Members Meeting

6th September 2022

NCC 2022 Changes- Agenda

Australian Institute of Waterproofing

- Introduction
- Changes to NCC 2022 – Relevant to Waterproofing (mainly focusing on Vol 2)
- Panel and floor discussion

NCC 2022 Changes

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NCC 2022 Changes

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Liveable housing standards – access, ease of use, etc.

Volume structure, new numbering and referencing system

Vol 2 Housing Provisions

New DTS provisions in Volume 2 for waterproofing wet areas- not previously covered by Construction Practice

Falls to floor wastes – Vol. 1 and 2 bathrooms and laundries.

NCC 2022 Changes

Australian Institute of Waterproofing

Liveable housing standards – access, ease of use, etc.

Liveable housing
Volumes One and Two contains new liveable housing requirements for Class 1a buildings (houses and townhouses) and Class 2 sole-occupancy units (individual apartments). This puts in place features based on the Livable Housing Design Guidelines silver standard, with a voluntary gold standard also available for features beyond this.

These reforms were developed over many years, in close collaboration with disability support and advocacy groups, occupational therapists, building industry, and state, territory and local governments. This change will increase the stock of accessible housing, supporting Australians with disability, older Australians, their families and carers.

Eg – Showers to be Hobless

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Volume structure, new numbering and referencing system

Consistent volume structure

NCC 2022 uses a new structure and clause referencing system to create better consistency across all volumes. While the new Section-Part-Type-Clause system makes the NCC look different at first, it's allowed the ABCB to reorganise the Code's content to improve user experience, and make it more web accessible.

NCC 2022 Changes –

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Vol 2 Housing Provisions

Housing Provisions Standard

The Housing Provisions Standard is a significant format change to the NCC.

This new ABCB Standard is introduced to align the structure of the NCC Volumes.

It represents the Acceptable Construction Practices' (ACPs) content previously found in NCC 2019 Volume Two, Section 3. Like the ACPs, it's referenced by the Deemed-to-Satisfy (DTS) Provisions in Volume Two.

To make it easier to understand this change, a more traditional version combining NCC Volume Two and the new Housing Provisions Standard into one document can be downloaded.

NCC 2022 Changes –

New DTS provisions in Volume 2 for waterproofing wet areas- not previously covered by Construction Practice

Waterproofing

There are new DTS Provisions in Volume Two for waterproofing of wet areas, not previously covered by an ACP.

Waterproofing in Volume One is restructured into three parts to enhance readability and accommodate future changes.

NCC 2022 Changes –

Australian Institute of Waterproofing

Falls to floor wastes – Vol. 1 and 2 bathrooms and laundries.

Falls for floor wastes

Volumes One and Two are amended to require bathrooms and laundries where a floor waste is installed, to have a fall of the floor in order to help drain the surface.

This also applies to floor wastes included voluntarily.

NCC 2022 Changes –

- Adoption being pushed out until October 2022 but this may alter still.
- New letter and numbering system across all volumes and provisions
- Volume 2 reduced in size and a lot of Section 3 info moved to the new Housing provisions.
- Volume 2 gone from 593 pages to 250 pages.
- Referenced Australian Standards for Waterproofing area

No.	Date	Title	Volume One	Volume Two	Housing Provisions	Volume Three
AS 4654 Part 1	2012	Waterproofing membranes for external above-ground use — Materials	F1D5	H2D8	N/A	N/A
AS 4654 Part 2	2012	Waterproofing membranes for external above-ground use — Design and installation	C2D14, F1D4, F1D5	H2D8	N/A	N/A
AS 3740	2021	Waterproofing of domestic wet areas	F2D2	H4D2, H4D3	10.2.20	N/A

NCC 2022 Changes –

All Of what used to be Volume 2, Section 3 (Acceptable Construction) is now in the newly created Housing Provisions.

The impact to Waterproofers is that there is now more than one compliance pathway - Usually, the first of these pathways will be by reference to a relevant Australian Standard (or similar) and the second will be by reference to a particular Section or Part of the ABCB Housing Provisions. In these cases, use of the ABCB Housing Provisions is one option for complying with the relevant Deemed to Satisfy solution.

