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1 SCOPE

This method describes test procedures for expansion gates and expandable enclosures to ensure that the product meets the requirements of the Hazardous Products (Expansion Gates and Expandable Enclosures) Regulations (SOR/90-39, 27 December, 1989). Since the numerical values of performance measures are based upon regulatory requirements, the tolerances for these values have been chosen such that no test parameter is applied to the product that results in a more severe condition than that specified in the regulation. The product is evaluated by performing the following test sections in sequence:

- 4.1 Inspection of container for damage and labelling
- 4.2 Inspection of product for damage and labelling
- 4.3 Warning statements
- 4.4 Permanency of the labels
- 4.5 Indelibility of the printing
- 4.6 Reference to the Hazardous Products Act or the Expansion Gates and Expandable Enclosures Regulations
- 4.7 Assembly of the product in accordance with the instructions supplied
- 4.8 90 N push/pull
- 4.9 Small components
- 4.10 Sharp edges and sharp points
- 4.11 Burrs
- 4.12 Threaded bolt ends
- 4.13 Size of completely-bounded openings and bottom spacing
- 4.14 Height of sides
- 4.15 Vertical strength
- 4.16 Partially-bounded openings at the uppermost edge
- 4.17 Partially-bounded openings with changing configuration
- 4.18 Partially-bounded openings of products with non-rigid uppermost edge

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2 APPLICABLE DOCUMENTS

- 2.1 The Hazardous Products Act (HPA).
- 2.2 HPA, Expansion Gates and Expandable Enclosures (SOR/90-39, 27 December, 1989) hereinafter referred to as the Regulations.
- 2.3 Book 5, Reference Manual, Laboratory Policies and Procedures, Product Safety Laboratory hereinafter referred to as Book 5.
- 2.4 Test Method M00.1 (Small Components), Book 5.
- 2.5 Test Method M00.2 (Sharp Edges), Book 5.
- 2.6 Test Method M00.3 (Sharp Points), Book 5.
- 2.7 Sub-section 5(6) of the Regulations: requirements for decorative or protective coatings.
- 2.8 Sub-section 5(7) of the Regulations: requirements for Flammability of clothing textiles.
- 2.9 PSL Project Report 99-0483: Revised Method: TEST METHOD FOR CARRIAGES AND STROLLERS.
- 2.10 PSL Project Report 2000-0555: Revised Method : TEST METHOD FOR CRIBS AND CRADLES.
- 2.11 PSL Project Report 99-0482: New Method: TEST METHOD FOR EXPANSION GATES AND EXPANDABLE ENCLOSURES.

3 SAMPLING

The following test procedures are conducted on one specimen.

4 TESTING PROCEDURE

4.1 INSPECTION OF CONTAINER FOR DAMAGE AND LABELLING


4.1.1 Scope

- 4.1.1.1 This method describes the procedure for determining whether the product container is clearly identified.¹

4.1.2 Apparatus

- 4.1.2.1 A graduated measuring magnifier or equivalent with a precision of 0.1 mm.

¹§ 4(2) of the Regulations

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4.1.3 Procedure

- 4.1.3.1 Inspect the product container for damage. If damage exists, inspect contents for damage and discontinue testing if the product itself is damaged.
- 4.1.3.2 Inspect the product container for the following information, which must be in block letters in either official language:
 - (i) the name and principal place of business in Canada of the manufacturer, importer or distributor;
 - (ii) the model name or model number of the product; and
 - (iii) the year and month of manufacture of the product, or a code mark or other identification that identifies that year and month.
- 4.1.3.3 Measure the height of the characters used to present the information required in 4.1.3.2.
- 4.1.3.4 Inspect the information to see if it is easily discernible. If not, take a photograph.

4.1.4 Results

- 4.1.4.1 Record details of the following:
 - (i) Whether the product container was damaged, and if so whether the contents were damaged.
 - (ii) Whether the information listed in 4.1.3.2 was present and any discrepancies.
 - (iii) The height of characters less than 2.5 mm.
 - (iv) The results of 4.1.3.4, if required.

4.2 INSPECTION OF PRODUCT FOR DAMAGE AND LABELLING


4.2.1 Scope

- 4.2.1.1 This method describes the procedure for determining whether the product is clearly identified.²

4.2.2 Apparatus

- 4.2.2.1 A graduated measuring magnifier or equivalent with a precision of 0.1 mm.

