

Australian Standard[®]

Adaptable housing

This Australian Standard was prepared by Committee ME/64, Access for People with Disabilities. It was approved on behalf of the Council of Standards Australia on 26 May 1995 and published on 5 September 1995.

The following interests are represented on Committee ME/64:

Access Australia
ACROD, Australia
Aged Care Australia
Australian Building Codes Board
Australian Chamber of Manufacturers
Australian Construction Services—Department of Arts and Administrative Services
Australian National Council of and for the Blind
Building Owners and Managers Association of Australia
Council on the Ageing, Australia
Department of Housing, New South Wales
Disability Council of New South Wales
Disability Services Office, South Australia
Disable Persons Assembly, New Zealand
Housing Industry Association, Australia
Mobility Research Centre, New Zealand
National Committee, Independent Living Centres, Australia
Royal Australian Institute of Architects
Royal Melbourne Institute of Technology
South Australian Department of Housing and Construction
Telstra Corporation

Additional interests participating in preparation of Standard:

A.C.T. Public Works
Australian Quadriplegic Association
Department of Planning and Development, Victoria
Department of Planning, N.S.W.
Health Department of Western Australia
Illawarra Retirement Trust, Australia
Private architectural consultants
Royal New Zealand Foundation for the Blind

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

Australian Standard[®]

Adaptable housing

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee ME/64 on Access for People with Disabilities and is the result of a consensus among representatives on the joint committee to produce it as an Australian Standard.

For more than 15 years Standards Australia has been involved with developing design standards for people with disabilities. AS 1428.1 was first published in 1977, followed by revisions in 1988 and 1993. Other parts of AS 1428 have followed—all relating to public buildings. AS 1428.2 describes enhanced requirements for fixtures and fittings, lighting and other aspects of building and facilities.

The series comprises:

AS

1428 Design for access and mobility

1428.1 Part 1: General requirements for access—Buildings

1428.2 Part 2: Enhanced and additional requirements—Buildings and facilities

1428.3 Part 3: Requirements for children and adolescents with physical disabilities

1428.4 Part 4: Tactile ground surface indicators for the orientation of people with vision impairment

1428.1 Supp 1: General requirements for access—Buildings—Commentary

AS 1428.1 has been called up by the Building Code of Australia as a means of compliance and because it is the only document available specifying design for people with disabilities, it has been relied on at times for designing accessible homes as well.

There has been, however, a growing concern that the above Standards are insufficient and inappropriate as housing standards. For example, the research for AS 1428.1 relates only to people between 18 and 60 years of age.

This document relates to residential, rather than to public buildings. It provides a more complete reference document and draws on the material contained in AS 1428.1 and AS 1428.2. To date no housing-specific research on access for people with disabilities has been carried out. Until such research is undertaken, AS 1428.1 and AS 1428.2 are considered to contain useful guidelines.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the appendix to which they apply. A 'normative' appendix is an integral part of a Standard, whereas an 'informative' appendix is only for information and guidance.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
FOREWORD	4
 SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	7
1.2 APPLICATION	7
1.3 REFERENCED DOCUMENTS	7
1.4 DEFINITIONS	8
 SECTION 2 OBJECTIVES AND PERFORMANCE REQUIREMENTS	
2.1 OBJECTIVES	10
2.2 PERFORMANCE REQUIREMENTS	10
2.3 POTENTIAL FOR ADAPTATION	11
 SECTION 3 SITING	
3.1 SCOPE	12
3.2 SITING	12
3.3 ACCESS WITHIN THE SITE	12
3.4 BUILDING LOCATION	13
3.5 LANDSCAPING	13
3.6 SECURITY	13
3.7 CAR PARKING	13
3.8 LETTERBOXES	14
3.9 SIGNAGE	14
 SECTION 4 DESIGN OF THE HOUSING UNIT	
4.1 SCOPE	15
4.2 FLOOR LEVEL	15
4.3 ENTRANCES DOORWAYS AND CIRCULATION SPACES	15
4.4 SANITARY FACILITIES	16
4.5 KITCHEN AREAS	23
4.6 BEDROOMS	27
4.7 LIVING AREAS	27
4.8 LAUNDRY AREAS	28
4.9 FLOORS	28
4.10 LIGHTING	29
4.11 ANCILLARY ITEMS	30
 APPENDICES	
A SCHEDULE OF FEATURES FOR ADAPTABLE HOUSING	32
B EXAMPLE OF ADAPTABLE HOUSE PLAN	39
C WEATHERPROOFING OF EXTERNAL DOORS	40
D EXAMPLE OF ACCESSIBLE COMBINED SANITARY FACILITIES	42
E KITCHEN AREA LAYOUT	43

