



Making your home accessible



This information sheet contains guidelines to assist you when selecting, designing or modifying a house, to accommodate the needs of a person who is aged or has a disability. If designing for future needs, adaptability of the house and its surroundings could allow alterations to be made as the person gets older and their needs change. ILC Tas recommends consultation with an Occupational Therapist, as well as reference to the Australian Standards and National Construction Codes, when making decisions about home design.

Australian Standards can be used as a guideline for some design principles. Although the Australian Standards cited relate to designing for access and mobility for persons aged 18 to 60 years, the principles mentioned may also be appropriate for people who are older or younger than these ages. However, as designing specifically for children often requires other considerations because their needs will change as they grow, some of the information in this ILC Tas publication may not be appropriate for them. Reference to the Australian Standard which refers specifically to requirements for children and adolescents with physical disabilities is recommended.

It is intended that material in this publication be used in conjunction with, and not in place of, consultation with an Occupational Therapist and/or reference to the current and relevant Australian Standards, National Construction Codes, and government legislation.

Useful assistance is available from

An Occupational Therapist who can advise on different ways of doing tasks, suitable products, and what may be required in the future – *see contact details below:*

- **The Independent Living Centre (ILC Tas)** has Information Service Occupational Therapists who can provide information and advice, either at the Centre or in the community via the ILC Tas Mobile Outreach Service. Although they cannot come to your house they can show you a display of assistive equipment and technology including home modifications and design. This is a free service available to people in all areas of Tasmania. 1300 885 886
- **equipify** is an ILC Tas service with an Occupational Therapist who can visit you at home to assess your home modification needs, and give advice on design, construction and products to suit you and your household. A fee is charged for this service. 1300 452 827
- **Community Occupational Therapists:** Services are free for eligible people.

Southern Tasmania:	6166 7280
Northern Tasmania:	6777 6216
North West Tasmania and West Coast:	6426 5127
- **Private Practice Occupational Therapists:**

For information about registered Occupational Therapists in private practice in Tasmania

 - Contact ILC Tas 1300 885 886
 - Visit <http://www.otaus.com.au> 'Find a private practice OT'
 - Look under 'Occupational Therapists' in the Yellow Pages

Australian Standards

General

- AS 1428.1—2009 *Design for access and mobility Part 1: General requirements for access—New building work*
- AS 1428.2—1992 *Design for access and mobility Part 2: Enhanced and additional requirements—Buildings and facilities*
- AS 4299—1995 *Adaptable housing*
- AS/NZS 3018—2001 *Electrical installations- Domestic installations*

Children and Adolescents

- AS 1428.3—1992 *Design for access and mobility: Requirements for children and adolescents with physical disabilities*

- Australian Standards detail a **minimum** standard that applies to public buildings and compliance with them is **not mandatory** for private dwellings.
- Some Australian Standards provide a starting point for anyone with additional access requirements but it is always necessary to consider each person's individual need as this may be different from the requirement described in the Australian Standard. Consultation with an Occupational Therapist about designing for a person's individual needs is recommended.
- The Australian Standards cited are based on the dimensions of people aged 18 to 60 years.
- Australian Standards can be purchased from Standards Australia International. Online access to the Standards is no longer available at state libraries.
- Standards Australia International Ltd telephone: 131 242
- Buy Australian Standards on-line: www.saiglobal.com/shop



Current Legislation - requirements for complying with building industry legislation and codes in Tasmania (including the current National Construction Code of Australia)



Consider in your planning

- The amount of space required will be influenced by the size and type of wheelchair/mobility aid used, e.g. reclining or sports wheelchair, manual or motorised wheelchair
- The amount of space needed for someone who is independent will be different from the space needed for someone requiring the assistance of others
- Abilities may change, so consider future needs if possible
- The requirements of all other members of the household need to be taken into account

Site and building access

The distance between the residence and on-site car parking should be minimal. A roof over the car parking space is desirable.

Walkways should be covered and safe in all weather.

Level access will reduce the need for steps and ramps.

Car parking areas require

- A level surface with a gradient not exceeding 1:40 in any direction
- A minimum area of 3800 x 6000 mm
- Vertical clearance of 2500 mm, with a preferred height of 2800 mm
- Adequate lighting including a movement sensor light
- Car door opening unimpeded by carport support posts/garage walls

Ramps, Stairs and Walkways

Ramps may not always be an alternative to stairs. Some people with disabilities, who can walk, find stairs easier.

