



## LIVABLE HOUSING DESIGN: WINDOWS & DOORS



/ TO MEET THE CHANGING NEEDS OF OCCUPANTS OVER THEIR LIFETIME



# MEET THE CHANGING NEEDS OF OCCUPANTS OVERTIME WITH A 'LIVABLE HOME' FOR THE YEARS TO COME.

## DISCLAIMER

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Livable Housing Australia (LHA) is a partnership between community and consumer groups, government and industry. LHA established guidelines on designing and building livable homes with the goal of making every new home a livable one by 2020. Livable Housing Design (LHD) have produced a list of 16 design elements which have been created to ensure livability assurance for the elderly, injured or people with a disability. Satisfying some or all of the design elements allows a home to achieve a silver, gold or platinum rating. AWS products will

help designers and builders comply with the requirements for achieving the platinum performance level which indicates best practice. AWS has a range of window and door systems which can be used as part of a Livable Housing design solution.





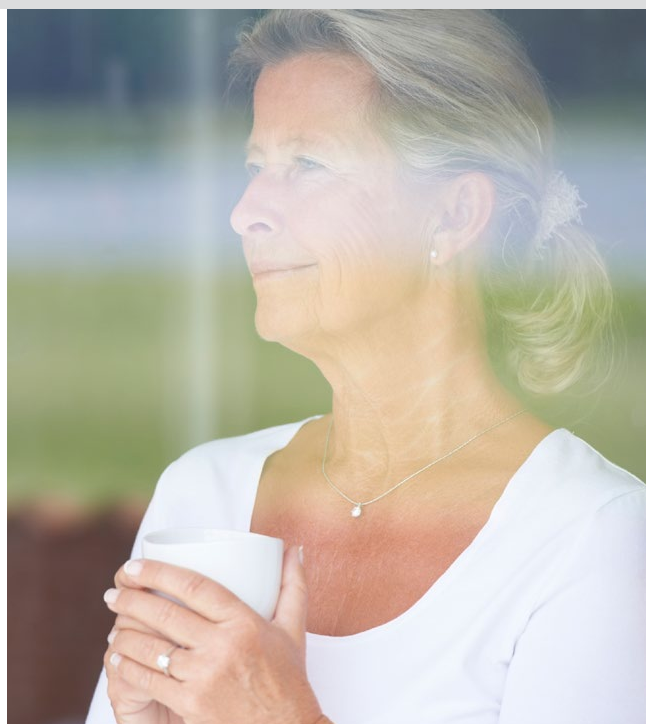
## LIVABLE HOUSING: WINDOWS &amp; DOORS

Windows and doors are an important part of livable housing design as they are key elements in achieving easy, comfortable and safe access to homes.

The benefits of implementing the Livable Housing Design elements specific to windows and doors are:

- Wider doors will make it easier to enter and exit the home for people with mobility devices such as wheelchairs and walking frames
- Easy lock mechanisms, electronic window winders and lever door handles will not cause strain or tension on the occupants' hands. During the construction stage, it is wise to incorporate these features as it saves the occupant from later replacing them
- Windows that open on the inside make cleaning easier for the elderly as it saves them from hazardous activity

These benefits have a positive impact on the occupant as they make them comfortable knowing that their changing needs overtime will be accounted for: Pre-planning these design features, even if they are not necessarily needed now, assure that when you have elderly or disabled visitors your home is designed for their needs. Also, these design features assure cost savings for later in life.



## DESIGN ELEMENTS IMPACTING THE SPECIFICATION OF WINDOWS &amp; DOORS

## Design elements Impacting on the specification of windows and doors

Whilst the Livable Housing Design guidelines include 16 elements, there are 4 in particular which should be considered when selecting and specifying windows and doors. AWS offers a range of product solutions to be used as part of a Livable Housing Design solution which can assist designers in meeting the requirements of the guidelines summarised below.

## Design Element 1: Dwelling Access

*'There is a safe, continuous, step-free pathway from the street entrance and/or parking area to a dwelling entrance that is level'*

A step ramp may be incorporated at an entrance doorway where there is a change in height of 190mm or less. The step ramp should provide:

- A maximum gradient of 1:10
- A minimum clear width of 1000mm
- A maximum length of 1900mm

Level landings no less than 1200mm in length, exclusive of the swing of the door or gate that opens onto them, must be provided at the head and foot of the ramp.

