

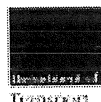


Minister's Specification SA F1.7
July 2004

**Waterproofing of wet areas
in buildings – Additional
requirements.**



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Development Act 1993

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SCOPE

This Specification relates to any wet area in any Class of building that is to be constructed in South Australia under the Development Act 1993.

This Minister's Specification shall be read in conjunction with the Building Code of Australia.

INTERPRETATION

Floor Waste means a grated inlet connected to the sanitary drainage within a graded floor intended to drain the floor surface.

Group Shower means multiple shower facilities for use by unrelated persons.

Sanitary Fixture means a hand basin, vanity bowl, bath, bidet, urinal, cleaner's sink, laundry trough, slop hopper, pan sink, or water closet. For the purposes of this Specification a shower is not a *sanitary fixture*.

Shower Area means that area that has the spread of water from the shower water supply outlet controlled on all sides by walls and/or a fixed shower screen. It includes the floor and the walls to a height of 1800mm above the finished floor level.

Where the spread of water from the shower water supply outlet is not controlled such as where there is

- a) no shower screen; or
- b) partial enclosure by a shower screen; or
- c) a shower curtain; or
- d) a frameless glass shower screen

the shower is deemed to be an area within a horizontal radius of 1500mm from the shower water supply outlet connection at the wall. It includes the entire floor within this radius irrespective of the floor surface, and all the walls to a height of 1800mm above the finished floor of the shower area.

Shower Waste means a *floor waste* in the *shower area*.

Wet Area means an area within a building supplied with water from a water supply system and includes bathrooms, showers, laundries, sanitary compartments and rooms containing a *sanitary fixture*. Kitchens, bar areas, kitchenettes or domestic food and beverage preparation areas are excluded.



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REFERENCED STANDARDS

Table 1: SCHEDULE OF REFERENCED STANDARDS		
No.	Date	Title
AS 3740	2004	Waterproofing of wet areas within residential buildings
AS 1428.1	2001	Design for access and mobility – Part 1 General requirements for access – New building work

PERFORMANCE REQUIREMENT

The following Building Code of Australia performance requirements for *wet areas* are applicable in South Australia.

P2.4.1 and FP1.7

To protect the structure of the building and to maintain the amenity of the occupants, water must be prevented from penetrating-

- (a) behind fittings and linings; and
- (b) into concealed spaces,

of sanitary compartments, bathrooms, laundries and the like.

SA 3.1 and SA FP1.8

Floors in bathrooms, or rooms containing a shower or *sanitary fixture*, must be installed in a manner that will prevent the accumulation of water on the surface which could create unhealthy or hazardous conditions.

ACCEPTABLE CONSTRUCTION PRACTICES

The following acceptable construction practices are supplementary to the construction practices contained in the acceptable construction manual AS 3740 – 2004 – Waterproofing of wet areas in buildings. Compliance with AS 3740 and with the deemed-to-satisfy provisions contained within this Specification are deemed-to-satisfy the performance requirements relevant to this Ministers Specification.

For Class 1 buildings, compliance with the waterproofing of wet area requirements contained within the South Australian Housing Code is deemed to satisfy the Building Code of Australia performance requirements and this Minister's Specification.



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1.0 Application

Performance requirements P2.4.1, FP1.7, SA3.1 and SA FP1.8 are satisfied for *wet areas* if they are waterproofed in accordance with AS 3740 and waterproofed in accordance with the following construction practices.