Example:

H4D2 Wet areas

[2019: 3.8.1.1, 3.8.1.2]

Compliance with AS 3740 or Part 10.2 of the ABCB Housing Provisions satisfies *Performance Requirement* H4P1 for *wet areas* provided the *wet areas* are protected in accordance with the appropriate requirements of 10.2.7 to 10.2.34 of the ABCB Housing Provisions.

NCC 2022 Changes – Volume 1

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NCC 2022 Changes – Volume 1

Australian Institute of Waterproofing

- Waterproofing in Volume One is restructured into three parts to enhance readability and accommodate future changes.

- Volume One contains additional DTS Provisions, providing new solutions for weatherproofing of external walls. These include references to weatherproofing provisions in Australian Standards for masonry, autoclaved aerated concrete and metal wall sheeting

- Volume One is amended to require bathrooms and laundries where a floor waste is installed, to have a fall of the floor in order to help drain the surface. This also applies to floor wastes included voluntarily

NCC 2022 Changes – Volume 1

Australian Institute of Waterproofing

- The new **Section F: Health and Amenity** has been divided into more segments and is more prescriptive
- **Part F1** is now called "**Surface water management, rising damp and external waterproofing**" from the old "Damp and weatherproofing"

F1O1 Objective (2019: FO1)

Functional Statements:
F1F1 Protection from redirected surface water (2019: FF1.1)
F1F2 Resistance to rain, surface water and ground water (2019: FF1.2)

Performance Requirements:
F1P1 Managing rainwater impact on adjoining properties (2019: FP1.1)
F1P2 Preventing rainwater from entering buildings (2019: FP1.2)
F1P3 Rainwater drainage systems (2019: FP1.3)
F1P4 Rising Damp (2019: FP1.5)

Deemed-to-Satisfy Provisions:
F1D1 Deemed-to-Satisfy Provisions (2019: F1.0)
F1D2 Application of Part (new)
F1D3 Stormwater drainage (2019: F1.1)
F1D4 Exposed Joints (new)
F1D5 External waterproofing membranes (2019: F1.4)
F1D6 Damp-proofing (2019: F1.9)
F1D7 Damp-proofing of floors on the ground (2019: F1.10)
F1D8 Subfloof ventilation (2019: F1.12)

Part F2 Wet areas and Overflow protection (new)
F2O1 Objective (new)

Functional Statements:
F2F1 Wet Areas (new)
F2F2 Overflow from bathrooms and laundries (2019: FF1.3)

NCC 2022 Changes – Volume 1

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Performance Requirements:
F2P1 Wet area overflows (2019: FP1.6)
F2P2 Wet areas (2109: FP1.7)

Verification Methods:
F2V1 Overflow protection (2019: FV1.2)

Deemed-to-Satisfy Provisions:
F2D1 Deemed-to-satisfy Provisions (new)
F2D2 Wet area construction (2019: F1.7)
F2D3 Rooms containing urinals (2019: F1.7(b) and (c))
F2D4 Floor wastes (2019: F1.11)

Specification 26 Waterproofing and water-resistance requirements for building elements in wet areas
S26C1 Scope (2019: Table F1.7)
S26C2 Application (2019: Table F1.7)
S26C3 Shower area (enclosed and unenclosed) (2019: Table F1.7)
S26C4 Area outside shower area (2019: Table F1.7)
S26C5 Areas adjacent to baths and spas without showers (2019: Table F1.7)
S26C6 Other areas (2019: Table F1.7)

NCC 2022 Changes – Volume 1 – New Additions

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F1D2 Application of Part

[New for 2022]

(1) F1D4 and F1D5 do not apply to a roof with a covering complying with F3D2(a) to (d).

(2) F1D3 to F1D5 do not apply to a balcony, podium or similar horizontal surface part of a building—

(a) where the flooring is of timber decking or other perforated flooring; or

(b) which is located directly above ground.

F1D4 Exposed joints

[New for 2022]

Exposed joints in the drainage surface on a roof, balcony, podium or similar horizontal surface part of a building must—

(a) be protected in accordance with Section 2.9 of AS 4654.2; and

(b) not be located beneath or run through a planter box, water feature or similar part of the building.