²§ 4(1) of the Regulations

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4.2.3 Procedure

4.2.3.1 Inspect the product for damage. If damage exists, discontinue testing.

4.2.3.2 Inspect the product for the following information, which must be in block letters in either official language:

(i) The name and principal place of business in Canada of the manufacturer, importer or distributor;

(ii) The model name or model number of the product;

(iii) The year and month of manufacture of the product, or a code mark or other identification that identifies that year and month.

4.2.3.3 Measure the height of the characters used to present the information required in 4.2.3.2.

4.2.3.4 Inspect the information to see if it is easily discernible. If not, take a photograph.

4.2.4 Results

4.2.4.1 Record details of the following:

(i) Whether the product was damaged.

(ii) Whether the information listed in 4.2.3.2 was present and any discrepancies.

(iii) The height of characters less than 2.5 mm.

(iv) The results of 4.2.3.4, if required.

4.3 WARNING STATEMENTS

4.3.1 Scope


4.3.1.1 This method describes the procedure for determining whether the required warning notices are on the product.³

4.3.2 Apparatus

4.3.2.1 A graduated measuring magnifier or equivalent with a precision of 0.1 mm.

4.3.3 Procedure

³§ 4(3), 4(4) and 4(5) of the Regulations

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4.3.3.1 Inspect the product for the following warning information:

(i) displayed in text as per section 4(3) of the Regulations which must be in block letters in both official languages; or

(ii) displayed in graphics that concisely and readily convey the meaning or main message of the warnings.

Note: analysts are to observe and record, as supplemental information only, if non-pressure-mounted gates also have on them the warning, "Install with locking mechanism on side away from child."

4.3.3.2 Measure the height of any characters, including the headings, "WARNING" and "MISE EN GARDE", used to present the information required in 4.3.3.1.

4.3.3.3 Inspect the information to see if it is easily discernible. If not, take a photograph.

4.3.4 Results

4.3.4.1 Record details of the following:

(i) Whether the information listed in 4.3.3.1 was present and any discrepancies.

(ii) The heights of characters in any headings, "WARNING" and "MISE EN GARDE", less than 5.0 mm.

(iii) The height of characters of any text of the warnings less than 2.5 mm.

(iv) The results of 4.3.3.3, if required.

4.4 PERMANENCY OF THE LABELS

4.4.1 Scope


4.4.1.1 This method describes the procedure for determining whether the labels on the product and container are permanently attached.⁴

4.4.2 Apparatus

4.4.2.1 An all-purpose nylon scrub pad.

4.4.2.2 A glass cleaner as specified in Canadian General Standards Board (CGSB) standard CAN2-2.55-M85, *Glass Cleaner*, published in December 1985, or equivalent.

⁴§ 4(2) and 4(3) of the Regulations

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4.4.2.3 A stopwatch with a precision of 0.1 sec.

4.4.3 Procedure

4.4.3.1 Spray the label with the glass cleaner and let the label soak for 20 seconds (21 sec ±1 sec).

4.4.3.2 Applying light pressure and using a motion towards the centre of the label, scrub the label at each corner 10 times (10 strokes) within 10 seconds (9 sec ±1 sec) with the all-purpose nylon scrub pad.

4.4.3.3 Starting at one end of the label, attempt with bare fingers to lift and peel the label.

4.4.4 Results

4.4.4.1 Record whether the label was removed in one piece and any other damage, as well as whether the markings or printing were smudged or removed.

4.5 INDELIBILITY OF THE PRINTING

4.5.1 Scope

4.5.1.1 This method describes the procedure for determining whether the written information supplied with the product or on the container is indelible.⁵

4.5.2 Apparatus

4.5.2.1 An all-purpose cloth.

4.5.2.2 A glass cleaner as specified in Canadian General Standards Board (CGSB) standard CAN2-2.55-M85, *Glass Cleaner*, published in December 1985, or equivalent.


4.5.2.3 A stopwatch with a precision of 0.1 sec.

4.5.3 Procedure

4.5.3.1 Spray with the glass cleaner any information, statements or instructions which are:

- (i) printed on a label which is glued onto the product/container or;
- (ii) printed on plastic or other material affixed to the product/container or;
- (iii) stamped/printed on the product/container.

