

Australian Standard[®]

**Children's toys (safety
requirements)**

Part 2: Constructional requirements

This Australian Standard was prepared by Committee CS/18, Children's Toys. It was approved on behalf of the Council of Standards Australia on 24 June 1992 and published on 14 September 1992.

The following interests are represented on Committee CS/18:

Australian Consumers Association
Australian Federation of Consumer Organizations Inc.
Australian Government Analytical Laboratories
Australian Toy Association
Confederation of Australian Industry
Consumer Affairs, New South Wales
Department of Health, New South Wales
Department of Public and Consumer Affairs, South Australia
Federal Bureau of Consumer Affairs
Ministry of Consumer Affairs, Victoria
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Part 2: Constructional requirements

First published as part of AS 1647—1974.
Revised and redesignated in part as AS 1647.2—1981.
Second edition 1992.

Incorporating:
Amdt 1—1995

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

PREFACE

This Standard was prepared by the Standards Australia Committee on Safety of Children's Toys to supersede AS 1647.2—1981. This edition differs from the previous edition in that it is more definitive (e.g. an objective test for projectile toys is re-instated), and it also takes into account recent changes in design and technology of toys.

This Standard is Part 2 of a four-part series designed to promote all aspects of safety in children's toys. The other parts of the Standard are as follows:

Part 1: General safety requirements

Part 3: Toxicological requirements

Part 4: Flammability requirements

In preparing this Standard, the committee took into account the following documents:

BS 5665: Part 1:1989 Safety of toys, Part 1: *Specification for mechanical and physical properties*. (Equivalent to European Standard EN 71: Part 1:1988.)

United States Consumer Product Safety Commission Regulations.

United States Voluntary Product Standard PS 72-76.

Canadian Government Regulations.

ASTM F963-86, Standard consumer safety specification on toy safety.

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CONTENTS

	<i>Page</i>
FOREWORD	6
1 SCOPE	7
2 APPLICATION	7
3 REFERENCED DOCUMENTS	7
4 DEFINITIONS	7
4.1 Toy	7
4.2 Accessible	7
4.3 Action cycle	7
4.4 Base area	7
4.5 Discharge mechanism	7
4.6 Edge, hemmed	8
4.7 Edge, rolled	8
4.8 Edge, spiralled	8
4.9 Elastic	8
4.10 Fabric	8
4.11 Flotation toy	8
4.12 Hazard, ingestion or inhalation	8
4.13 Hazardous sharp edge	8
4.14 Hazardous sharp point	8
4.15 Hinge mechanism	8
4.16 Intended	9
4.17 Lapjoint	9
4.18 Noise, continuous	9
4.19 Noise, impulsive	10
4.20 Projectile	10
4.21 Projection	10
4.22 Protective cover	10
4.23 Protective tip	10
4.24 Ride-on toy	10
4.25 Sit-on toy	10
4.26 Years	10
5 SPECIFIC MATERIAL REQUIREMENTS	10
5.1 Glass	10
5.2 Wood	10
5.3 Flexible plastic film	10
5.4 Adhesive labels, transfers and the like	10
5.5 Expandable materials	10
6 SPECIFIC CONSTRUCTIONAL REQUIREMENTS	10
6.1 General	10
6.2 Exemptions	11
6.3 Edges on thin materials	11
6.4 Edges on lap joints	11
6.5 Circular holes in thin rigid materials	11
6.6 Mass supporting chains	12
6.7 Coil springs	12
6.8 Power-driven mechanisms	12
6.9 Key-wound mechanisms	12
6.10 Hinged mechanism	13
7 SPECIFIC REQUIREMENTS FOR PARTICULAR TOYS	14
7.1 General	14
7.2 Stuffed toys	14
7.3 Hand-held rattles	14
7.4 Teethers	14