Notes

For the purposes of F1D4, an exposed joint is a construction joint, control joint, expansion joint, contraction joint or movement joint and includes an exposed joint which is directly below a drainage surface.

Explanatory Information: Location of exposed joints

To minimise the potential of water ingress, the exposed joint should be located at a ridge or high point of the structural substrate, where possible.

Explanatory Information: Exposed joints subject to excessive movement

Where an exposed joint is subject to excessive movement, such as more than 10 mm, additional measures should be considered to ensure protection of the exposed joint. These additional measures may include use of a hob with a minimum height of 50 mm formed within the structural substrate for the full length of both sides of the exposed joint, and the exposed joint protected by a discontinuous *membrane* in accordance with Section 2.9 of AS 4654.2.

F2D4 Floor wastes

[2019: F1.11]

(1) In a Class 2 or 3 building or Class 4 part of a building, a bathroom or laundry located at any level above a *sole-occupancy unit* or public space must have a *floor waste*.

(2) Where a *floor waste* is installed—

(a) the minimum continuous fall of a floor plane to the waste must be 1:80; and

(b) the maximum continuous fall of a floor plane to the waste must be 1:50.

F2O1 Objective

[New for 2022]

The Objective of this Part is to—

(a) safeguard occupants from illness or injury and protect buildings from damage caused by—

(i) internal water from *wet areas*; and

(ii) the accumulation of internal moisture in the building; and

(b) protect *other property* from damage caused by redirected internal water from *wet areas*.

F2F1 Wet areas

[New for 2022]

A building including internal *wet areas* is to be constructed in a way that protects people, the building and *other property* from the adverse effects of internal water from *wet areas*.

F2D1 Deemed-to-Satisfy Provisions

[New for 2022]

(1) Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirements* F2P1 and F2P2 are satisfied by complying with F2D2 to F2D4.

(2) Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2G2(3) and A2G4(3) as applicable.

NCC 2022 Changes – Volume 2

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NCC 2022 Changes – Volume 2

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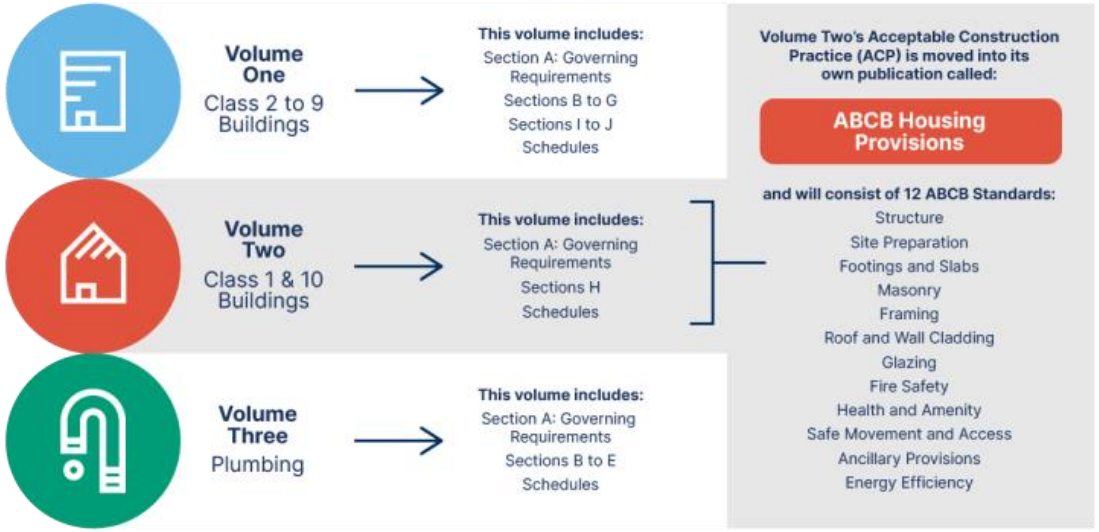

Each Part has 5 “statements” (Objectives, Functional Statements, Perf. Req., Verification and DTS) and are shortened as :

