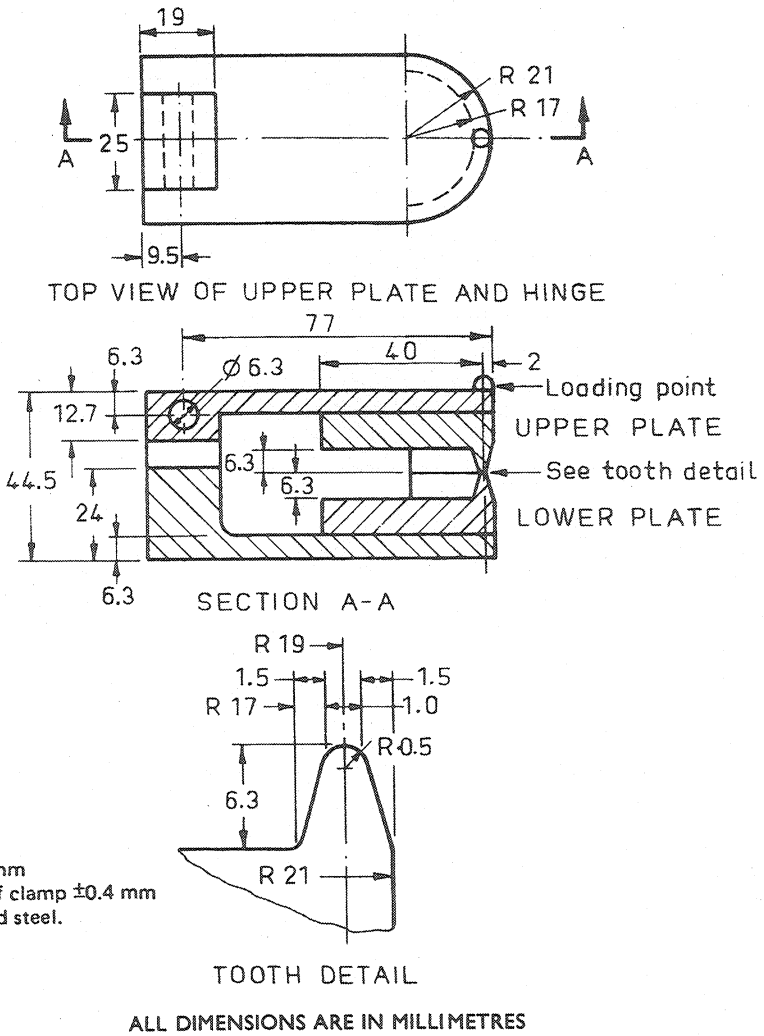
APPENDIX M

BITE TEST*

M1 SCOPE. This Appendix sets out a bite test for any toy intended for use by a child aged 36 months or less, having a component with an external dimension of 32 mm or less and a design that would permit the child, after suitably orientating the toy, to insert the component into its mouth to a depth of 6 mm or more.

M2 PRINCIPLE. The part of the toy being tested is placed in a bite test clamp and a specified force is applied for a specified period. The toy is then tested to ascertain whether or not hazards result owing to the bite test.

M3 APPARATUS. The bite clamp shown in fig. M1, or an equivalent apparatus, is required.



Tolerances:
(a) on tooth ±0.2 mm
(b) on remainder of clamp ±0.4 mm
Materials—hardened steel.

Fig. M1 BITE TEST CLAMP

NOTE— Bite test clamps may be available from overseas manufacturers.

* The test pro
Federal Reg
determining
age, dated 22 December 1977.

M4 TEST SPECIMEN. The toy submitted for this test shall be representative of the bulk and shall not have been subjected to any normal use or reasonably foreseeable abuse tests that are not relevant to that toy.

NOTE– This Standard requires that the *same* toy undergoes all the relevant normal use or reasonably foreseeable abuse tests only.

M5 PROCEDURE. The procedure shall be carried out in a conditioned environment as follows:

(a) Condition the toy in accordance with Appendix A

(b) Using the bite test clamp specified in M3, place the component of the toy to be tested between the upper and lower plates in such a manner that when a force is applied to the loading point, the component would most likely produce a hazardous sharp edge, hazardous sharp point or an ingestion or inhalation hazard

(c) Evenly and gradually apply a force of 220 ±2 N to the loading point over a period of 5 +0.5, –0.0 s, in a direction perpendicular to the upper plate

(d) Maintain the force of 220 N for a further period of 10 s or more

(e) Remove the force and the component from the test clamp

(f) Test the toy in accordance with Appendices B, C and D

(g) Repeat steps (a) to (f) for other components that would most likely produce a hazardous sharp edge, hazardous sharp point or an ingestion or inhalation hazard.