FOREWORD

Demographic trends are towards longer lifespans, with a higher proportion of older people in our community. With age, however, comes increasing risk of some form of disability. The ABS Survey *Disability, Ageing and Carers—1993* showed that 18% of the total Australian population had a disability. This percentage rose to 51% for people aged 60 or more years⁽¹⁾.

The Australian Disability Discrimination Act 1992 allows individuals to lay complaints if they think they have been unfairly treated because of their disabilities. The Act applies to buildings and accommodation; however, until tested, the implications for housing are unknown⁽²⁾.

The concept of ‘adaptable housing’

‘Barrier-free’ or ‘accessible’ design has traditionally been considered ‘special’—separate from mainstream housing design. Custom-designed housing to suit persons with disabilities can therefore be expensive because it falls outside common building practices.

‘Adaptable design’ involves a move away from designing special accommodation for different community groups with different needs. It is design which avoids the personal and economic costs that accompany social dislocation.

Principles The principles of adaptable housing are as follows:

- (a) *Adaptable housing design is good design for everyone* Adaptable housing is a benchmark or basis on which to develop the accommodation needs of users of all ages and abilities. Adaptable housing, by incorporating sensible design features often lacking in other housing, serves as a bonus to the owners and occupants.
- (b) *Adaptable housing should be possible at relatively little extra initial cost* Later modification to adaptable housing will prove relatively easy to do at minimum inconvenience and minimum cost, and will more than offset the extra initial cost, thus encouraging the occupant to stay, rather than face the disruption and cost of shifting house. It will promote the economic and efficient use of building materials.
- (b) *The concept will provide safer houses* Adaptable houses will have features, dimensions and materials designed for safety and ease of use.
- (c) *Continuation of existing community and family networks* This Standard fits well with the current philosophy of independent living. People with disabilities and older people are now wanting, and being encouraged through the provision of support services, to stay in their own homes as long as possible, close to established support networks and familiar surroundings.
- (d) *Suitability for people with any level of ability* If a house is built according to AS 1428.1 for a fictitious person, it may not be suited to a particular resident with particular needs (e.g. a person with a vision impairment may have very different requirements from a person who uses a wheelchair). The adaptable house must, in its adaptable features, suit any future occupant with any type of disability.

International examples

The concept of adaptable housing in Australia grew from developments in various overseas countries over the last 10 years. For example:

- (a) The USA has included adaptable requirements for new multi-family dwellings in its Fair Housing Amendments Act 1988. The Act requires accessible common-use portions and features including—
 - (i) appropriate door widths;
 - (ii) accessible routes into and through the building;

- (iii) accessible light switches, outlets and controls;
 - (iv) reinforcement in bathroom walls to allow later installation of grab-bars; and
 - (v) manoeuvring space in the kitchen and bathroom.
- (b) In the UK, Goldsmith⁽³⁾ introduced the concept of ‘mobility housing’ and took it further with ‘Factor X housing’ to incorporate ‘visitability’. This allows people with disabilities to visit family and friends.
 - (c) The Netherlands through its Building Adaptable Housing experiment⁽⁴⁾, developed detailed design requirements for adaptable housing.
 - (d) Scandinavian countries also incorporate requirements of adaptable housing in legislation. For example, some of Norway’s ‘Lifespan Dwelling’⁽⁵⁾ features are included in building regulations. These are minimum door widths to kitchens, living rooms and bedrooms. There are also requirements for at least one storey in a block of flats to be accessible without steps.
 - (e) In New Zealand work on ‘special’ house design and facilities for pensioner housing was done by the Disabled Persons Assembly, and its predecessor organization, with local authorities on an ad-hoc basis over a number of years. Advice was offered to designers on a similar basis.