⁵§ 4(1), 4(2) and 4(3) of the Regulations

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4.5.3.2 Let the sprayed surface soak for 20 seconds (21 sec \pm 1 sec).

4.5.3.3 Applying light pressure and using a back and forth motion, rub the soaked surface 10 times (10 strokes) within 10 seconds (9 sec \pm 1 sec) with the all-purpose cloth.

4.5.4 Results

4.5.4.1 Record whether the markings or printing were smudged or removed.

4.6 REFERENCE TO THE HAZARDOUS PRODUCTS ACT OR THE EXPANSION GATES AND EXPANDABLE ENCLOSURES REGULATIONS

4.6.1 Ensure that no references, direct or indirect, to the Hazardous Products Act or these Regulations are made in any written material applied to or accompanying the product or in any advertisement of the product. Note any discrepancies.⁶

4.7 ASSEMBLY OF THE PRODUCT IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED

4.7.1 Scope

4.7.1.1 This method describes the procedure for determining whether the product can be assembled in accordance with the instructions supplied with it.⁷

4.7.2 Apparatus

4.7.2.1 No special test apparatus is required, however, hand tools may be required to complete product assembly.

4.7.3 Procedure

4.7.3.1 Assemble the product according to the manufacturer's instructions. Note any deficiencies or ambiguities in the instructions that could lead to improper assembly.

4.7.3.2 Examine the written instructions to see if they clearly state, in both official languages, the following information, with line drawings, sketches or photographs illustrating the sequence of steps where needed:


(i) The method of assembling the product.

(ii) How the product is to be installed, including a statement of the limitations regarding the use of any mounting hardware that is included.

(iii) How the product is to be operated, maintained and cleaned.

⁶ § 3(2) of the Regulations

⁷ § 4(6) of the Regulations

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(iv) Warnings as per section 4(3) of the Regulations (note that this is subject to permanency, indelibility, block letters and contrast tests).

4.7.4 Results

4.7.4.1 Record any deficiencies in the requirements outlined in 4.7.3.2.

4.7.4.2 Record, as supplemental information only, if the product can be mounted in only one orientation or is reversible.

4.8 90 N PUSH/PULL

4.8.1 Scope

4.8.1.1 This method describes the procedure for determining that,

(i) every component of the product that could possibly fit in the Truncated Right Circular Cylinder (Small Parts Cylinder) described in Method M00.1 and

(ii) every cap or similar item that protects the cut edges of metal tubing;

shall be so fitted or affixed to the product that the component will not become detached when subjected to a force of 90 N applied in any direction⁸.

4.8.2 Apparatus

4.8.2.1 A two-pronged clamp.

4.8.2.2 A pair of combination pliers.

4.8.2.3 A pair of long-nosed pliers.

4.8.2.4 A Truncated Right Circular Cylinder (Small Parts Cylinder) described in Method M00.1 of Book 5.

4.8.2.5 A force gauge capable of measuring up to 90 N with a precision of 2 N.


4.8.3 Procedure

4.8.3.1 Attempt to remove all components described in 4.8.1.1 (i) and (ii) with a 90 N (85 N \pm 5 N) force applied in any direction. Care must be taken not to damage or deform components when applying clamps or pliers.

4.8.4 Results

4.8.4.1 Record the following:

⁸§ 5(1) of the Regulations

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(i) Whether any component became detached with a force of up to but not exceeding 90 N (85 N \pm 5 N).

(ii) The actual force required to detach any component.

4.9 SMALL COMPONENTS

4.9.1 Conduct this test as described in Test Method M00.1 Test Procedures to Determine Mechanical Hazards-Small Components- on any components that were detached during test 4.8. Do not perform sections 5.2.1 and 5.2.2 of Test Method M00.1. These sections apply only to detached components of toys.⁹

4.10 SHARP EDGES AND SHARP POINTS

4.10.1 Conduct these tests as described in Test Method M00.2 Test Procedures to Determine Mechanical Hazards-Sharp Edges-, and Test Method M00.3 Test Procedures to Determine Mechanical Hazards-Sharp Points-.¹⁰

4.11 BURRS

4.11.1 Scope

4.11.1.1 This method describes the procedure for determining the presence of burrs on parts of the product. As per the definition, a burr constitutes any non-functional protrusion which changes the surface roughness-height index by more than 100 micrometers.