M6 REPORT. The following shall be reported:

(a) Which component and which part of the component was subjected to the bite test
(b) Whether or not the toy produced–

(1) A hazardous sharp edge
(2) A hazardous sharp point
(3) An inhalation or ingestion hazard.

APPENDIX N

TORQUE TEST

N1 SCOPE. This Appendix sets out a method for determining the resistance to torque of any projection which extends 6 mm or more from a toy and which projection is capable of being grasped with at least the thumb and forefinger or the teeth of a child.

N2 PRINCIPLE. The projection being tested is held in a fixed position and a specified torque is applied for a specified period. The toy is then examined to ascertain whether or not any hazards developed due to the application of the torque.

N3 APPARATUS. The following apparatus is required:

(a) A suitable clamp to clamp the projection
(b) A suitable torque transmitting device having an accuracy of +0.025, –0 N.m.

N4 TEST SPECIMEN. The toy submitted for this test shall be representative of the bulk and shall not have been subjected to any normal use or reasonably foreseeable abuse tests that are not relevant to that toy.

NOTE– This Standard requires that the *same* toy undergoes all the relevant normal use or reasonably foreseeable abuse tests only.

N5 PROCEDURE. The procedure shall be carried out in a conditioned environment as follows:

(a) Condition the toy in accordance with Appendix A

(b) Rigidly clamp the projection to be tested in any suitable configuration

(c) Attach the torque transmitting device to the projection

(d) Apply gradually, within a 5 s period, the relevant torque specified in table N1 in a clockwise direction until either–

(1) A rotation of 180° from the original position has been attained; or
(2) The required torque has been reached.

Where the toy is intended for use by children with an age grading that overlaps those specified in table N1, the toy shall be subjected to the greatest torque specified within those age gradings; for example, a toy that is intended for use by children aged between 24 months and 96 months shall be subjected to a torque of 0.50 N.m.

Where no age or age grading is submitted with the toy, it shall be taken to mean that the toy is intended for use by any child up to the age of 14 years*. Consequently, applying the principle noted above, the toy shall be subjected to a torque of 0.50 N.m

Table N1 TORQUE

Age grading	*Torque (N.m.)*
Toy intended for a child aged 18 months or less	0.25
Toy intended for a child aged more than 18 months but not more than 36 months	0.375
Toy intended [illegible] than 14 years	

(e) Maintain the maximum rotation or specified torque for a further 10 s

(f) Remove the torque

(g) Remove the torque transmitting device and allow the projection to return to a relaxed condition

(h) Test the toy in accordance with Appendices B, C and, if applicable, D

(j) Where the toy has any other projections that comply with the requirements specified in N1, repeat steps (a) to (h) for each of those projections.

N6 REPORT. The following shall be reported:

(a) The age or age grading of the child or children for which the toy was intended
(b) Which projections were tested
(c) The value of torque applied to each of the projections
(d) Whether or not the toy produced—

(1) A hazardous sharp edge
(2) A hazardous sharp point
(3) An inhalation or ingestion hazard.

APPENDIX O

TENSION TEST FOR ANY PROJECTION ON A TOY

O1 SCOPE. This Appendix sets out a tension test for a projection on a toy. The test applies to projections which extend 6 mm or more from a toy and which are capable of being grasped with at least the thumb and forefinger or the teeth of a child.

O2 APPLICATION. The test shall be conducted on the same toy that was subjected to the torque test described in Appendix N, where the toy developed no hazardous sharp edges, hazardous sharp points nor, if applicable, produced an ingestion or inhalation hazard.

O3 PRINCIPLE. The projection being tested is held in a fixed position and a specified tensile force is applied for a specific period. The toy is then tested to ascertain whether or not any hazards resulted owing to the application of the tensile force.

O4 APPARATUS. The following apparatus is required:

(a) Two clamps capable of being clamped to the projection

(b) A suitable tension transmitting device, having a self-indicating gauge or other appropriate means, having an accuracy of +2.5, –0 N. The tension transmitting device shall be capable of being attached to the clamps.