- O =Objectives
- F = Functional Statements
- P = Performance Requirements
- V = Verification Methods (if applicable)
- D = Deemed to Satisfy Provisions

Relevant Area	Part in Volume 2
Damp and Weatherproofing	Part H2
Health and Amenity	Part H4

NCC 2022 Changes – Volume 2
Section H2 -DAMP AND WEATHERPROOFING

Australian Institute of Waterproofing

H2O1 Objective

[2019: O2.2]

The Objective is to—

(a) safeguard occupants from illness or injury and protect the building from damage caused by—
  (i) *surface water*; and
  (ii) external water entering a building; and
  (iii) the accumulation of internal moisture in a building; and
  (iv) discharge of *swimming pool* waste water; and
  (v) rising damp; and

(b) protect other property from damage caused by—
  (i) redirected *surface water*; and
  (ii) the discharge of *swimming pool* waste water.

Note Reference to 2019 Volume

Objective Statement – the overall objective of damp and weatherproofing

H2F1 Surface water

[2019: F2.2.1]

A building including any associated *sitework* is to be constructed in a way that protects people and *other property* from the adverse effects of redirected *surface water*.

H2F2 Weatherproofing and dampness

[2019: F2.2.2]

A building is to be constructed to provide resistance to moisture from the outside and moisture rising from the ground.

Limitations

H2F2 does not apply to a Class 10 building except where its construction contributes to the weatherproofing of the Class 1 building.

Functional Statements - the "why" statement

NCC 2022 Changes – Volume Two
Section H2 -DAMP AND WEATHERPROOFING

Australian Institute of Waterproofing

Performance Requirements

H2P1 Rainwater management

[2019: P2.2.1]

(1) *Surface water*, resulting from a storm having an *annual exceedance probability* of 5% and which is collected or concentrated by a building or *sitework*, must be disposed of in a way that avoids the likelihood of damage or nuisance to any *other property*.

(2) *Surface water*, resulting from a storm having an *annual exceedance probability* of 1% must not enter the building.

(3) A drainage system for the disposal of *surface water* resulting from a storm having an *annual exceedance probability* of—

(a) 5% must—

(i) convey *surface water* to an appropriate *outfall*; and

(ii) avoid *surface water* damaging the building; and

(b) 1% must avoid the entry of *surface water* into a building.

Limitations

H2P1(2) does not apply to a Class 10 building except where its construction contributes to the weatherproofing of the Class 1 building.

Limitations

H2P1(2) does not apply to a Class 10 building except where its construction contributes to the weatherproofing of the Class 1 building.

H2P2 Weatherproofing

[2019: P2.2.2]

A roof and *external wall* (including openings around *windows* and doors) must prevent the penetration of water that could cause—

(a) unhealthy or dangerous conditions, or loss of *amenity* for occupants; and

(b) undue dampness or deterioration of building elements.

Limitations

H2P2(a) does not apply to a Class 10 building except where its construction contributes to the weatherproofing of the Class 1 building.

H2P3 Rising damp

[2019: P2.2.3]

Moisture from the ground must be prevented from causing—

(a) unhealthy or dangerous conditions, or loss of *amenity* for occupants; and

(b) undue dampness or deterioration of building elements.

Limitations

H2P3 does not apply to a Class 10 building where in the particular case there is no necessity for compliance.

The Performance Requirements of Damp and Weather Proofing

NCC 2022 Changes – Volume 2
Section H2 -DAMP AND WEATHERPROOFING

Australian Institute of Waterproofing

H2V1 Weatherproofing

[2019: V2.2.1]

(1) Compliance with H2P2 for weatherproofing of an *external wall* is verified when—

- (a) a prototype passes the procedure described in (2); and
- (b) the *external wall*—
  - (i) has a risk score of 20 or less, when the sum of all risk factor scores are determined in accordance with Table H2V1a; and
  - (ii) is not subjected to an ultimate limit state wind pressure of more than 2.5 kPa; and
  - (iii) includes only *windows* that comply with AS 2047.

