA	/

(2) Soluble Heavy Metals Content

Test method: With reference to ASTM F963-23 Section 8.3.5. The heavy metals content was determined by inductively Coupled plasma atomic emission spectrometer (ICP-AES).

Item	Unit	MDL	Results	Limit
			NA	
Soluble Lead (Pb)	mg/kg	2	NA	90
Soluble Antimony (Sb)	mg/kg	2	NA	60
Soluble Arsenic (As)	mg/kg	2	NA	25
Soluble Barium (Ba)	mg/kg	2	NA	1000
Soluble Cadmium (Cd)	mg/kg	2	NA	75
Soluble Chromium (Cr)	mg/kg	2	NA	60
Soluble Mercury (Hg)	mg/kg	2	NA	60
Soluble Selenium (Se)	mg/kg	2	NA	500
Conclusion	/	/	NA	/

Remark:

Maximum acceptable element migration from toy materials

Toy material	Element (mg/kg)							
	Sb	As	Ba	Cd	Cr	Pb	Hg	Se
Surface Coatings and Substrates Other Than Modeling Clay Included as Part of a Toy	60	25	1000	75	60	90	60	500
Modelling Clays Included as Part of a Toy	60	25	250	50	25	90	25	500



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D.5 -Section 4.3.8 Phthalates

Test method: With reference to CPSC-CH-C1001-09.4, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

Item	Unit	MDL	Results	Limit(Each)
			2	
Dibutyl Phthalate (DBP)	mg/kg	30	N.D.	1000
Benzylbutyl Phthalate (BBP)	mg/kg	30	N.D.	1000
Bis-(2-ethylhexyl) Phthalate (DEHP)	mg/kg	30	N.D.	1000
Diisononyl Phthalate (DINP)	mg/kg	100	N.D.	1000
Di-isobutyl Phthalate (DIBP)	mg/kg	100	N.D.	1000
Dicyclohexyl Phthalate (DCHP)	mg/kg	100	N.D.	1000
Di-n-hexyl Phthalate (DHEXP)	mg/kg	100	N.D.	1000
Di-n-pentyl Phthalates (DPENP)	mg/kg	100	N.D.	1000
Conclusion	/	/	Pass	/

E. USA 16CFR Part 1303 Ban of Lead Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint

Test method: With reference to CPSC-CH-E1003-09.1, sample was digested with acid mixture and analyzed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Item	Unit	MDL	Results	Limit
			NA	
Lead Content (Pb)	mg/kg	5	NA	90
Conclusion	/	/	NA	/

F. USA Consumer Product Safety Improvement Act (CPSIA) Sec.101 Children's products containing Lead; Lead paint rule

(1) Substrate Materials

Test method: With reference to CPSC-CH-E1001-08.3; CPSC-CH-E1002-08.3, by acid digestion and analysis was performed by inductively coupled plasma atomic emission spectrometer (ICP-OES).

Item	Unit	MDL	Results	Limit
			1	
Lead Content (Pb)	mg/kg	5	N.D.	100
Conclusion	/	/	Pass	/



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(2) Paint and similar surface coating material

Test method: With reference to CPSC-CH-E1003-09.1, sample was digested with acid mixture and analyzed by inductively coupled plasma atomic emission spectrometer (ICP-OES)

Item	Unit	MDL	Results	Limit
			NA	
Lead Content (Pb)	mg/kg	5	NA	90
Conclusion	/	/	NA	/

G. USA Consumer Product Safety Improvement Act (CPSIA) Sec.108 Prohibition on sale of certain products containing specified phthalates**USA 16CFR Part 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates**

Test method: With reference to CPSC-CH-C1001-09.4, by solvent extraction and analysis was performed by gas chromatographic-mass spectrometer (GC-MS).

Item	Unit	MDL	Results	Limit
			1	
Dibutyl Phthalate (DBP)	mg/kg	30	N.D.	1000
Benzylbutyl Phthalate (BBP)	mg/kg	30	N.D.	1000
Bis-(2-ethylhexyl) Phthalate(DEHP)	mg/kg	30	N.D.	1000
Diisononyl Phthalate (DINP)	mg/kg	100	N.D.	1000
Di-isobutyl Phthalate (DIBP)	mg/kg	100	N.D.	1000
Dicyclohexyl Phthalate (DCHP)	mg/kg	100	N.D.	1000
Di-n-hexyl Phthalate (DHEXP)	mg/kg	100	N.D.	1000
Di-n-pentyl Phthalates (DPENP)	mg/kg	100	N.D.	1000
Conclusion	/	/	Pass	/

Note:

- N.D. =Not Detected or less than MDL.
- MDL=Method Detection Limit.
- NA= Not Applicable
- %=Percentage by weight.
- 0.1%=1000mg/kg, mg/kg=ppm.

"+"=The test result is obtained from composite testing on materials linked with "+" mark, it is possible that individual test result can be higher if materials are tested separately. This had been taken in account in the conclusion of this report.