O5 TEST SPECIMEN. The toy submitted for this test shall be representative of the bulk and shall not have been subjected to any normal use or reasonably foreseeable abuse tests that are not relevant to that toy.

NOTE– This Standard requires that the *same* toy undergoes all the relevant normal use or reasonably foreseeable abuse tests only.

O6 PROCEDURE. The procedure shall be carried out in a conditioned environment as follows:

(a) Condition the toy in accordance with Appendix A

(b) Fasten the toy in any convenient position and attach the first clamp to the free end of the projection to be tested

(c) Attach the tension transmitting device to the first clamp and apply the appropriate tensile force specified in table O1 within a period of 5 s and in a direction parallel to the major axis of the projection.

Where the toy is intended for use by children with an age grading that overlaps those specified in table O1, the toy shall be subjected to the greatest torque specified within those age gradings; for example, a toy that is intended for use by children aged between 24 months and 96 months shall be subjected to a tensile force of 90 N.

Where no age or age grading is submitted with the toy, it shall be taken to mean that the toy is intended for use by any child up to the age of 14 years*. Consequently, applying the principle noted above, the toy shall be subjected to a tensile force of 90 N

Table O1 TENSILE FORCE

Age grading	*Tensile force (N)* *(±2 N)*
Toy intended for a child aged 18 months or less	50
Toy intended for a child aged more than 18 months but not more than 36 months	75
Toy intended for a child aged more than 36 months but not mor	

* 14 years means the child's 14th birthday.

(d) Maintain the tensile force for an additional 10 s and then remove the tension transmitting device from the first clamp

(e) Position and attach the second clamp to the projection in a manner suitable for applying a tensile force in a direction perpendicular to the major axis of the projection

(f) Apply the same appropriate tensile force specified in table O1 within a period of 5 s and in a direction perpendicular to the major axis of the projection

(g) Maintain the tensile force for an additional 10 s and then remove the loading device from the second clamp

(h) Remove both clamps from the projection

(j) Test the toy in accordance with Appendices B, C and, if applicable, D

(k) Where the toy has any other projections that comply with the requirements specified in O2, repeat steps (a) to (j) for each of these projections.

O7 **REPORT.** The following shall be reported:

(a) The age or age grading of the child or children for which the toy was intended

(b) Which projections were tested

(c) The value of the tensile force applied to each projection

(d) Whether or not the toy produced—

(1) A hazardous sharp edge
(2) A hazardous sharp point
(3) An inhalation or ingestion hazard.

APPENDIX P

SEAM STRENGTH TEST FOR STUFFED TOYS

P1 SCOPE. This Appendix sets out a method for evaluating the seam strength of a fabric on a stuffed toy.

P2 PRINCIPLE. A test specimen of specified dimensions and having a seam is placed into a pair of clamps and an appropriate tensile force is applied to the test specimen. The maximum seam opening is then measured.

P3 APPARATUS. The following apparatus is required:

(a) Two fabric-holding clamps each having two jaws, one jaw measuring 25 mm x 25 mm and the other jaw measuring 25 mm x 40 mm or more, where the longer dimension is perpendicular to the direction in which the tensile force is to be applied.

The jaws shall be capable of holding the test specimen without allowing it to slip, and shall be designed so that they do not cut or otherwise weaken the test specimen. The faces of the jaws shall preferably be smooth and flat, but engraved or corrugated faces may be used

(b) A suitable tension transmitting device having a self-indicating gauge or other appropriate means, and having an accuracy of +2.5, –0 N. The tension transmitting device shall be capable of being attached to the fabric-holding clamp or clamps.

P4 TEST SPECIMEN. The toy submitted for this test shall be representative of the bulk and shall not have been subjected to any normal use or reasonably foreseeable abuse tests that are not relevant to that toy.

NOTE– This Standard requires that the *same* toy undergoes all the relevant normal use or reasonably foreseeable abuse tests only.

There shall be three test specimens taken from the toy. Each test specimen shall be taken across the seam and shall be selected from that part of the seam that would be most likely to fail if that test specimen were subjected to a tensile force, for example, the final closing seam after the toy has been stuffed with filling material. Each test specimen shall be rectangular, measuring approximately 150 mm x 100 mm, with the smallest dimension being measured along the seam.