2.0 Floor Drainage

2.1 Floor waste

Notwithstanding the requirements of the Waterworks Act 1932, the Sewerage Act 1929 the requirements of AS 3500 and the SA Variations and/or Additional Provisions to the National Plumbing and Drainage Code AS 3500, the following applies;

- (a) Drainage of a *wet area* floor to a *floor waste* shall be provided to the following
 - (i) a bathroom; or
 - (ii) areas adjacent baths and spas (including the floor under a free standing bath); or a
 - (iii) room containing a shower; or a
 - (iv) room containing a *sanitary fixture*.
- (b) A bathroom floor or floor of a room containing a shower, may drain to a *shower waste* within a *shower area*, provided the water can drain from the *wet area* floor to the *shower waste* without ponding.
- (c) Drainage of a *wet area* floor to a *floor waste* is not required when all the fixtures within a room are provided with in-built or attached overflow protection, connected to the *sanitary fixture* drainage.

2.2 Falls to floors

Unless stated otherwise in this Specification the floor must drain such that water does not pond on the floor. The recommended ratio of fall in a *shower area* is between 1:60 and 1:80 and the recommended ratio of fall in other *wet areas* that are required to drain to a *floor waste* is between 1:80 and 1:100.

NOTES:

Additional requirements for the drainage of *wet area* floors in sanitary facilities for people with disabilities are contained in AS 1428. 1.

Generally, at the entry to a *shower area* there shall be no step down or hob. The following drainage requirements also apply;

- (a) the shower waste shall be as near as practicable to the centre of the *shower area*; and
- (b) the ratio of fall to the *shower area* shall be between 1:50 and 1:60
- (c) the ratio of fall to the room containing a *sanitary fixture* shall be between 1:70 and 1:80



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3.0 Floors to be water resistant

3.1 Location

In addition to the requirements of AS 3740, floors in rooms containing a *sanitary fixture* (except where the sanitary fixture is a bath or spa and the area and floors adjacent to the bath or spa is required by AS 3740 to be waterproof) must have a water resistant substrate and a water resistant surface material to the entire floor. Refer to Clause 8.0 for urinal waterproofing requirements.

A room containing only a hand basin or vanity with an in-built or attached overflow protection is not required to have a water resistant floor surface.

3.3 Floor – water resistant floor substrates

The following flooring substrates (when used in conjunction with a water resistant flooring surface material) are deemed to be water resistant

- (a) Concrete
- (b) Compressed fibre cement sheeting
- (c) Fibre cement sheeting supported on a structural floor
- (d) Flooring grade particleboard sheeting
- (e) Structural plywood

3.4 Floor – water resistant surface materials

The following flooring surface materials (when used in conjunction with a water resistant flooring substrate) are deemed to be water resistant

- (a) Glazed and grouted tiles
- (b) Water-resistant flexible sheet flooring material with sealed joints such as sheet vinyl or linoleum
- (c) Glazed and grouted tiles

4.0 Walls to be water resistant

4.1 Location

In addition to the requirements of AS 3740 the following wall areas must have a water resistant surface material

- (a) Walls adjoining *sanitary fixtures* (except water closets) to a minimum height of 150mm above the vessel if the vessel is within 75mm from the wall and for the full width of the fixture; and
- (b) Walls adjoining a stall type urinal to a minimum height of 150mm above the vessel and extending the full width of the urinal; and
- (c) Walls adjoining a wall hung urinal or bidet from the finished floor level to a minimum height of 150mm above the vessel and extending to 400mm clear width either side of



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- (d) the urinal or bidet. Where multiple urinals are installed the minimum width of water resistant surface material between urinals shall be 400mm. (Refer Figure 5)
- (e) In any room containing an automatic washing machine from the finished floor level to 75mm minimum above and 75mm minimum each side of automatic washing machine outlets.
- (f) Where any bench top containing an inset *sanitary fixture* or sink abuts a wall surface, for a minimum height of 150 mm above the *sanitary fixture* or sink and for the full width or breadth of the *sanitary fixture* or sink.