4.11.2 Apparatus

4.11.2.1 A surface roughness testing device capable of quantifying a change to the surface roughness-height index of more than 100 micrometers.

4.11.2.2 A graduated measuring magnifier, or equivalent.

4.11.3 Procedure


4.11.3.1 Subject all surfaces to tactile inspection in order to determine the presence and location of any surface protrusion which is suspected of being a burr.

4.11.3.1.1 If no surface protrusion which is suspected of being a burr is found, proceed to section 4.12 of this method.

4.11.3.1.2 If a surface protrusion suspected of being a burr is found, visually examine the surface (using the measuring magnifier if

⁹§ 5(1) of the Regulations

¹⁰§ 5(2) of the Regulations

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required) to determine the shortest possible surface sampling length required to completely traverse the suspect surface protrusion.

4.11.3.2 Test the surface with the surface roughness testing device, using the shortest possible sampling length required to completely traverse the suspect surface protrusion (Refer to the instruction manual of the surface roughness testing device).

4.11.3.3 Select an area of the surface being tested, which is free of a protrusion which can be sensed by tactile examination, and test the surface with the surface roughness testing device, being sure to employ the same sampling length used to completely traverse the suspect surface protrusion.

4.11.4 Results

4.11.4.1 Record the following:

- (i) The surface roughness-height index of the surface which contained the suspect protrusion.
- (ii) The surface roughness-height index of the surface not containing a protrusion which can be sensed by tactile examination.
- (iii) The difference in the surface roughness-height indexes recorded in sections 4.11.4.1 (i) and (ii).
- (iv) Whether the suspect protrusion caused a change greater than 100 micrometers in the surface roughness-height index.
- (v) The material of which any protrusion was made (metal, plastic, etc.)

4.12 THREADED BOLT ENDS

4.12.1 Scope

4.12.1.1 This method describes the procedure for determining that there are no exposed threaded bolt ends.¹¹


4.12.2 Procedure

4.12.2.1 Inspect the product's threaded bolt ends.

4.12.3 Results

4.12.3.1 Record every bolt end on the product which is not protected by an acorn nut or other suitable device.

¹¹§ 5(5) of the Regulations

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4.13 SIZE OF COMPLETELY-BOUNDED OPENINGS AND BOTTOM SPACING

4.13.1 Scope

4.13.1.1 This method describes the procedure for determining whether any openings on the product permit the passage of the probe described in Figure 1 or whether any open hole, slot or cavity of any shape or form may pose a finger or toe entrapment hazard.¹²

4.13.2 Apparatus

4.13.2.1 A probe, or test template (see Figure 1).

4.13.2.2 A 5.33 mm (± 0.5 mm) full-radius-tipped-diameter steel probe.

4.13.2.3 A 9.52 mm (± 0.5 mm) full-radius-tipped-diameter steel probe.

4.13.3 Procedure

4.13.3.1 Attempt to pass the test template through any completely-bounded opening in the product. A completely-bounded opening is defined as any opening in the main structure of a product that is totally enclosed by boundaries on all sides. During the testing, the template is rotated to any orientation about its own axis and parallel to the plane of the opening, as shown in Figure 2.

4.13.3.2 Attempt to pass the test template through the space between an adjacent hard surface and the highest point of the lowermost surface of the product. During the testing, the template is rotated to any orientation about its own axis and parallel to the plane of the opening, as shown in Figure 2.

4.13.3.3 Attempt to insert the 5.33 mm diameter steel probe into any openings in a rigid member of the product. If the 5.33 mm diameter probe can be inserted into the opening, then attempt to insert the 9.52 mm diameter probe into the same opening.

4.13.4 Results


4.13.4.1 Record the following:

(i) whether any completely-bounded opening allowed the test template to pass through.

(ii) whether the space referred to in 4.13.3.2 allowed the test template to pass through.

(iii) the locations of any opening in a rigid member of the product that allowed the 5.33 mm diameter steel probe to be inserted, but did not also allow the 9.52 mm diameter steel probe to be inserted.