The width of each of the test specimens shall be greater than 25 mm and the length on each side of the seam shall be greater than 62.5 mm.

P5 PROCEDURE. The procedure shall be as follows:

(a) Condition each of the test specimens in accordance with Appendix A

(b) Position the fabric-holding clamps such that the inner edges of each of the clamps are 75 ±3 mm apart

(c) Secure a test specimen symmetrically in the clamps with the seam midway between, and parallel to, the inner edge of each of the clamps, as shown in fig. P1

(d) Attach the tension transmitting device to the clamp or clamps and apply to the test specimen the appropriate tensile force specified in table P1, within a period of 5 s, the tensile force being applied in a direction that is perpendicular to the seam.

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those s

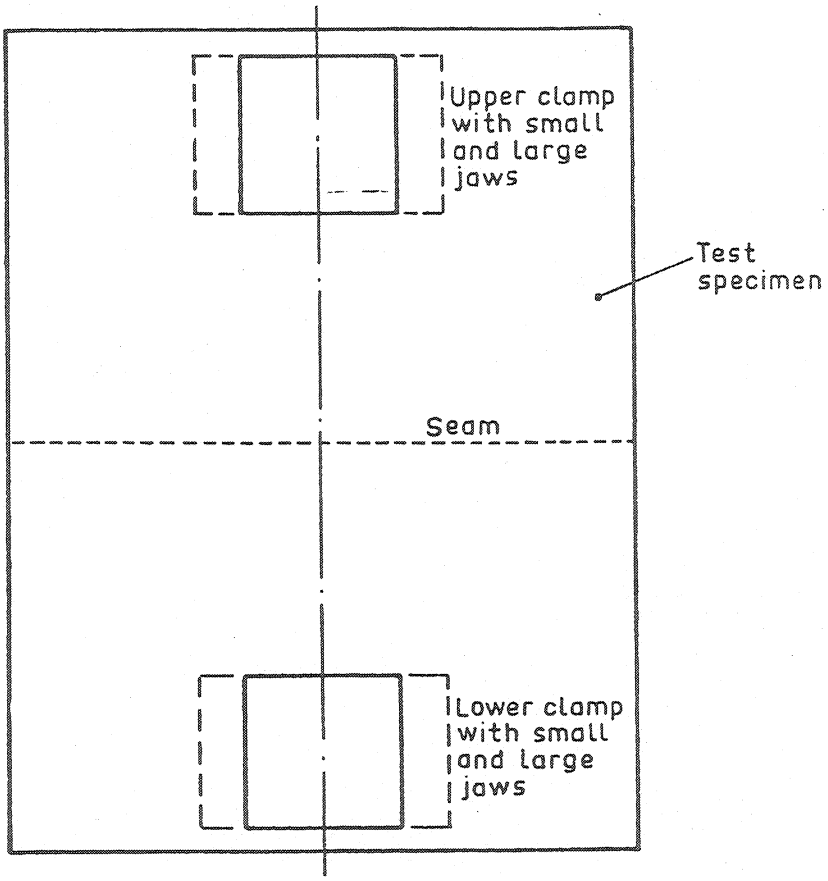

Fig. P1 TEST SPECIMEN SECURED IN CLAMPS

specified within those age gradings; for example, a toy that is intended for use by children aged between 24 months and 96 months shall be subjected to a tensile force of 90 ±1 N.

Where no age or age grading is submitted with the toy, it shall be taken to mean that the toy is intended for use by any child up to the age of 14 years*. Consequently, applying the principle noted above, the toy shall be subjected to a tensile force of 90 ±1 N

Table P1 TENSILE FORCE

Age grading	*Tensile force (N) (±1 N)*
Toy intended for a child aged 18 months or less	50
Toy intended for a child aged more than 18 months but not more than 36 months	75
Toy intended for a child aged more than 36 months but not more than 14 years*	90

(e) Maintain the tensile force for an additional 2 min

(f) Measure the maximum seam opening distance by measuring the width of the seam opening at its widest place, as shown in fig. P2