Benefits Certification of compliance with this Standard will have the following results:

- (a) *Visitability* As more people with disabilities and older people live independently in the community, they are finding that one aspect of normal social life presently denied to them is the ability to visit family and friends at home. Houses that are or will become adaptable will mean more houses that are ‘visitable’. Thus people with disabilities will be able to enter the front door without difficulty and at least be able to get to the living areas and be able to use the toilet.
- (b) *Economy of life-cycle construction* Modifications to existing housing to suit the needs of people with disabilities are often costly. Corridors and doors may have to be widened, structural adjustments such as removing walls may be the only way to achieve a useable bathroom and steps may have to be replaced by ramps. If houses are initially built to suitable sizes and on suitable sites for access, costs of modifications can be minimized. Thus, adaptable design will promote the economic and efficient use of building materials.
- (c) *Safety and ease of use* Adaptable design will make the dwelling safer and easier for people of all ages. For example, for families with young children, it will allow manoeuvrability for strollers and laundry trolleys. The level entry and door widths will facilitate movement of furniture. The avoidance of steps will reduce accidents. Adaptable design will also assist people with temporary disabilities.
- (d) *Greater choice of housing type* Over a period, a larger proportion of housing stock (public and private, rental and owned) will be adaptable. The concept can be applied equally to all types of housing, from small flats or townhouses to large dwellings.

Houses which are designed to this Standard will not only achieve their stated purpose, but will have more flexibility and a wider market appeal.

Bibliography

- 1 AUSTRALIAN BUREAU OF STATISTICS, *Disability Ageing and Carers* 1993.
- 2 Disability Discrimination Act, Australia, 1992.
- 3 GOLDSMITH, S. The Gestation of 'X' Housing in *Design For Special Needs* Vol 39, 1986. pp 6-8.
- 4 NOLTE, E.A.H. *Building Adaptable Housing*, National Housing Council of The Netherlands, 1988.
- 5 LANGE, T. *Adapting the Built Environment to the Disabled — the situation in Norway*, Norwegian Building Research Institute, 1989.

STANDARDS AUSTRALIA

Australian Standard Adaptable housing

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard presents the objectives and principles of adaptable housing. Its purpose is to provide guidelines on adaptable housing to those involved in designing or building new dwellings or renovations, including—

- (a) project home developers;
- (b) designers, builders, owners and users of private housing;
- (c) developers and designers of specialised housing such as retirement villages; and
- (d) public housing bodies.

Appendix A sets out essential and desirable features.

1.2 APPLICATION This Standard applies to planning and design of residential accommodation and is intended for reference by designers and specifiers in the preparation of their documentation and by members of the general public considering adaptable housing for their particular needs. This Standard may be referenced by contractual agreement as a means of assessing the level of adaptability of residential accommodation.

It is intended that housing units that comply with the range of essential features listed in Appendix A be certified as adaptable housing units by an independent, suitably qualified person as follows:

- (a) **Adaptable house class A** All essential and desirable features incorporated.
- (b) **Adaptable house class B** All essential, and minimum 50% of desirable features incorporated, including all those notated 'first priority'.
- (c) **Adaptable house class C** All essential features.

NOTE: A feature is assessed in Appendix A as 'essential', 'first priority desirable' or 'desirable' depending on its importance to an occupant with a disability, and on the difference between initial and future costs of adaptation.

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—Buildings
- 1428.2 Part 2: Enhanced and additional requirements—Buildings and facilities
- 1680 Interior lighting
- 1680.1 Part 1: General principles and recommendations
- 2890 Parking facilities
- 2890.1 Part 1: Off-street car parking