¹²§ 6 and §7 of the Regulations

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(iv) The depth of insertion of any opening referred to in (iii).

4.14 HEIGHT OF SIDES

4.14.1 Scope

4.14.1.1 This method describes the procedure for determining the vertical distance that separates the uppermost surface of the product and the floor.¹³

4.14.2 Apparatus

4.14.2.1 Tape measure with a precision of 1.0 mm.

4.14.3 Procedure

4.14.3.1 Measure the vertical distance between an adjacent hard surface base and the lowest point of the uppermost surface of the product.

4.14.4 Results

4.14.4.1 Record the distance measured in section 4.14.3.1

4.15 VERTICAL STRENGTH

4.15.1 Scope

4.15.1.1 This method describes the procedure for determining whether the product's structure can withstand the application of a static vertical force.

4.15.2 Apparatus

4.15.2.1 A force gauge capable of measuring up to 200 N with a precision of 2 N.

4.15.2.2 A 50.8 mm by 50.8 mm by 25.4 mm thick (± 0.5 mm) wooden block.


4.15.2.3 A stopwatch with a precision of 0.1 sec.

4.15.3 Procedure

4.15.3.1 Apply a static force of 200 N (190 N ± 10 N), through the wooden block, vertically downward five times to each of the top points of the gate, or on center for gates with a horizontal top rail. Maintain the force for a minimum period of 10 seconds (11 sec, ± 1 sec), with an approximate interval of 5 seconds between applications.

4.15.3.2 Perform the procedure in 4.15.3.1 to every other top joint or if the joints are different, or both, to the joints which are more likely to fracture, disengage, fold, or have a permanent deflection that reduces the lowest point of the

¹³§ 6 and §7 of the Regulations

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uppermost surface of the gate or enclosure to a dimension of less than 560 mm when measured vertically from a hard surface base.

4.15.4 Report

- 4.15.4.1 Record whether any top rail, slats or framing components of the gates or enclosures fractured, disengaged, folded, or permanently deflected causing the reduction in height described in 4.15.3.2.

4.16 PARTIALLY-BOUNDED OPENINGS AT THE UPPERMOST EDGE

4.16.1 Scope

- 4.16.1.1 This method describes the procedure for determining whether the openings located at the uppermost edge of the product permit the passage of the probe described in Figure 3.¹⁴


4.16.2 Apparatus

- 4.16.2.1 A probe, or test template (see Figure 3).
- 4.16.2.2 A rectangular template 38.1 mm by 16.2 mm (± 1.0 mm).

4.16.3 Procedure

- 4.16.3.1 Using the rectangular template described in 4.16.2.2, identify partially-bounded openings at any point in the uppermost edge of the product that are greater than 38.1 mm in width and more than 16.2 mm in depth, as shown in Figure 4. A partially-bound opening is defined as any opening in the main structure of a product that is not totally enclosed by boundaries on all sides. If there are no such openings, proceed to 4.17 of this method. Otherwise, continue with 4.16 by performing the steps below.
- 4.16.3.2 Place the test template mentioned in 4.16.2.1 vertically downward into the opening with its center line vertical and the plane of the template parallel to the plane of the opening, until downward motion is arrested by contact between the test template and the boundaries of the opening.
- 4.16.3.3 By visual inspection, determine if there is simultaneous contact between more than one of surfaces "B" or "C", or corners "BC" or "CC", in any combination, that are on opposite sides of the template centre line (see Figure 3 for surface and corner identification).
- 4.16.3.4 If such contact does not occur but the opening is not symmetrical about a vertical center line, perform the additional test described in 4.16.3.5, 4.16.3.6 and 4.16.3.7.
- 4.16.3.5 Rock the test template mentioned in 4.16.2.1 sideways (parallel to the

¹⁴§ 6 and §7 of the Regulations

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plane of the opening), while maintaining contact between the boundary of the opening and surface “A”, or corners “AB”, or both.

- 4.16.3.6 Terminate the rocking motion when there is either contact between a boundary of the opening and a surface or corner of the template other than surface “A” or corners “AB”, or until surface “B” attains a vertical orientation.
- 4.16.3.7 By visual inspection, determine if there is simultaneous contact between more than one of surfaces “B” or “C”, or corners “BC” or “CC”, in any combination, that are on opposite sides of the template center line.