## Design Element 2: Dwelling Entrance

*'A level entrance makes entering and exiting the home safer and easier'*

A) The dwelling should provide an entrance door with –

- A minimum clear opening width of 900mm
- A level (step free) transition and threshold
- Reasonable shelter from the weather

B) A level landing area of 1500mm x 1500mm should be provided at the level (step free) entrance door

C) Where the threshold at the entrance exceeds 5mm and is less than 56mm, a ramped threshold may be provided.

## Design Element No13. Door and Tap Hardware

*'Lever door hardware are easier to independently operate'*

- A) Doorways should feature door hardware installed at between 900mm-1100mm above the finished floor
- B) Doors should feature lever or D-pull style door hardware

## Design Element No15. Window Sills

*'Lower level windows encourage good sight lines to the outdoor space'*

- A) Window sills on the ground (or entry) level in living areas and bedroom spaces should be positioned no higher than 1000mm above the finished floor level to enable enjoyment of the outlook.
- B) Window controls should be able to be easy to operate with one hand and located within easy reach from either a seated or standing position.



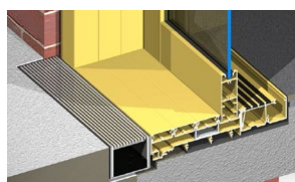
Want to find out more about  
Livable Housing Australia?  
Click the guidelines to view online

## DESIGN SOLUTIONS

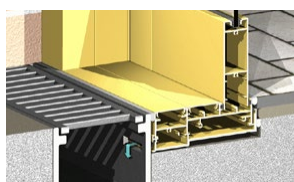
Whilst the Livable Housing Design guidelines include 16 elements, there are 4 in particular which should be considered when selecting and specifying windows and doors. AWS offers a range of product solutions to be used as part of a Livable Housing Design solution which can assist designers in meeting the requirements of the guidelines summarised below.

### FLUSH SILLS

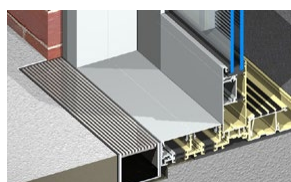
AWS offer a range of systems which can be installed with a flush sill. Series 50, 618, 704, 731 and 852 sliding doors along with Series 411 and 412 bi-fold doors. Flush sills must be installed with an external lineal drain if water performance is to be achieved.



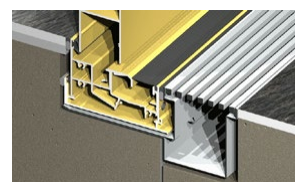
Series 618 - The above illustration shows the completely flat sill design feature. It features a four track XXXF flat sill with recessed sump on the outside.



Series 704 - Sills can be installed flush between internal and external.



Series 731 - The thermally broken door sill can be completely recessed into the floor as shown above. features a three track XXXF flat sill with recessed sump on the outside.



Series 412 - The bi-fold door sill can be recessed into floor finish and fitted with stainless steel lineal drain.

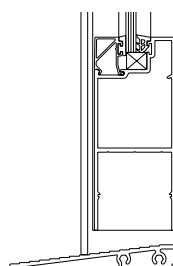
### THRESHOLD FREE ACCESS

A range of AWS hinged and pivot doors can be installed with no threshold. This is ideal for entrances. Where no threshold is used doors must be sheltered from the weather.

### RAMPED THRESHOLD

Where it is not possible to recess or remove a threshold, a threshold ramp offers a practical solution. Threshold ramps are ideal for people with mobility devices. They provide easy access entering and exiting the home. AWS offers a threshold ramp for the Series 541 Sliding door which complies with the requirements of AS1428 for disability access. In addition AWS offers a ramped sill for the Series 549 and 50 Series hinged doors.

Ramped threshold for Series 549 or 50 Series doors can be a practical solution where it is not possible to recess or eliminate a threshold. Note this detail does not provide water resistance.



Series 541 ramped threshold sill provides an alternative to recessed sliding door sill in applications where this is not possible. This solution offers water performance.

### DEXTERITY LIMITED HARDWARE

AWS have a range of lever locksets which allow the occupant to use one hand to easily open doors without the need for twisting their wrist and without applying a substantial force. D'Pull handles on sliding doors provide a practical choice and electric window operators on awning windows can make the operation of awning windows easy for occupants.



D'Pulls make it easier to operate large heavy sliding door panels



This ASSABLOY Elevation Electric Window Actuator controls awning windows with the touch of a button. This system is beneficial for the elderly as they can close all the windows at once when leaving their home by the touch of a button. They can be connected to a touch screen display.