4.2 Walls – water resistant surface materials

The following wall surface materials are deemed to be water resistant

- (a) Thermosetting laminated sheet
- (b) Pre-decorated fibre cement sheeting
- (c) Sanitary grade acrylic wall linings
- (d) Glazed and grouted tiles (when used in conjunction with a water resistant substrate as listed in this clause)
- (e) Water- resistant flexible sheet wall material with sealed joints such as sheet vinyl or linoleum (when used in conjunction with a water resistant substrate as listed in this clause)

4.3 Walls – water resistant substrates

The following wall substrate materials are deemed to be water resistant

- (a) Concrete
- (b) Cement render treated to resist moisture
- (c) Fibre cement sheeting
- (d) Water resistant plasterboard sheeting
- (e) Masonry treated to resist moisture

5.0 Floor to wall junctions and other joints

The requirements for wall to floor junctions in AS 3740 are varied by this Minister's Specification.

5.1 Location

The required water resistance of the floor to wall junctions shall be not less than the required water resistance of the adjacent associated *wet area* floor. The floor to wall junctions of a laundry or room containing a WC shall be water resistant.

The following junctions shall be sealed with sealant;

- (a) between bench tops containing a *sanitary fixture* and a wall surface; and
- (b) between a *sanitary fixture* attached to a wall and the wall surface.



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Table 1 Summary of additional wet area waterproofing requirements

Area where sanitary fixture installed	Floors and horizontal surfaces	Walls	Wall Junctions and joints	Penetrations
Rooms containing a <i>sanitary fixture</i> (excluding a bath or spa and excluding a room containing only a handbasin or vanity basin with in-built overflow)	Water resistant to entire floor	Water resistant to walls adjoining <i>sanitary fixtures</i> (except water closets) to a minimum height of 150mm above the vessel if the vessel is within 75mm from the wall and for the full width of the fixture.	Water resistant wall to floor junctions	Seal all tap or spout penetrations where they occur in a horizontal surface
Rooms containing only a handbasin or vanity basin with in-built overflow	N/A	Water resistant to walls adjoining a hand basin or vanity bowl, to a minimum height of 150mm above the vessel if the vessel is within 75mm from the wall and for the full width of the vessel.	N/A	Seal all tap or spout penetrations where they occur in a horizontal surface
Laundries or rooms containing a WC	In accordance with AS 3740 Table 4.1	In accordance with AS 3740 Table 4.1	Water resistant wall to floor junctions.	N/A
Additional requirements for rooms containing an automatic washing machine	Water resistant to entire floor	Water resistant from finished floor level to 75mm min. above and either side of washing machine outlets	Water resistant wall to floor junctions.	Seal all tap and spout penetrations where they occur in a horizontal surface
Group shower facilities	In accordance with AS 3740 <i>Shower area</i> requirements	In accordance with AS 3740 <i>Shower area</i> requirements	In accordance with AS 3740 <i>Shower area</i> requirements	In accordance with AS 3740 <i>Shower area</i> requirements
Urinals	Waterproof to 400mm beyond edge of urinal or waterproof step. Water resistant to remainder of floor.	Water resistant behind wall hung urinals from finished floor to 75mm min. above the top of the fixtures and to 400mm clear width either side of the urinal (refer Fig 5)	Waterproof all wall to floor junctions and seal around <i>sanitary fixtures</i> abutting walls	N/A

Table 2 Summary of Kitchen waterproofing requirements

Area where sanitary fixture installed	Floors and horizontal surfaces	Walls	Wall Junctions and joints	Penetrations
Kitchens, bar areas, kitchenettes or domestic food and beverage preparation areas	N/A	Water resistant above any sink to a minimum height of 150mm above the sink and for the full width of the sink (refer Figure 1 (f))	Where the sink or bench top is fixed to the wall, seal edges for the extent of the sink or bench top whichever is the greater	Seal all tap and spout penetrations where they occur in a horizontal surface



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5.2 Waterproof wall to floor junctions

Where a wall to floor junction is required to be waterproof it shall be sealed

- (a) as part of the waterproof membrane system; or
- (b) by the installation of a perimeter horizontal flashing to the wall that has a vertical leg a minimum of 25mm above the finished floor level (except at doorways) and the horizontal leg shall be a minimum of 50mm; or
- (c) where the floor surface material and substrate is water resistant and there is a water resistant wall surface material and substrate of at least 100mm high, the wall/floor junction shall be a minimum of 3mm wide and shall be sealed with sealant.