4.16.4 Report

4.16.4.1 Record the following:

(i) locations of all partially-bounded openings at any point in the uppermost edge of the product that are greater than 38.1 mm in width and more than 16.2 mm in depth.

(ii) locations of all openings where there is simultaneous contact between any portion of the boundaries of the opening and more than one of the surfaces described in 4.16.3.3 or 4.16.3.7.

4.17 PARTIALLY-BOUNDED OPENINGS WITH CHANGING CONFIGURATION

4.17.1 Scope

4.17.1.1 This method describes the procedure for determining whether the product has openings located at its uppermost edge that permit the passage of the probe described in Figure 3, if those partially-bounded openings have a changing configuration.¹⁵

4.17.2 Apparatus


4.17.2.1 A probe, or test template (see Figure 3)

4.17.2.2 A rectangular template 38.1 mm by 16.2 mm (±1.0 mm).

4.17.3 Procedure

4.17.3.1 Using the rectangular template described in 4.17.2.2, determine if the product contains any partially-bounded openings at any point in the uppermost edge of the product that are greater than 38.1 mm in width and more than 16.2 mm in depth (as shown in Figure 4) which change their configuration when the product is erected to less than the maximum dimension claimed by the manufacturer. A partially-bound opening is defined as any opening in the main structure of a product that is not totally enclosed by boundaries on all sides. If there are no such openings,

¹⁵§ 6 and §7 of the Regulations

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proceed to 4.18 of this method. Otherwise, perform the tests described in 4.17.3.2 to 4.17.3.7 at the minimum dimension and, at the discretion of the analyst, at any dimension between the claimed minimum and maximum.

- 4.17.3.2 Place the test template mentioned in 4.17.2.1 vertically downward into the opening with its center line vertical and the plane of the template parallel to the plane of the opening, until downward motion is arrested by contact between the test template and the boundaries of the opening.
- 4.17.3.3 By visual inspection, determine if there is simultaneous contact between more than one of surfaces "B" or "C", or corners "BC" or "CC", in any combination, that are on opposite sides of the template centre line (see Figure 3 for surface and corner identification).
- 4.17.3.4 If such contact does not occur but the opening is not symmetrical about a vertical center line, perform the additional test described in 4.17.3.5, 4.17.3.6 and 4.17.3.7.
- 4.17.3.5 Rock the test template mentioned in 4.17.2.1 sideways (parallel to the plane of the opening), while maintaining contact between the boundary of the opening and surface "A", or corners "AB", or both.
- 4.17.3.6 Terminate the rocking motion when there is either contact between a boundary of the opening and a surface or corner of the template other than surface "A" or corners "AB", or until surface "B" attains a vertical orientation.
- 4.17.3.7 By visual inspection, determine if there is simultaneous contact between more than one of surfaces "B" or "C", or corners "BC" or "CC", in any combination, that are on opposite sides of the template center line.

4.17.4 Report

4.17.4.1 Record the following:


(i) locations of all partially-bounded openings at any point in the uppermost edge of the product that are greater than 38.1 mm in width and more than 16.2 mm in depth.

(ii) locations of all openings where there is simultaneous contact between any portion of the boundaries of the opening and more than one of the surfaces described in 4.17.3.3 or 4.17.3.7.

4.18 PARTIALLY-BOUNDED OPENINGS OF PRODUCTS WITH NON-RIGID UPPERMOST EDGE

4.18.1 Scope

- 4.18.1.1 This method describes the procedure for determining whether the product has openings located at its uppermost edge that permit the passage of the probe described in Figure 3 with application of a vertical force on the

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probe.¹⁶


4.18.2 Apparatus

- 4.18.2.1 A probe, or test template (see Figure 3)
- 4.18.2.2 A rectangular template 38.1 mm by 16.2 mm (± 1.0 mm).
- 4.18.2.3 A force gauge capable of measuring up to 200 N with a precision of 2 N.

