

Australian Standard<sup>®</sup>

**Guidelines for safe housing design**



This Australian Standard® was prepared by Committee CS-072, Safety in House Design. It was approved on behalf of the Council of Standards Australia on 22 October 2008. This Standard was published on 23 December 2008.

---

The following are represented on Committee CS-072:

- Association of Consultants in Access Australia
  - Australian Glass and Glazing Association
  - Australian Institute of Building
  - Consumers Federation of Australia
  - Department of Housing New South Wales
  - Department of Human Services Victoria
  - Engineers Australia
  - Fire Protection Association Australia
  - Kidsafe National
  - Master Builders Australia
  - Monash University
  - National Safety Council of Australia
  - The Royal Australian Institute of Architects
- 

This Standard was issued in draft form for comment as DR 07319.

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Standards may also be withdrawn.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](http://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](mailto:mail@standards.org.au), or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

---

Australian Standard<sup>®</sup>

**Guidelines for safe housing design**

Originally as AS 4226—1994.  
Second edition 2008.

**COPYRIGHT**

© Standards Australia

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.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 8983 8

## PREFACE

This Standard was prepared by the Standards Australia Committee CS-072, Safety in House Design, to supersede AS 4226—1994.

The objective of this Standard is to provide advice and recommendations on safe housing design for the use of owner/builders and contractors.

This Standard is not intended to be adopted into legislation. This document is for educational purposes.

This edition has been updated throughout to reflect changes in Australian Standards and in community needs and expectations. This Standard should be used in conjunction with the relevant materials and design Standards.

Currently in preview, click buy full version.

## CONTENTS

	<i>Page</i>
FOREWORD.....	5
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE .....	6
1.2 APPLICATION .....	6
1.3 REFERENCED DOCUMENTS .....	6
1.4 INTERPRETATION.....	7
1.5 DEFINITIONS .....	7
SECTION 2 SITE PLANNING	
2.1 GENERAL .....	9
2.2 PROTECTION OF ENTRIES .....	9
2.3 CHILDREN'S OUTDOOR PLAY SPACES.....	9
2.4 VEHICLE ACCESS .....	9
2.5 EXTERIOR STAIRS, PATHS AND PAVING.....	10
2.6 EXTERIOR LIGHTING.....	11
2.7 SWIMMING AND SPA POOLS.....	11
2.8 EXTERIOR BALCONIES, STEPS, DECKINGS AND TERRACES.....	12
2.9 WING WALLS AND OTHER FEATURES.....	12
2.10 OTHER OUTSIDE AMENITIES .....	12
2.11 ATTACHMENTS TO HOUSES .....	12
2.12 ROOF CAVITY AND SUBFLOOR AREAS.....	13
2.13 GARBAGE CHUTES.....	14
SECTION 3 WORKING AT HEIGHTS	
3.1 GENERAL .....	15
3.2 EXTERIOR MATERIALS .....	15
3.3 CLEANING AND MAINTENANCE.....	15
SECTION 4 FLOOR PLANNING	
4.1 GENERAL .....	16
4.2 PLANNING AND DESIGN CONSIDERATIONS.....	16
SECTION 5 FLOORING	
5.1 SELECTION OF MATERIALS .....	18
5.2 SLIP RESISTANCE .....	18
5.3 IMPACT RESISTANCE .....	18
5.4 CHANGES IN FLOOR LEVEL .....	18
5.5 CHANGES IN FLOORING MATERIAL.....	18
5.6 MAINTENANCE .....	18
5.7 RUGS AND MATS .....	18
SECTION 6 FIRE SAFETY	
6.1 FIRE PREVENTION.....	19
6.2 FIRE ESCAPE.....	20
6.3 FIRE DETECTION AND FIRE FIGHTING .....	21
SECTION 7 KITCHEN DESIGN	
7.1 GENERAL .....	24