NOTE:

Where a waterproof membrane system is used the membrane class should be appropriate to the location of the membrane. Care should be taken where a waterproof membrane is placed on top of a screed as the appropriate required bond breaker may not allow the tiling to be adequately installed at the wall to floor junction.

5.3 Water resistant wall to floor junctions

Where a wall to floor junction is required to be water resistant it shall have a skirting or flashing of minimum 25mm height above the finished floor level sealed to the floor with approved sealant.

5.4 Other joints

The junction between a wall surface and a bench top containing a *sanitary fixture* or sink or a *sanitary fixture* or sink fitted to a wall, shall be sealed with sealant for the full width of the *sanitary fixture* or sink or bench top whichever is the greater, in accordance with Figure 1.

5.5 Sealants

For the purposes of this Specification all sealants shall be, waterproof, flexible, mould resistant and compatible with adjacent materials.



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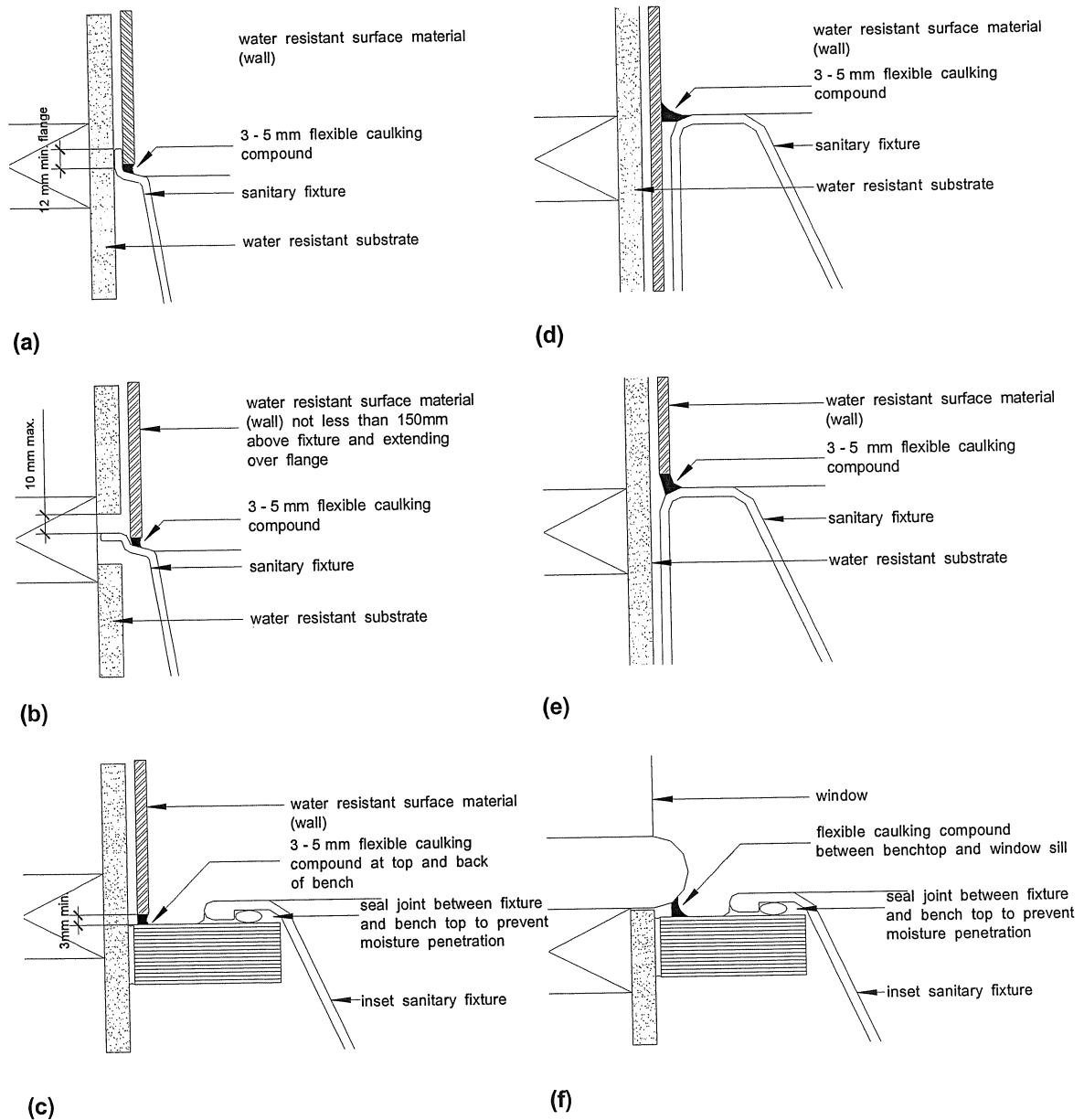