4.18.3 Procedure

- 4.18.3.1 Using the rectangular template described in 4.18.2.2, determine if the product has partially-bounded openings with non-rigid uppermost edges that are greater than 38.1 mm in width and more than 16.2 mm in depth, as shown in Figure 4. A partially-bound opening is defined as any opening in the main structure of a product that is not totally enclosed by boundaries on all sides. If there are no such openings, proceed to section 5 of this method, otherwise, perform the tests described in 4.18.3.2 to 4.18.3.8.
- 4.18.3.2 Place the test template mentioned in 4.18.2.1 vertically downward into the opening until contact is established between the test template and any portion(s) of the opening boundary. Ensure that the test template's center line is vertical and the plane of the template is parallel to the plane of the opening. Using the test template, apply a downward vertical force of 134 N ($129 \text{ N} \pm 5 \text{ N}$) to the portion(s) of the opening in contact with the test template.
- 4.18.3.3 By visual inspection, determine if there is simultaneous contact between more than one of surfaces "B" or "C", or corners "BC" or "CC", in any combination, that are on opposite sides of the template center line (see Figure 3 for surface and corner identification).
- 4.18.3.4 While maintaining the 134 N ($129 \text{ N} \pm 5 \text{ N}$) load, measure the vertical distance between an adjacent hard surface base and the lowest point of the uppermost surface of the product.
- 4.18.3.5 If such contact does not occur but the opening is not symmetrical about a vertical center line, perform the additional test described in 4.18.3.6, 4.18.3.7 and 4.18.3.8.
- 4.18.3.6 Rock the test template mentioned in 4.18.2.1 sideways (parallel to the plane of the opening), while maintaining both the vertical downwards force of 134 N ($129 \text{ N} \pm 5 \text{ N}$) and the contact between the boundary of the opening and surface "A", or corners "AB", or both.
- 4.18.3.7 Terminate the rocking motion when there is either contact between a boundary of the opening and a surface or corner of the template other than

¹⁶§ 6 and §7 of the Regulations

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surface "A" or corners "AB", or until surface "B" attains a vertical orientation.

4.18.3.8 By visual inspection, determine if there is simultaneous contact between more than one of surfaces "B" or "C", or corners "BC" or "CC", in any combination, that are on opposite sides of the template center line.

4.18.4 Report

4.18.4.1 Record the following:

(i) locations of all partially-bounded openings at any point in the uppermost edge of the product that are greater than 38.1 mm in width and more than 16.2 mm in depth.

(ii) locations of all openings where there is simultaneous contact between any portion of the boundaries of the opening and more than one of the surfaces described in 4.18.3.3 or 4.18.3.8.

(iii) measured distance from 4.18.3.4. Note: this is not a regulatory requirement and must be identified as such in the report.

5 QUALITY ASSURANCE/QUALITY CONTROL PROCEDURES

5.1 Ensure that all measuring instruments are functional and are calibrated with traceability to national or international standards.

5.2 The Quality Control section of the test method is under development and will be added in a revised issue when completed.

6 TEST REPORT


6.1 The test report shall contain the following information:

6.1.1 A description of the product to include brand, style, country of origin, size and UPC.

6.1.2 The number of sample elements tested.

6.1.3 The results of the tests (conducted in the sequence presented in section 4 of this test method) with specific details for any non-compliances or potential problems observed.

6.1.4 The analyst's name and signature, as well as the signature of the approving officer.

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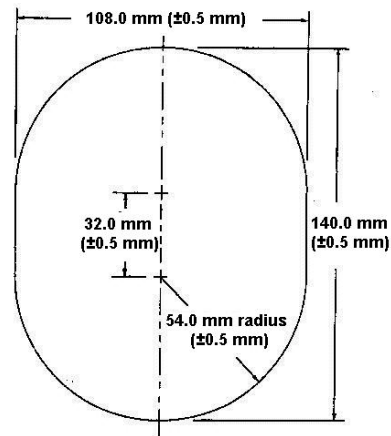


Figure 1: Test Template 'A'.