Ramps

Ramps (exceeding 1900 mm in length):

- Gradient should not exceed 1:14 but 1:20 is preferred
- Minimum width for straight ramps is 1000 mm between handrails, and 1200 mm is preferred for a wheelchair user. 1500 mm is the minimum width for a curved ramp. 1800 mm width is suggested where two wheelchairs need to be able to pass each other
- Maximum length between ramp landings is 9000 mm
- Landings on straight ramps, minimum 1200 mm long and 1000 mm wide, are to be placed:
 - At top of ramp
 - At base of ramp
 - At Intermediate positions where ramp length reaches 9000 mm
- Landings should be placed where the direction of the ramp changes 90°: 1500 x 1500 mm
- Landings should be placed where the direction of the ramp changes 90–180°: 1540 mm long x 2070 mm wide
- Ramps should have kerbs on both sides, with the top height 65–70 mm, or higher than 150 mm
- Handrails are to be placed on both sides of ramps and landings: 865–1000 mm
 - Handrail extension: 300 mm past top and bottom, turned around to sidepost/wall or downwards through 180°
- Clearance between a handrail and the wall to which it is attached should be minimum 50 mm
- Clearance above a handrail should be minimum 600 mm
- Ramp surface material should be
 - slip-resistant
 - non-reflective
 - allow smooth transition between different sections
 - a colour which contrasts appropriately with the edges of the ramp
- There should be appropriate uniform lighting for night time use
- There should be no overhead projections, e.g. tree branches, to a height of at least 2000 mm
- Weather protection should be provided and the outside ramp surface kept free of moss and debris



Step ramps:

- Gradient should not exceed 1:10
- Length: maximum 1900 mm
- Rise: maximum 190 mm
- Width: minimum 1000 mm



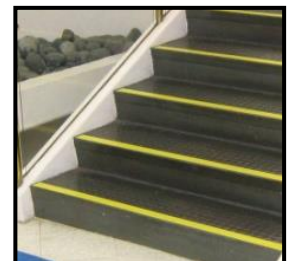
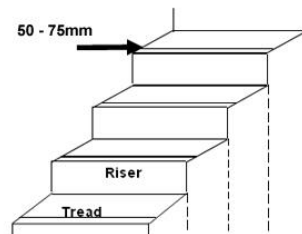
Threshold ramps:

- Gradient: 1:8
- Length: maximum 280 mm
- Rise at a door: maximum 35 mm
- Width, door frame to door frame: no obstruction.
- If threshold ramp does not abut wall or kerb, the sides should be tapered or splayed to a minimum angle of 45°.



Stairs

- Standard step size:
 - Tread 275–300 mm
 - Riser 150–165 mm
- Step size for those using a walker:
 - Tread: 575–600 mm
 - Riser: 95–105 mm
- A strip of material in contrasting colour or texture 50–75 mm wide can be affixed along the full width of the front edge of the tread, and extending no more than 10 mm onto the riser. Consideration should be given to the person's vision, the background colour of the steps and the lighting conditions when deciding on the colour or texture of the strip.
- Handrails should
 - be fitted to each side
 - extend horizontally 300 mm past top of the stairway
 - continue diagonally at the bottom of the stairway for one tread width and horizontally for a further 300 mm
 - be turned around to a sidepost/wall or downwards through 180°
- Stairways should not have open risers
- Stairs should have a slip-resistant surface
- Spiral stairways are hazardous and unsuitable
- Appropriate and uniform lighting of the stairs is required, particularly for night time use



Handrails and Grabrails

Handrails provide guidance and stability along large changes in levels, such as stairways or ramps. Grab rails provide support, can aid 'transfer' movements, such as getting onto and off seats, or are placed in areas where a slip or fall is considered a high risk.

Rails are available in a variety of lengths, diameters and configurations. Some rails may be customised. Rail finishes vary but should be slip-resistant. Choose from chrome-plated stainless steel, uncoated stainless steel, and epoxy-coated rails in various colours.

All rails must be anchored securely in a way suited to the structure to which they are being attached.

- Handrail diameter: 30–50 mm
- Grabrail diameter: 30–40 mm
- Clearance between a grabrail and the wall to which it is attached: 50–60 mm
- Clearance between a handrail and the wall to which it is attached: minimum 50 mm
- Clearance above a handrail or grabrail: minimum 600 mm
- Handrail height above the floor surface: 865–1000 mm
- Grabrail heights: there are different height ranges above the floor surface recommended for grabrails beside a toilet, in a shower recess and over a bath. These are detailed in a separate ILC Tas information sheet
- Movement of the hand along a rail should not be impeded by the way the rail is attached to the wall or by any other obstruction
- On a stairway, handrails should
 - extend 300 mm past top
 - continue diagonally at the bottom for one tread width and horizontally for a further 300 mm
 - be turned around to a sidepost/wall or downwards through 180°



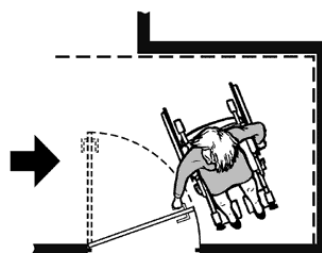
Entrance / Front door

Choose a lock that can be easily opened from inside in an emergency and that can be operated using only one hand. For ease of use, locks should be keyed alike.

