



Playground equipment and surfacing

Part 0: Development, installation, inspection, maintenance and operation



This Australian Standard® was prepared by Committee CS-005, Playground Equipment. It was approved on behalf of the Council of Standards Australia on 9 August 2017. This Standard was published on 30 August 2017.

The following are represented on Committee CS-005:

- Australian Industry Group
 - Australian Institute of Landscape Architects
 - Early Childhood Australia
 - Education and Early Childhood Services Registration and Standards Board
 - Engineers Australia
 - Institute of Public Works Engineering Australasia
 - Kidsafe
 - National Association of Testing Authorities Australia
 - NSW Fair Trading
 - Occupational Therapy Australia
 - Play Australia
 - Royal Children's Hospital
 - University of Sydney
-

This Standard was issued in draft form for comment as DR AS 4685.0:2016.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard®

Playground equipment and surfacing

Part 0: Development, installation, inspection, maintenance and operation

Originated in Australia as part of AS 2155—1978.
Originated in New Zealand as part of NZS 5828.1:1986.
Revised and redesignated in part as AS/NZS 4486.1:1997.
Revised and redesignated as AS 4685.0:2017.
Reissued incorporating Amendment No. 1 (March 2019).

COPYRIGHT

© Standards Australia Limited

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968.

PREFACE

This Standard was prepared by the Standards Australia Committee CS-005, Playground Equipment, to supersede AS/NZS 4486.1:1997, *Playgrounds and playground equipment, Part 1: Development, installation, inspection, maintenance and operation*. It also incorporates the relevant parts of AS/NZS 4422:1996, *Playground surfacing—Specifications, requirements and test method*, dealing with the specifications and requirements for surfacing. AS/NZS 4422:1996 underwent review concurrently with this Standard and remains current solely to deal with the test method for impact-attenuating surfacing.

This Standard incorporates Amendment No. 1 (March 2019). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to minimize the risk of injury to playground users. It provides requirements for siting, designing and developing playgrounds, for the selection of appropriate equipment and other design elements, for product information requirements, instructions and operating procedures, and for the minimization of operational hazards. This Standard is intended for use by designers and installers of playground equipment, as well as the operators of playgrounds.

This Standard will apply from the date of publication.

This Standard has been designated Part 0 of the AS 4685 series of Standards as it deals with the development, installation, inspection, maintenance and operation of the playground. The other Parts of the series specify equipment requirements and test methods.

The term ‘informative’ has been used in this Standard to define the application of the appendices to which it applies. An ‘informative’ appendix is only intended for information and guidance.

CONTENTS

	<i>Page</i>
FOREWORD.....	4
1 SCOPE.....	6
2 OBJECTIVE	6
3 APPLICATION.....	6
4 REFERENCED DOCUMENTS.....	6
5 DEFINITIONS.....	7
6 PLAYGROUND DEVELOPMENT.....	8
7 PLAYGROUND SURFACING	13
8 SAFETY MANAGEMENT SYSTEM.....	14
APPENDICES	
A SHADE AND SUN PROTECTION.....	19
B PLAYGROUND SAFETY CHECKLIST	21
C RISK ASSESSMENT	23
D EXAMPLES OF ORGANIC IMPACT-ATTENUATING SURFACING (IAS) AND GUIDANCE ON PASS/FAIL SELECTION	25

FOREWORD

Play is a significant aspect of children's lives through which they develop and demonstrate knowledge, skills, concepts and dispositions. It is an important context for all aspects of children's learning and development including problem-solving, social-emotional development, the acquisition and mastery of physical skills, self-awareness, imaginative abilities, exploration of natural environments, and relaxation. Consideration of play provision should not be limited to formally-equipped areas but also extend to natural elements. Provision should also be made to cater for the needs and interests of users of all abilities.

A1

It is important to recognize the value to children of engaging with nature. The incorporation of natural materials as design elements in a playground can add significant play, aesthetic and environmental value.