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H. CPSA Section 14(a) (5) Tracking Labels for Children's Products (15 USC §2063(a)(5) (CPSA))

Applicable Section	Description	Result
(a)(5) (A)	Effective 1 year after the date of enactment of the Consumer Product Safety Improvement Act of 2008, the manufacturer of a children's product shall place permanent, distinguishing marks on the product and its packaging, to the extent practicable, that will enable—	Pass
(i)	the manufacturer to ascertain the location and date of production of the product, cohort information (including the batch, run number, or other identifying characteristic), and any other information determined by the manufacturer to facilitate ascertaining the specific source of the product by reference to those marks; and	Pass
(ii)	the ultimate purchaser to ascertain the manufacturer or private labeler, location and date of production of the product, and cohort information (including the batch, run number, or other identifying characteristic).	Pass
(B)	The Commission may, by regulation, exclude a specific product or class of products from the requirements in subparagraph (A) if the Commission determines that it is not practicable for such product or class of products to bear the marks required by such subparagraph. The Commission may establish alternative requirements for any product or class of products excluded under the preceding sentence consistent with the purposes described in clauses (i) and (ii) of subparagraph (A).	NA
(b)	The Commission may by rule prescribe reasonable testing programs for any product which is subject to a consumer product safety rule under this Act, or a similar rule, regulation, standard, or ban under any other Act enforced by the Commission, and for which a certificate is required under subsection (a). Any test or testing program on the basis of which a certificate is issued under subsection (a) may, at the option of the person required to certify the product, be conducted by an independent third party qualified to perform such tests, unless the Commission, by rule, requires testing by an independent third party for a particular rule, regulation, standard, or ban, or for a particular class of products.	Pass
(c)	The Commission may by rule require the use and prescribe the form and content of labels which contain the following information (or that portion of it specified in the rule) —	Pass
(1)	The date and place of manufacture of any consumer product.	Pass
(2)	The cohort information (including the batch, run number, or other identifying characteristic) of the product.	Pass
(3)	A suitable identification of the manufacturer of the consumer product, unless the product bears a private label in which case it shall identify the private labeler and shall also contain a code mark which will permit the seller of such product to identify the manufacturer thereof to the purchaser upon his request.	Pass
(4)	In the case of a consumer product subject to a consumer product safety rule, a certification that the product meets all applicable consumer product safety standards and a specification of the standards which are applicable. Such labels, where practicable, may be required by the Commission to be	Pass

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Applicable Section	Description	Result
	permanently marked on or affixed to any such consumer product. The Commission may, in appropriate cases, permit information required under paragraphs (1) and (2) of this subsection to be coded.	
(d)	REQUIREMENT FOR ADVERTISEMENTS.—No advertisement for a consumer product or label or packaging of such product may contain a reference to a consumer product safety rule or a voluntary consumer product safety standard unless such product conforms with the applicable safety requirements of such rule or standard.	Pass
(e)	WITHDRAWAL OF ACCREDITATION-	Pass
(f)	DEFINITIONS.--In this section	Pass
(g)	REQUIREMENTS FOR CERTIFICATES.-- (1) IDENTIFICATION OF ISSUER AND CONFORMITY ASSESSMENT BODY.--Every certificate required under this section shall identify the manufacturer or private labeler issuing the certificate and any third party conformity assessment body on whose testing the certificate depends. The certificate shall include, at a minimum, the date and place of manufacture, the date and place where the product was tested, each party's name, full mailing address, telephone number, and contact information for the individual responsible for maintaining records of test results.	Pass
(h)	RULE OF CONSTRUCTION.	Pass
(i)	ADDITIONAL REGULATIONS FOR THIRD PARTY TESTING	Pass

**** Modified History ****

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	2024/10/25	Jason Zhou
Revision 2.0	Added the ASTM F963 test	2024/11/07	Jason Zhou

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Photograph of Sample



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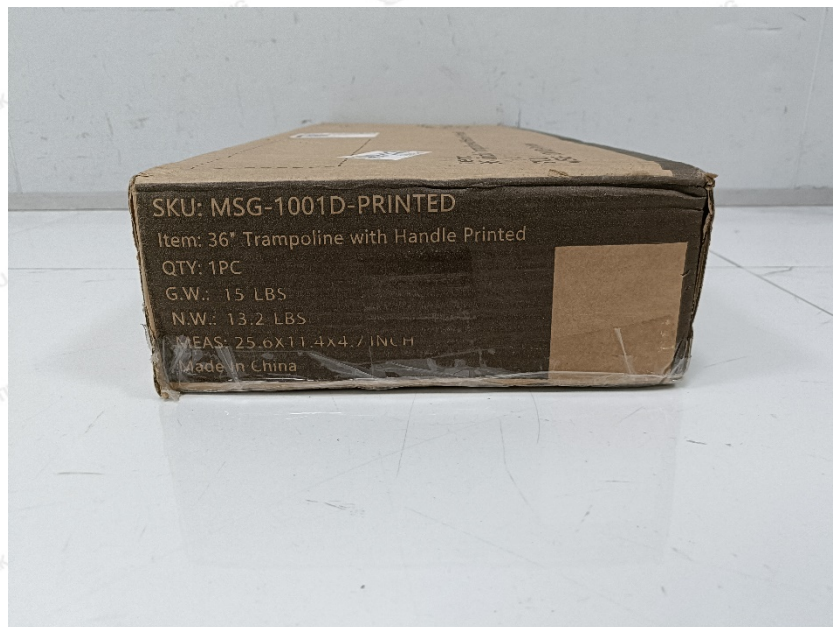


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HUAK authenticate the photo on original report only

***** End of Report *****

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