7.2	KITCHEN LAYOUT.....	24
7.3	SPACE REQUIREMENTS—BENCHES AND WORK SURFACES .....	26
7.4	HEIGHT OF FITTINGS .....	26
7.5	KITCHEN APPLIANCES .....	27
7.6	KITCHEN STORAGE.....	27
<b>SECTION 8 BATHROOM DESIGN AND TOILET DESIGN</b>		
8.1	GENERAL .....	28
8.2	BATHS.....	30
8.3	SHOWERS .....	30
8.4	DOORS .....	30
8.5	HEATING AND VENTILATION .....	31
8.6	PLACING OF POWER OUTLETS .....	31
<b>SECTION 9 LAUNDRY DESIGN</b>		
9.1	GENERAL .....	32
9.2	FLOORING .....	32
9.3	FITTINGS .....	32
9.4	OTHER CONSIDERATIONS .....	32
<b>SECTION 10 DOORS AND WINDOWS</b>		
10.1	GLAZING .....	33
10.2	WINDOWS .....	33
10.3	DOOR AND WINDOW HARDWARE.....	34
<b>SECTION 11 STEPS AND STAIRS</b>		
11.1	GENERAL .....	35
11.2	DESIGN—GENERAL CONSIDERATIONS.....	35
11.3	DETAIL DESIGN .....	36
11.4	TREADS AND RISERS.....	36
11.5	HANDRAILS .....	37
11.6	BALUSTRADES.....	38
11.7	STAIR GATES.....	38
11.8	STAIR LIGHTING.....	39
<b>SECTION 12 ELECTRICAL SERVICES</b>		
12.1	GENERAL .....	42
12.2	METER AND DISTRIBUTION BOARD .....	42
12.3	POWER OUTLETS.....	42
12.4	LIGHTING .....	43
12.5	ELECTRIC HEATING AND COOLING .....	44
12.6	HEATED TOWEL RAILS .....	44
<b>SECTION 13 HOT WATER</b>		
13.1	GENERAL .....	45
13.2	WATER TEMPERATURE.....	45
13.3	TAP TYPES AND POSITION .....	45
13.4	HOT-WATER CYLINDERS.....	45
13.5	SAFETY DEVICES FOR HOT-WATER SERVICES.....	47

## FOREWORD

This Standard addresses the general safety requirements of people in relation to housing design. The specific requirements for children, older people and people with disabilities are addressed in other Australian Standards.

Many incidents in and around dwellings, that cause personal injuries, can be prevented by appropriate building design and selection and placing of fittings and equipment. This Standard provides general information on design, finishes and materials selected for use in the construction of dwellings with reference to safety.

This Standard covers issues of fire safety but does not apply to the protection of property against damage or protection of property from theft or personal injury by intruders.

For the purposes of this Standard, it is assumed that dwellings are constructed to a good trade standard, by licensed tradespersons as appropriate, and that fittings are installed in accordance with the manufacturer's requirements, the relevant Standards and the requirements of relevant government departments and local authorities.

STANDARDS AUSTRALIA

---

**Australian Standard**  
**Guidelines for safe housing design**

---

SECTION 1 SCOPE AND GENERAL

### 1.1 SCOPE

This Standard provides guidelines for the design of safe dwellings. It describes design factors to be taken into account to reduce the likelihood of an injurious incident occurring in association with any building element or fitting, either alone or in association with other elements.

### 1.2 APPLICATION

#### 1.2.1 Accommodation

This Standard applies to all dwellings, including apartments. Some of the items covered are relevant to public buildings and temporary accommodation. However, for requirements specific to adaptable housing, AS 4299 should be consulted.

#### 1.2.2 Renovations

The principles discussed, and some of the recommendations made, in this Standard are also relevant to alterations of existing dwellings. Renovators should consider which, if any, of these principles and recommendations apply to the work they are undertaking.

### 1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1288	Glass in buildings—Selection and installation
1428	Design for access and mobility
1428.1	Part 1: General requirements for access—New building work
1851	Maintenance of fire protection systems and equipment
1926	Swimming pool safety
1926.1	Part 1: Fencing for swimming pools
1926.2	Part 2: Location of fencing for private swimming pools
2293.1	Part 1: Emergency escape lighting and exit signs for buildings—System design installation and operation
3000	Electrical installations—Buildings, structures and premises
3500	National plumbing and drainage code
3500.4.1	Part 4.1: Hot water supply systems—Performance requirements
3740	Waterproofing of wet areas within residential buildings
3786	Smoke alarms
4299	Adaptable housing
4685.1	Playground equipment—General safety requirements and test methods
HB 197	An introductory guide to the selection of slip resistant pedestrian surfaces