	<i>Page</i>
7.5 Noise-producing toys	14
7.6 Toys for cradle, cot, playpen, pram, stroller or the like	15
7.7 Toys with self-retracting pull strings	15
7.8 Flying devices	15
7.9 Pull toys having string	15
7.10 Pull or push toys having solid handles	16
7.11 Toys that enclose the whole child, its head, or its mouth and nose	16
7.12 Toy sunglasses	16
7.13 Heavy stationary floor toys	16
7.14 Flotation toys	16
7.15 Projectile toys	16
7.16 Ride-on toys	17
7.17 Sit-on toys	19
7.18 Toys containing a heat source	19
8 ELECTRICAL REQUIREMENTS	20
8.1 General	20
8.2 Power supply	20
8.3 Batteries	21
8.4 Transformers	21
8.5 Flexible electric cords connected to supply mains	21
8.6 Plugs, socket-outlets or couplers	21
9 GENERAL TEST REQUIREMENTS	21
9.1 General	21
9.2 Hazardous sharp edges	21
9.3 Hazardous sharp points	21
9.4 Ingestion or inhalation hazard	21
10 NORMAL USE AND REASONABLY FORESEEABLE ABUSE TEST REQUIREMENTS	22
10.1 General	22
10.2 Normal use testing	22
10.3 Reasonably foreseeable abuse testing	22
11 LABELLING	23
11.1 Cautionary labelling	23
11.2 Informative labelling	23
11.3 Age grading of toys intended for children aged less than three years	23
 APPENDICES	
A TEST FOR ACCESSIBILITY OF A PART OR COMPONENT OF A TOY	24
B TEST FOR HAZARDOUS SHARP EDGES	26
C TEST FOR HAZARDOUS SHARP POINTS	28
D TEST FOR INGESTION OR INHALATION HAZARD	30
E CONDITIONING	32
F TEST FOR TOYS WITH MOVING COMPONENTS	33
G TEST FOR TOYS WHICH ARE LABELLED AS BEING WASHABLE	34
H DROP TEST	36
I COMPRESSION TEST	37
J TIP-OVER TEST FOR TOYS OF LARGE AREA OR VOLUME	39
K TEST OF PROJECTILES PROPELLED BY A DISCHARGE MECHANISM	40
L BITE TEST	41
M TORQUE TEST	43
N TENSION TEST FOR ANY PROJECTION ON A TOY	45
O INTEGRITY TEST FOR STUFFED TOYS	47
P FLEXURE TEST FOR TOYS WITH STIFFENING FOR RETENTION OF FORM	50
Q TUMBLE TEST FOR WHEELED TOYS	52
R TENSION TEST FOR TYRE REMOVAL	54

	<i>Page</i>
S TENSION TEST FOR WHEELED TOYS HAVING AN AXLE RETAINED BY A SNAP-IN FIXTURE	56
T COMPRESSION TEST FOR WHEELED TOYS HAVING AN AXLE RETAINED BY A SNAP-IN FIXTURE	58
U TEST FOR MOUTH-ACTUATED TOYS	60
V IMPACT TEST FOR TOYS THAT COVER THE EYES	61
AA TEST FOR HAND-HELD RATTLES	62
BB TEST FOR PUNCTURE OF TEETHERS	65
CC MEASUREMENT OF NOISE LEVEL	66
DD TEST FOR PENETRATION OF PROJECTILES	68
FE TEST FOR STABILITY OF RIDE-ON OR SIT-ON TOYS	72
FF TEST FOR BRAKING ON RIDE-ON TOYS	76
GG TEST FOR TOYS CONTAINING A HEAT SOURCE	77
HH TEST FOR TOY STEAM ENGINES	78

FOREWORD

The purpose of this Standard is to establish safety requirements for children's toys such that the more obvious hazards associated with them will be eliminated. The Standard does not cover performance requirements other than from a safety point of view.

In the preparation of this Standard, the various hazards that are associated with the constructional properties of toys were isolated into two broad groups. The first group of hazards comprises those which are applicable to all toys, whereas the second group of hazards comprises those that are specifically related to toys which, because of their design or because of traditional play modes, are intended for use by children of a certain age group.

Examples of hazards in the first group are as follows:

- (a) Sharp edges that could occur on thin materials such as metals.
- (b) Sharp points that could result because of burrs or pointed projections that are intended to form part of the toy, such as a mast on a ship.
- (c) Pinch or crush hazard which could result from entrapment of one or more fingers between the moving parts of a hinge, e.g. on a box lid, or between the links of a chain or a coil spring.
- (d) Excessive noise levels which could be either continuous, such as the noise obtained from a siren of a car, or impulsive, such as that obtained from a cap pistol.