(2) The test procedure referred to in (1)(a) must be as follows:

- (a) The test specimen is in accordance with the requirements of (3).
- (b) The test procedure is in accordance with the requirements of (4) and (5) as appropriate.
- (c) The test specimen does not fail the criteria in (6).
- (d) The test is recorded in accordance with the requirements of (7).

(3) Test specimen: The test specimen must incorporate—

The verification method for materials and systems used for Damp and Weather Proofing

NCC 2022 Changes – Volume 2
Section H2 -DAMP AND WEATHERPROOFING

Australian Institute of Waterproofing

H2D8 External waterproofing

[New for 2022]

(1) *Performance Requirement* H2P2 is satisfied for the design and construction of external waterproofing for roofing systems on flat roofs, roof terraces, balconies and terraces and other similar horizontal surfaces located above internal spaces of a building provided—

(a) *membranes* used in the external *waterproofing system* comply with AS 4654.1; and

(b) the design and installation of the external *waterproofing system* is in accordance with AS 4654.2.

(2) The requirements of (1) apply to—

(a) roofing systems other than those complying with H1D7(2) and (3); and

(b) terraces, balconies and the like other than—

(i) a concrete slab that has a minimum step-down of 50 mm below the internal floor level; or

(ii) a suspended concrete slab—

(A) where the subfloor space is not used for habitable or non-habitable purposes; and

(B) that has a minimum step-down of 50 mm below the internal floor level; or

(iii) spaced decking in conjunction with framing members that are suitable for external use.

Explanatory Information

The design of occupiable roof-top spaces, decks, balconies, particularly where located over internal spaces of a building, can be susceptible to potential for water ingress into a building and causing damage. Therefore, careful consideration should be given to the design, construction and the materials used to minimise the potential for water ingress to spaces below.

H2D8 prescribes external waterproofing requirements for buildings, and references AS 4654 Parts 1 and 2 that provide solutions for liquid and/or sheet *membrane* roofing systems on flat roofs, roof terraces, balconies and terraces located over *habitable rooms*. The term flat roof is commonly used to describe a near flat roof with enough pitch to provide drainage for rainwater.

AS 4654.1 sets out the requirements for materials forming part of a *waterproofing system* and AS 4654.2 sets out design and construction/installation requirements.

A *Performance Solution* in accordance with A2G2 would need to be provided for other types of external waterproofing materials and designs.

Deemed-to-Satisfy Provisions

H2D1 Deemed-to-Satisfy Provisions

[New for 2022]

(1) Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirements* H2P1 to H2P3 are satisfied by complying with H2D2 to H2D8.

(2) *Performance Requirement* H2P4 must be complied with.

(3) Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2G2(3) and A2G2(4) as applicable.

Notes

There are no *Deemed-to-Satisfy Provisions* for H2P4.

Deemed to Satisfy Provision's for damp and weatherproofing. Performance complies if AS 4654.1 and 4654.2 are followed.

Note- new for 2022

NCC 2022 Changes – Volume Two
Section H4 –Health and Amenity

Australian Institute of Waterproofing

Wet Areas

H4O1 Wet areas

[2019: O2.4.1]

The Objective is to safeguard the occupants from illness or injury and protect the building from damage caused by the accumulation of internal moisture arising from the use of *wet areas* in a building.

H4F1 Wet areas

[2019: F2.4.1]

A building is to be constructed to avoid the likelihood of—

(a) the creation of any unhealthy or dangerous conditions; or

(b) damage to building elements,

caused by dampness or water overflow from bathrooms, laundries and the like.

NCC 2022 Changes – Volume Two
Section H4 –Health and Amenity

Australian Institute of Waterproofing

H4P1 Wet areas

[2019: P2.4.1]

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; or

(b) into concealed spaces,

of sanitary facilities, bathrooms, laundries and the like.

NCC 2022 Changes – Volume 2
Section H4 –Health and Amenity

Australian Institute of Waterproofing

H4D1 Deemed-to-Satisfy Provisions

[New for 2022]

(1) Where a *Deemed-to-Satisfy Solution* is proposed, *Performance Requirements* H4P1 to H4P7 are satisfied by complying with H4D2 to H4D9.