Figure 1 Bench tops and sanitary fixtures abutting walls

6.0 Penetrations

Sealing of tap penetrations shall be in accordance with AS 3740.

7.0 Drainage Flange

Where a waterproof membrane is used as part of a floor waterproofing system, a drainage flange is required at all *shower wastes*. The installation of the drainage flange and the membrane to drainage flange connection shall be as required by AS 3740.

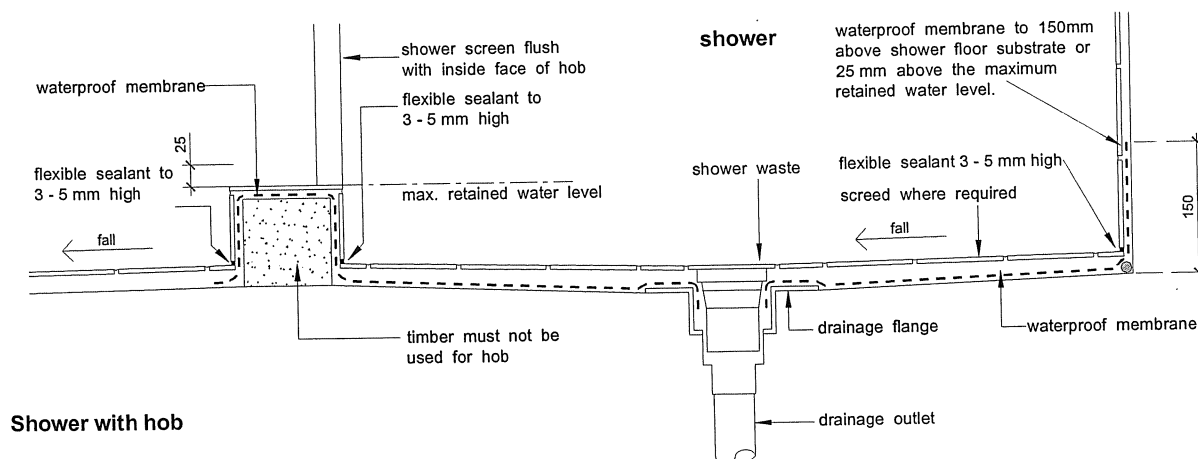


Figure 2 Drainage flange and membrane connection

7.0 Group shower facilities

Group shower facilities must comply with the requirements of AS 3740 relevant to showers and *shower areas*.