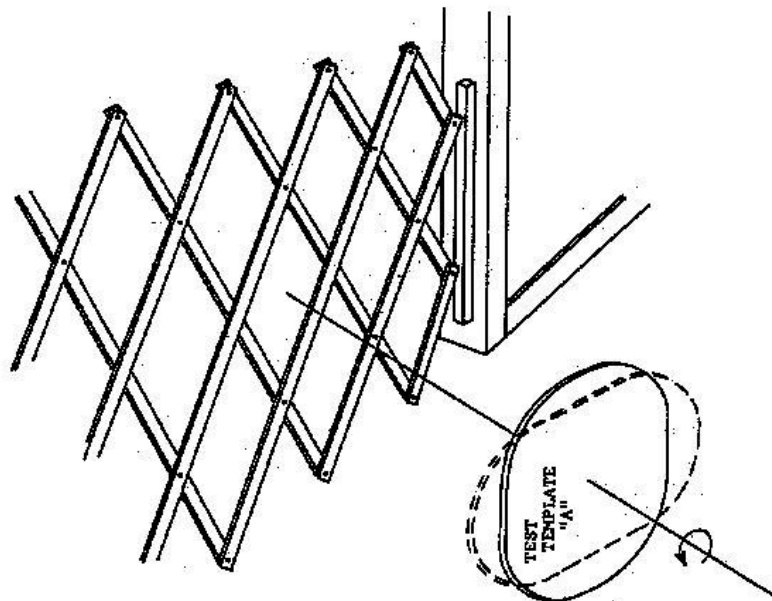



Figure 2: Orientation for Test Template 'A'.

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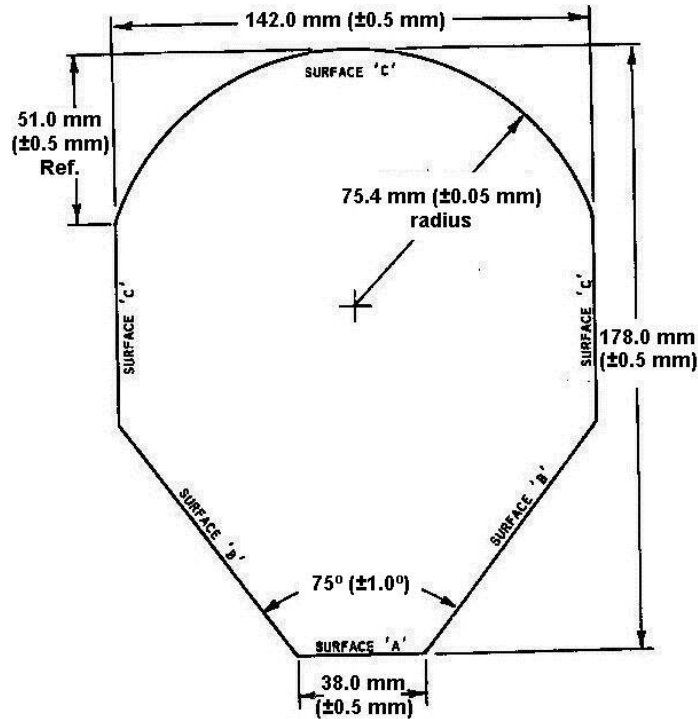


Figure 3: Test Template 'B'

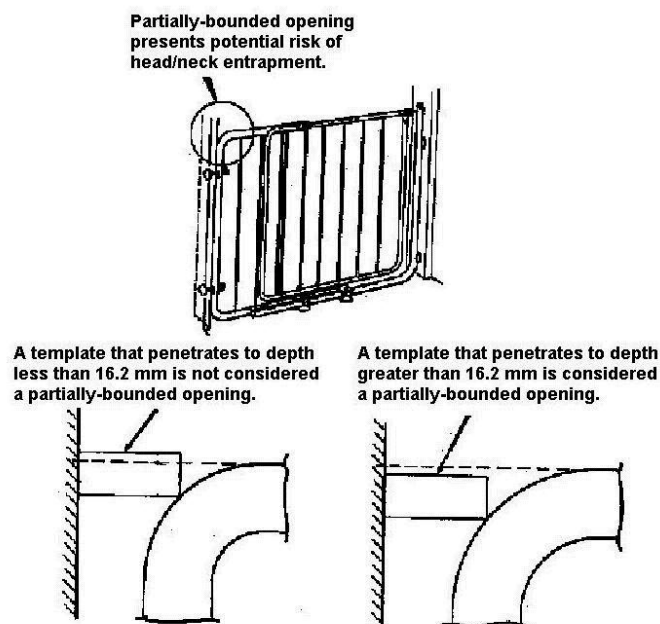



Figure 4: Use of rectangular template to determine partially-bounded openings.

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