(2) Where a *Performance Solution* is proposed, the relevant *Performance Requirements* must be determined in accordance with A2G2(3) and A2G2(4) as applicable.

H4D2 Wet areas

[2019: 3.8.1.1, 3.8.1.2]

Compliance with AS 3740 or Part 10.2 of the ABCB Housing Provisions satisfies *Performance Requirement* H4P1 for *wet areas* provided the *wet areas* are protected in accordance with the appropriate requirements of 10.2.7 to 10.2.34 of the ABCB Housing Provisions.

H4D3 Materials and installation of wet area components and systems

[New for 2022]

Performance Requirement H4P1 is satisfied for materials and the installation of *wet area* components and systems if—

(a) building elements in *wet areas* are *water resistant* or *waterproof* in accordance with clauses 10.2.1 to 10.2.6 of the ABCB Housing Provisions; and

(b) they comply with either—

(i) AS 3740 and clause 10.2.12 of the ABCB Housing Provisions; or

(ii) 10.2.7 to 10.2.34 of the ABCB Housing Provisions.

Notes: Livable housing design

In a Class 1a dwelling, at least one bathroom and at least one toilet must comply with the ABCB Standard for Livable Housing Design, which may override the requirements of H4D3.

Explanatory Information

AS 3740 and the ABCB Housing Provisions contain requirements for shower hobs and shower over bath configurations, however these may only be used in a bathroom that is not subject to the ABCB Standard for Livable Housing Design. Generally, the ABCB Standard for Livable Housing Design only applies to one bathroom per dwelling. Therefore, shower hobs and the like may only be used in any additional bathrooms.

See how the DTS Provision for wet areas states compliance with AS3740 OR Part 10.2 of the ACBC Housing Provisions.

Its either comply with AS 3740 or the Housing Provisions – NOT BOTH.

If you can't strictly comply with the Housing provisions and the elements listed there (10.2.2 through to 10.2.32) – then you have to use AS 3740.

NCC 2022 Changes – Housing provisions

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NCC 2022 Changes – Housing Provisions

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Housing Provisions

- Is where the bulk of Volm. 2 now resides in relation to building a house (or Class 1-10) building
- Has a new Letter and Numbering system like Volume 2
- The Housing Provisions must be read in conjunction with Vol. 2 for the Performance Requirements and the Deemed to Satisfy Provisions

Has the Following parts noted

Part 2	Structure
Part 3	Site Prep
Part 4	Footings and Slab
Part 5	Masonry
Part 6	Framing
Part 7	Roof and Wall Cladding
Part 8	Glazing
Part 9	Fire Safety
Part 10	**Health and Amenity** 10.2 Wet Area waterproofing 10.2.1 through to 10.2.32
Part 11	Safe Movement and access
Part 12	Ancillary Provisions

NCC 2022 Changes – Housing Provisions
Part 10.2 – Wet Area Waterproofing

Australian Institute of Waterproofing

10.2.1 Wet areas

[2019: 3.8.1.2]

(1) Building elements in *wet areas* within a building must be protected with a *waterproofing system*.

(2) The *waterproofing system* in (1) must be either *waterproof* or *water resistant* in accordance with 10.2.2 to 10.2.6.

10.2.2 Shower area (enclosed and unenclosed)

[2019: Table 3.8.1.1]

(1) For a *shower area* with a hob, step-down or level threshold, the following applies:

- (a) The floor of the *shower area* must be *waterproof*, including any hob or step-down (see Figure 10.2.2); and
- (b) The walls of the *shower area* must be *waterproof* not less than 1800 mm above the floor substrate (see Figure 10.2.2).
- (c) Wall junctions and joints within the *shower area* must be *waterproof* not less than 40 mm either side of the junction (see Figure 10.2.2).
- (d) Wall/floor junctions within the *shower area* must be *waterproof* (see Figure 10.2.2).
- (e) Penetrations within the *shower area* must be *waterproof*.

(2) A shower with a *preformed shower base* must also comply with the requirements of (1), except for (a) which is not applicable.