Natural elements incorporated into playgrounds are inherently diverse and open-ended, and many offer the benefit that children can manipulate them for their own play purposes. Such nature-based play environments can help build creativity, imagination and problem-solving skills. Access to nature has been shown to improve children's psychological well-being and encourage stewardship of the environment.

Unlike manufactured products and materials, natural elements are not necessarily predictable. Natural elements encourage children to develop risk management skills as they negotiate natural environments, and build resilience through exposure to falls and minor injuries as they learn to adapt their behaviour to the playground setting.

The management of risk in a playground is the responsibility of all involved in the provision of play, including designers, manufacturers and operators.

It should be recognized that risk-taking is an essential feature of play provision and of all environments in which children legitimately spend time playing. Play provision aims to offer children the chance to encounter acceptable risks as part of a stimulating and challenging learning environment. Play provision should aim at managing the balance between the need to offer risk and the need to keep children safe from serious harm.

Designers should consider the likely maintenance regime of equipment intended to be used in unsupervised environments.

Operators of playgrounds need to ensure that adequate and appropriate maintenance is performed in a timely manner. Operators are reminded that they may have legislative requirements to maintain their playgrounds and that these requirements could include funding and maintaining the playgrounds in a sustainable manner both in the short term and the long term in order to retain their functional requirements.

The most effective way to minimize unacceptable risks in a playground is to consider them in the planning and design stage. As maintenance or safety issues arise this Standard provides directions for the operator on the management of such issues.

This Standard covers the design and development of playgrounds, requirements for the manufacturer or supplier to provide relevant documentation, and also provides requirements for the operator in managing the ongoing operation of the playground.

Designers and providers of playground equipment are strongly urged to reduce the potential for foreseeable misuse of their products. Among other appropriate design measures, unintended access to parts of the playground not designed for use (e.g. roofs) should be actively discouraged through the elimination of unnecessary handholds and footholds, the inclusion of physical barriers, and the use of dimensions and profiles that are intrinsically difficult for children to climb.

Designers and providers of playgrounds are strongly urged to minimize the harmful effects of UV exposure to children and other users by incorporating shade structures and natural shade within the design. The committee noted that the provision of shade has the additional benefit of reducing the potential for skin burns from exposed hot surfaces.

STANDARDS AUSTRALIA

Australian Standard

Playground equipment and surfacing

Part 0: Development, installation, inspection, maintenance and operation

1 SCOPE

This Standard specifies requirements for the design, development, installation, inspection, maintenance and operation of playgrounds, including playground equipment and surfacing, to ensure a continuing level of functionality and safety. It also contains requirements for information to be supplied by the manufacturer or supplier and the responsibilities of the operator once the playground is in operation.

This Standard is applicable to all playground equipment (excluding equipment only used for domestic purposes) and is intended to be read in conjunction with, AS 4685 (series) and AS/NZS 4422.

This Standard does not apply to contained play facilities (refer to AS 3533.4.2).

2 OBJECTIVE

This Standard is intended to minimize the risk of injury to playground users. It provides requirements for siting, designing and developing playgrounds, for the selection of appropriate equipment and other design elements, for product information requirements, instructions and operating procedures, and for the minimization of operational hazards. The Standard is intended for use by designers and installers of playground equipment, as well as the operators of playgrounds.

3 APPLICATION

The same hazards may occur from playground equipment and surfacing whether it is produced by a commercial organization (such as a specialist manufacturer), a voluntary group (such as a service group or a parent organization) or a single individual. The requirements of this Standard therefore apply to all playgrounds excluding equipment designed for domestic use.

4 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1428	Design for access and mobility
1428.1	Part 1: General requirements for access—New building work
2985	Workplace atmospheres—Method for sampling and gravimetric determination of respirable dust
4422	Playground surfacing—Specifications, requirements and test method
4685	Playground equipment and surfacing (series)
AS/NZS	
1170	Structural design actions (series)
AS/NZS ISO	
31000	Risk management—Principles and guidelines