(g) Repeat steps (a) to (f) for each of the other test specimens

* 14 years means the child's 14th birthday

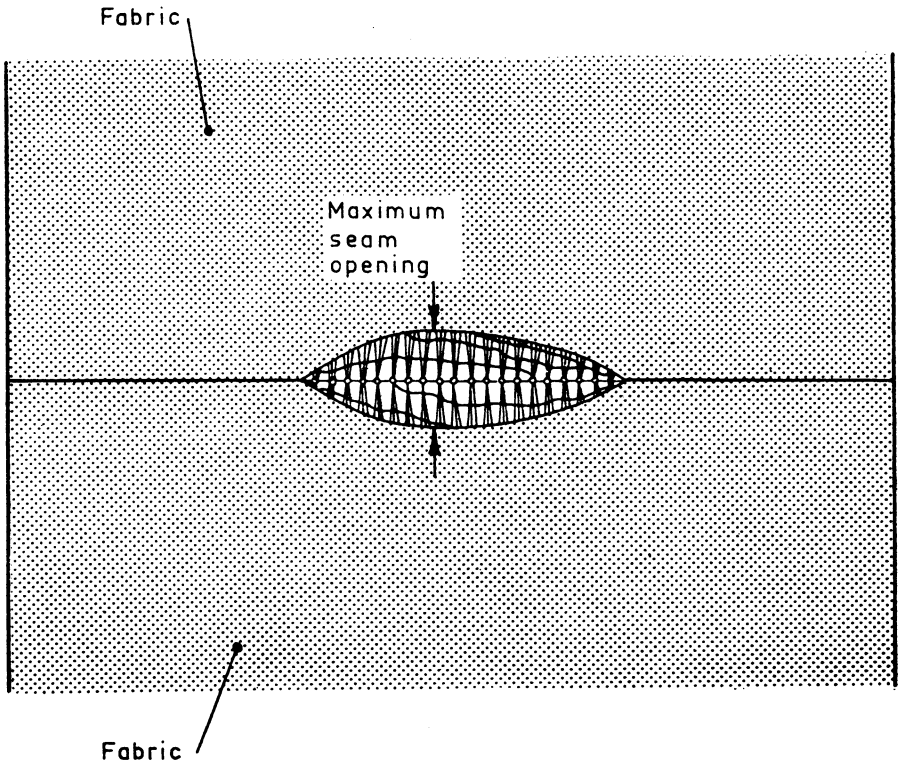

Fig. P2 MEASUREMENT OF THE WIDTH OF SEAM OPENING

P6 INTERPRETATION OF RESULTS. The seam shall fail the test if the maximum seam opening is greater than 5 mm (see 206.2 (b)).

P7 REPORT. The following shall be reported:

(a) The position on the toy from where the test specimens were taken
(b) The maximum seam opening obtained from each of the three test specimens.

APPENDIX Q

FLEXURE TEST FOR TOYS WITH STIFFENING MEANS FOR RETENTION OF FORM

Q1 SCOPE. This Appendix sets out a flexure test for metal wire or other stiffening material used in toys for retention of form.

Q2 PRINCIPLE. The metal wire or other stiffening material is removed from the toy and then tested by being bent up to a specified maximum angle by the application of a specified force of 30 cycles. The metal wire or other stiffening material is then tested for hazards.

Q3 APPARATUS. The following apparatus is required:

(a) A vice

(b) A pair of vice shields; each vice shield shall be fabricated from 2 mm thick cold-rolled steel or other similar material and have a 10 mm inside radius curled edge.

Q4 TEST SPECIMEN. The metal wire or other stiffening material submitted for this test shall be taken from a toy that is representative of the bulk and shall not have been subjected to any normal use or reasonably foreseeable abuse tests that are not relevant to that toy.

NOTE– This Standard requires that the *same* toy undergoes all the relevant normal use and reasonably foreseeable abuse tests only.

Q5 PROCEDURE. The procedure shall be carried out as follows:

(a) Secure the stiffening material used for retention of form in the vice between the vice shields

(b) Apply the appropriate force specified in table Q1 perpendicular to the metal wire or other material being tested, at a point which is–

(1) At a distance 50 ±1 mm from a point located at the intersection of the major axis of the material being tested and the plane passing through the top of the vice shields; or

(2) At the top of the material being tested if the material is less than 50 mm from the point located at the intersection of the major axis of the material and the plane passing through the top of the vice shields

Table Q1 BENDING FORCE

Age grading	*Force (N) (±1 N)*
Toy intended for a child aged 18 months or less	50
Toy intended for a child aged more than 18 months but not more than 14 years*	75

* 14 years means the child's 14th birthday