7.1 Group shower drainage

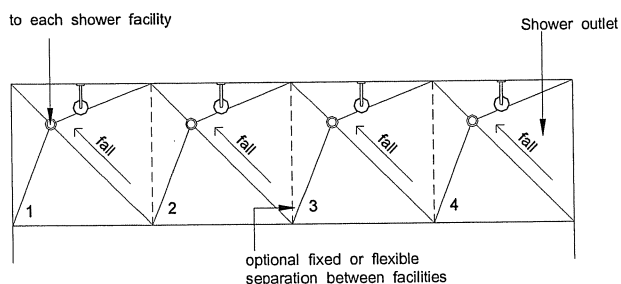
In *group shower facilities*, the water from one *group shower facility* must not flow over the floor of another *group shower facility*.

All *group shower facilities* must drain to a *shower waste* or to a common drainage channel and the individual showers must have a floor surface graded at not less than 1:60 to the *floor waste* or outlet channel. Refer Figure 3.

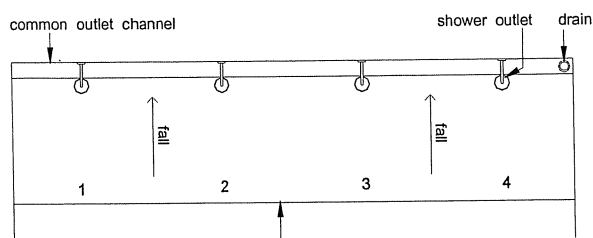
Where an outlet channel is used, the channel must be

- Not less than 100mm wide
- Not less than 25 mm deep at the top of the outlet from the channel; and
- graded at not less than 1:80

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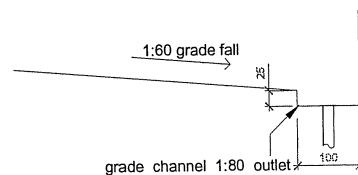


Plan 1

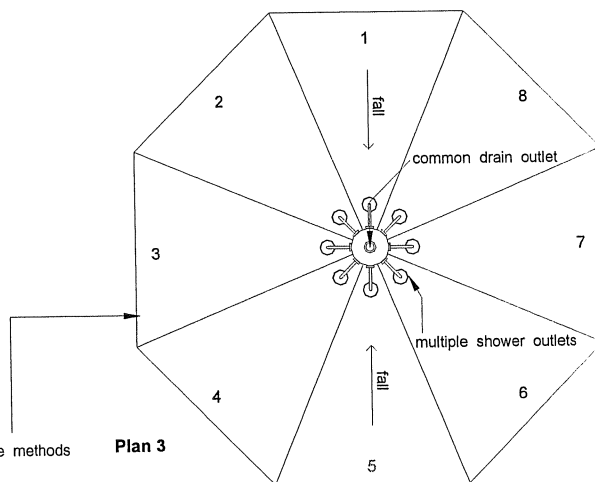


Plan 2

Note: Facilities may be separated by fixed or flexible methods



Group showers



Plan 3

Figure 3 Group Shower Facilities

8.0 Urinals

The floor or step adjacent to a floor mounted urinal refer Fig 4 (with or without mounted hinge tread) must

- be waterproof and
- be a minimum of 400mm in width
- be graded not less than 1:60 to the urinal channel
- be not less than 25mm above the top of the urinal channel
- overlap the urinal channel by not less than 25mm.

Where a step is used the step must have

- a tread not less than 400mm wide; and
- a rise of not less than 100mm and not more than 150mm.