- A stepless entrance is preferred
- Clear doorway opening width: minimum 850 mm, preferred 920 mm
- Locate door furniture (handle, lock, doorbell) from the floor:
 - For door controls to be turned 900–1100 mm
 - For door controls to be pushed 900–1200 mm
 - For door controls to be touched 900–1250 mm
- Lever handles with 35–45 mm clearance between the handle and the backplate, or an electronic latch may make access easier
- Door handles and the door frames should be a colour which contrasts to the colour of background surfaces
- A door intercom security system or a security screen door may be required
- Ensure that doors are not too heavy for user to pull, push or slide open
- Avoid use of heavy closer or spring

Circulation space

- To turn a wheelchair (to change direction) requires: minimum 1500 mm
- To turn a wheelchair 360° requires: minimum 2250 mm
- Unimpeded width of a corridor: minimum 1000 mm (preferred 1200 mm)
- Sliding doors maximise available space
- There should be adequate level circulation space inside and outside doors which need to be opened and closed manually. The Australian Standard contains dimensions for circulation spaces at swinging and sliding doors. The dimensions of the space will also depend on
 - the type of wheelchair used
 - the type of door and door furniture
 - the amount of space available in the approach area



Floor surfaces

- Choices include vinyl sheeting or ceramic tiles, both of which should have a slip-resistant finish, and low pile carpet
- Polished timber boards and ceramic tiles may be hard and slippery
- The chosen floor surface should have effective contrast to walls and doors/door frames



Windows

Windows need to be able to be operated from a sitting or standing position. Avoid fitting windows that open outwards and obstruct external walkways.

- To give a reasonable view, provide windows with a maximum sill height above the floor:
 - In bedrooms: 600 mm
 - In living areas: 730 mm



Lighting, Switches and Power Points

Provide sufficient lighting for the safety and use of all areas.

Locate lights directly above work surfaces where specific tasks are done. Select light fittings that allow for simple bulb replacement.

- Locate light switches and power outlets that can be reached
 - From sitting or standing positions: 900–1100 mm above the floor
 - For adult wheelchair user: 1000 mm from the floor
- Use two-way light switches:
 - At both ends of a corridor
 - At the top and bottom of a flight of stairs
 - In living areas that have more than one entry
 - In bedrooms, with the additional switch located within reach of the bed
- Rocker, toggle or push-plate switches with a minimum width of 35 mm are easy to use
- Sensor devices which respond to heat or movement can be used to activate lights
- Install power points: 600–1100 mm above floor level, 500 mm from internal corner



Kitchen, Bathroom and Toilet design

Well designed homes that can be changed to suit everyone, regardless of age, mobility and health, improve the capacity of people to remain living independently, and reduce the cost of modification.

The kitchen, bathroom and toilet have specific design requirements.

This information is available from Occupational Therapists at ILC Tas 1300 885

For further information about Kitchen, Bathroom and Toilet design see separate ILC Tas information sheets

Resources for more information:

- *Housing for Life – design for everybody*, Master Builders Association of the ACT, 2001
– download consumer advice publication at www.mba.org.au/consumer_advice/housingforlife/
- *House Design for People with a Disability*
– download design guidelines at www.DisabilityAccessConsultants.com.au
- *Livable Housing Design Guidelines*, Livable Housing Australia, 2012
– download guidelines at www.livablehousingaustralia.org.au
- *Guide to Planning Bathrooms and Kitchens*. ILC New South Wales 2006, revised 2011
– call ILC NSW Reception (02) 9890 0940 for more information

Notice of disclaimer

ILC Tas has made every reasonable effort to provide current and accurate information in this publication as at 25 September 2013 but cannot guarantee that all information given is correct. For a complete knowledge of building requirements you should consult the appropriate current Australian Standards, National Construction Codes and Tasmanian Government Legislation, and get professional advice when making decisions about building design. ILC Tas takes no responsibility for people choosing equipment or services which will cause (or be alleged to have caused) loss or injury.

Contact ILC Tas for more information



Ring **1300 885 886** to speak to a health professional



Visit our website www.ilctas.asn.au or email us ilc@ilctas.asn.au



Make an appointment to visit our centre at 275 Wellington Street, South Launceston



Ring us to find out when we will be visiting your area

ILC Tas is a not-for-profit organisation and does not sell equipment.

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Independent Living Centre Tasmania

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