Examples of hazards in the second group are as follows:

- (i) Ingestion or inhalation hazard associated with small toys or components that could be torn or otherwise removed from the toy placed into the child's mouth and consequently swallowed or inhaled. This hazard is particularly pertinent to toys that are intended for use by children aged less than three years because such children have not developed sufficient reflexes to cough out small items.
- (ii) A strangulation hazard associated with toys that have a string or elastic which may become wrapped around a young child's throat. This hazard is relevant to toys that are intended to be tied across a cradle or playpen, or toys in which the string or elastic is an integral part of the toy, such as pull-along toys or the coiled flex used on a toy telephone.
- (iii) A 'fall-off-the-toy' hazard resulting from the instability of such toys as tricycles and rocking horses, that are generally termed 'ride-on' or 'sit-on' toys.
- (iv) A puncture hazard resulting from being struck by a projectile such as a toy dart ejected from a spring-loaded pistol.
- (v) An electric shock hazard that may result from a toy such as a mains-operated electric train set.
- (vi) A burn hazard that could occur from touching a heated surface such as that on a toy steam engine.

Moreover, the evaluation of a toy for the various hazards is to be carried out not only on the finished new product, but also after the toy has been subjected to normal use (that is, the intended play mode) and reasonably foreseeable abuse (that is, an abuse play mode, such as dropping and biting), to which the toy is likely to be subjected.

Nevertheless, in spite of the rigorous evaluation it should be borne in mind that the Standard cannot eliminate all possible hazards from toys and choice of a suitable toy for a particular child remains the responsibility of the purchaser. In the selection of a toy, it is important that the age of the child and the nature and stage of his or her mental and physical development be considered. Care should also be exercised to ensure that toys intended for use by older children do not fall into the hands of much younger children who may not appreciate the consequences of incorrect use, that children do not play with defective or damaged toys, or that toys are not used in ways for which they were not intended.

STANDARDS AUSTRALIA

Australian Standard

Children's toys (safety requirements)

Part 2: Constructional requirements

1 SCOPE This Standard specifies constructional and labelling requirements for toys intended for use by children up to 14 years of age.

2 APPLICATION This Standard applies to all toys except those excluded in the Application Clause of AS 1647.1.

3 REFERENCED DOCUMENTS The following Standards are referred to in this Standard:

AS

1055	Acoustics—Description and measurement of environment noise
1055.1	Part 1: General procedures
1067	Sunglasses and fashion spectacles
1067.1	Part 1: Safety requirements
1259	Acoustics—Sound level meters
1259.1	Part 1: Non-integrating
1647	Children's toys (safety requirements)
1647.1	Part 1: General requirements
1815	Metallic materials—Rockwell hardness test
1900	Flotation toys and swimming aids for children
1924	Playground equipment for parks, schools and domestic use
1924.1	Part 1: General requirements
1927	Pedal bicycles for normal road use—Safety requirements
2001	Methods of test for textiles
2001.5	Part 5: Dimensional change
2001.5.5	Method 5: Determination of dimensional change in laundering of textile fabrics and garments—Cubex machine method
2842	Fluid power—O-rings and housings—Inch series, metric conversion
3100	Approval and test specification—General requirements for electrical equipment
3108	Approval and test specification—Particular requirements for isolating transformers and safety isolating transformers
3109	Approval and test specification—Appliance couplers for household and similar general purposes
3109.1	Part 1: General requirements
3112	Approval and test specification—Plugs and socket-outlets
3191	Approval and test specification—Electric flexible cords

4 DEFINITIONS For the purpose of this Standard, the following definitions apply.

4.1 Toy—an object or a number of objects manufactured and designed and/or labelled and/or marketed as a plaything for a child or children up to the age of 14 years.

4.2 Accessible—any part of a toy that can be contacted using the procedure and the articulated probe described in Appendix A.

4.3 Action cycle—a sequence in which a coil spring is—

- (a) at rest;
- (b) subjected to a gradually increasing tensile or compression force that reaches the maximum force specified in Clause 6.7; and
- (c) subjected to a gradually decreasing tensile or compression force until the spring comes to rest.

4.4 Base area—the area obtained by vertically projecting all the extreme points on the periphery of a toy on to a horizontal plane on which the toy rests in its intended orientation.

4.5 Discharge mechanism—a device capable of releasing stored energy to propel a projectile.