## LIVABLE HOUSING DESIGN: WINDOWS & DOORS

### DOOR SYSTEM RECOMENDATIONS

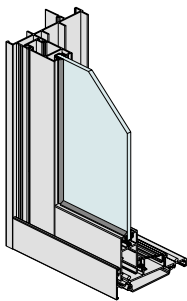
13mm Gap between sill channel and sill infill

Weatherpile mohair seal both sides of sill channel

Secondary stainless steel drain by others

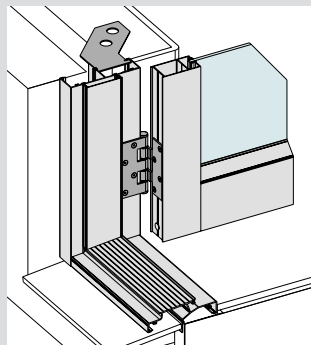
When selecting door systems for a home designed to comply with Livable Housing Guidelines it is important to consider the door sill. AWS offers a range of products which can be installed with a flush or ramped threshold, another alternative is to consider products which can be installed with no threshold.

The sill illustrated left has been designed to offer full disabled access compliance. The door sill has a maximum gap of 13mm and maximum gradient of 1:8 to cater for wheelchair compliance. Products which comply with AS1428.1 are marked below with the wheelchair symbol.



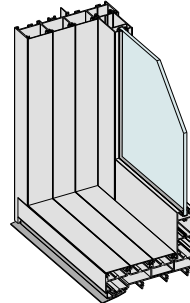
**SERIES 541**

Residential Sliding Door



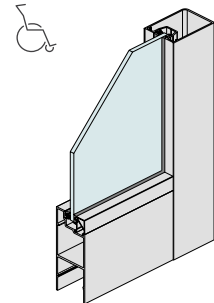
**SERIES 549**

Hinged Entry Door



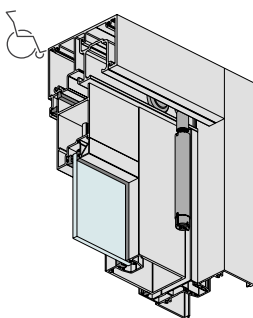
**SERIES 618**

MAGNUM™ Sliding Door



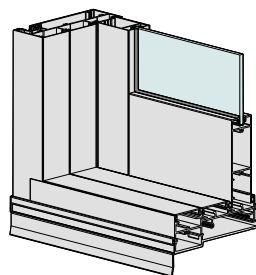
**SERIES 50**

Commercial Door – SG  
(Sliding, Hinged or Pivot)



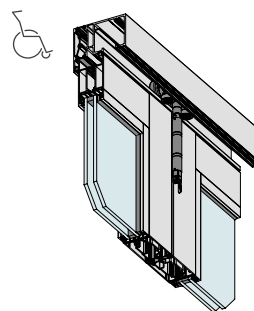
**SERIES 411**

ViewMASTER™ Bi-Fold  
Door (Top Hung)



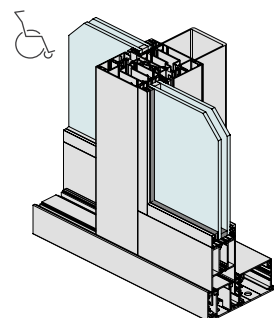
**SERIES 704**

SlideMASTER™ Sliding  
Door (Internal Sliding)



**SERIES 831**

Thermally Broken Bi-fold  
Door (Top Hung)



**SERIES 852S**

Thermally Broken Door  
System (50mm thick)

## LIVABLE HOUSING DESIGN: WINDOWS & DOORS

### HARDWARE RECOMMENDATIONS

7

AWS

WINDOW SYSTEM RECOMMENDATIONS®



When selecting window systems for a home designed to comply with the livable housing guidelines it is imperative to consider the ease of use of window systems.

Hardware specification becomes an important consideration.

Similarly the location of windows to maximise views from a seated position and to ensure ease of reach for operability is important.

AWS offers a wide range of window and door systems which can be custom configured to meet your requirements for livable housing design.



ICON D'PULL

Stainless Steel ICON D'Pull



ANDO D'PULL

ANDO D'Pull



MIRO D'PULL

MIRO D'Pull

The Sliding door handles illustrated left comply with the requirements of AS 1428.1 for D'Pull handles, the standard stipulates the clearance between the handle and the back plate or door face at the centre grip section of the handle shall be not less than 35 mm and not more than 45 mm.



ICON LEVER

Stainless Steel Hinged door lock



ANDO LEVER

ANDO Hinged Door Lock



MIRO LEVER

MIRO Hinged door lock



ELEVATION WINDER

ASSA ABLOY  
Elevation Winder



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