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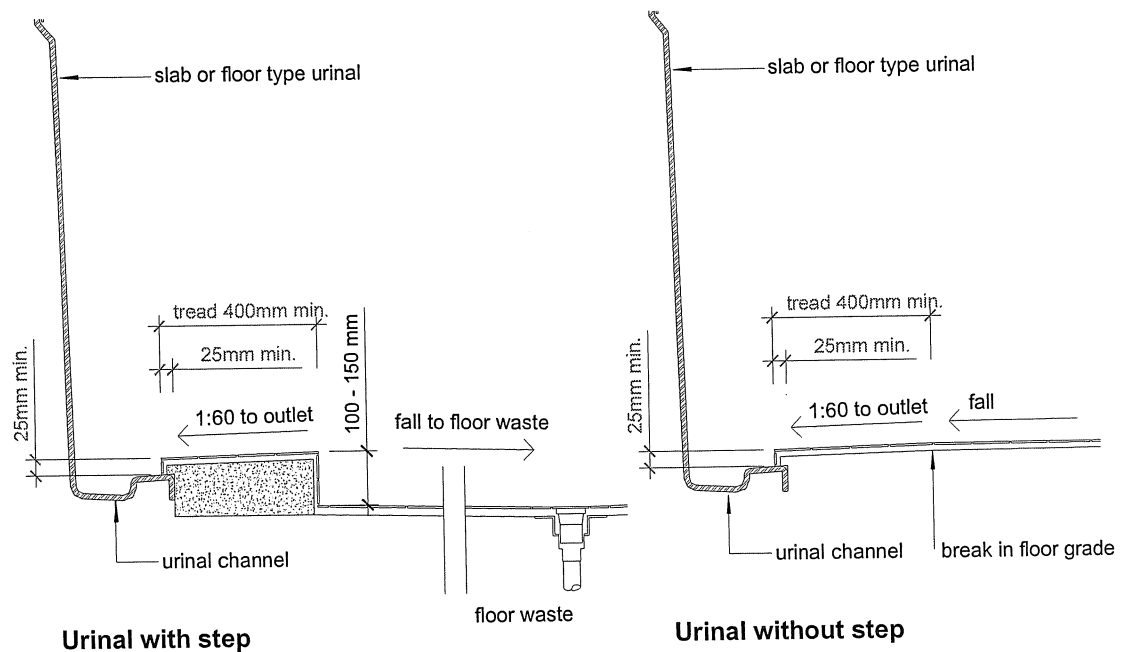


Figure 4 **Urinal details**

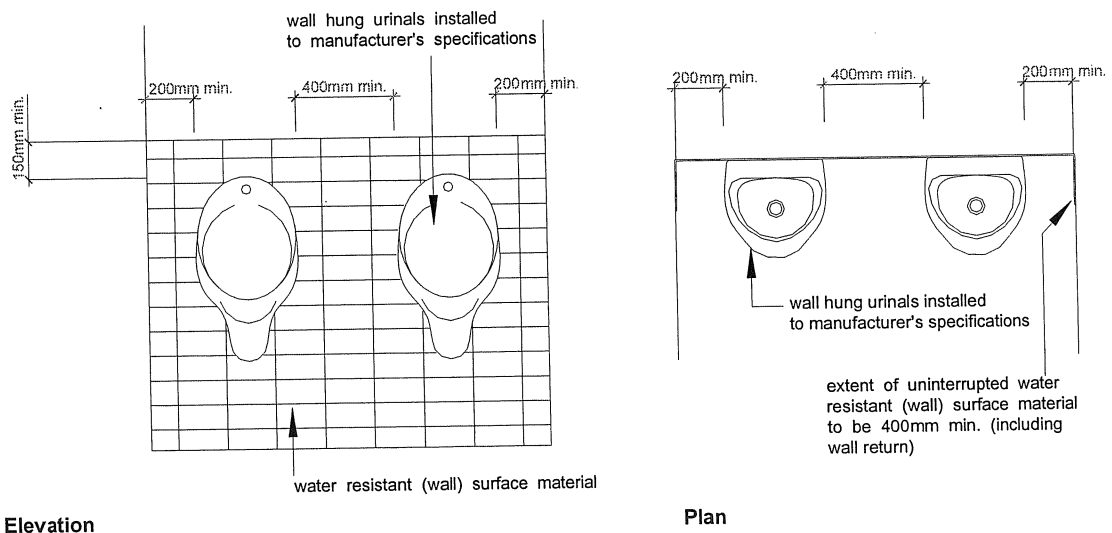


Figure 5 **Wall hung urinal details**