3.8.1.2 Wet Areas

Building elements in *wet areas* within a building must—

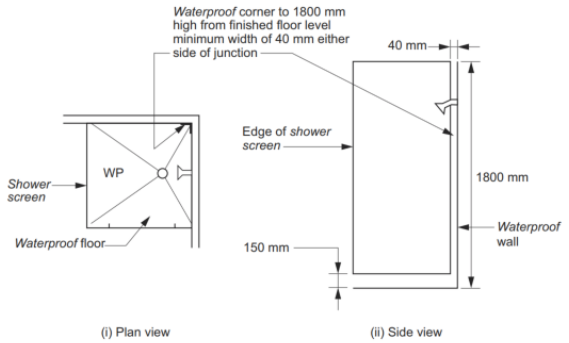
- (a) be *waterproof* or *water resistant* in accordance with Table 3.8.1.1; and
- (b) comply with AS 3740.

No real mention of AS 3740 in the New Housing provisions – remember – the housing provision is a Deemed to Satisfy Solution in Vol.2

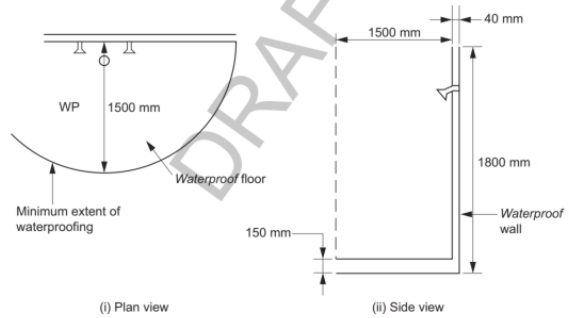
NCC 2022 Changes – Housing Provisions
Part 10.2 – Wet Area Waterproofing

Australian Institute of Waterproofing

Figure 10.2.2: **Extent of treatment for shower areas — concrete compressed fibre-cement and fibre-cement sheet floors**



(a) Enclosed shower



(b) Unenclosed shower

Figure Notes

Wall/floor junction heights are to be as per 10.2.2 to 10.2.6 (as applicable).

Notes

Where a shower is above a bath or spa, use requirements for shower.

10.2.3 Area outside shower area

[2019: Table 3.8.1.1]

(1) For concrete, compressed fibre-cement and fibre-cement sheet flooring, the floor of the room must be *water resistant*.

(2) For timber floors including particleboard, plywood and other timber based flooring materials, the floor of the room must be *waterproof*.

(3) Wall/floor junctions must be—

(a) *waterproof*; and

(b) where a *flashing* is used, the horizontal leg must be not less than 40 mm.

NCC 2022 Changes – Housing Provisions
Part 10.2 – Wet Area Waterproofing

Australian Institute of Waterproofing

10.2.4 Areas adjacent to baths and spas without showers

[2019: Table 3.8.1.1]

(1) For areas adjacent to all baths and spas, the following applies:

(a) For concrete, compressed fibre-cement and fibre-cement sheet flooring, the floor of the room must be *water resistant*.

(b) For timber floors including particleboard, plywood and other timber based flooring materials, the floor of the room must be *waterproof*.

(c) Tap and spout penetrations must be *waterproof* where they occur in horizontal surfaces.

(2) For areas adjacent to non-freestanding baths and spas, the following applies:

(a) Walls must be *water resistant* (see Figure 10.2.4a and Figure 10.2.4b)—

(i) to a height of not less than 150 mm above the *vessel*, for the extent of the *vessel*, where the *vessel* is within 75 mm of a wall; and

(ii) for all exposed surfaces below *vessel* lip.

(b) Wall junctions and joints must be *water resistant* within 150 mm above a *vessel* for the extent of the *vessel*.

(c) Wall/floor junctions must be *waterproof* for the extent of the *vessel* (see Figure 10.2.4a and Figure 10.2.4b).

(3) For inserted baths and spas, the following applies:

(a) For floors and horizontal surfaces:

(i) Any shelf area adjoining the bath or spa must be *waterproof* and include a *waterstop* under the *vessel* lip.

(ii) There are no requirements for the floor under a bath or spa.

(b) For walls:

(i) *Waterproof* to not less than 150 mm above the lip of a bath or spa.

(ii) There are no requirements for the floor under a bath or spa.

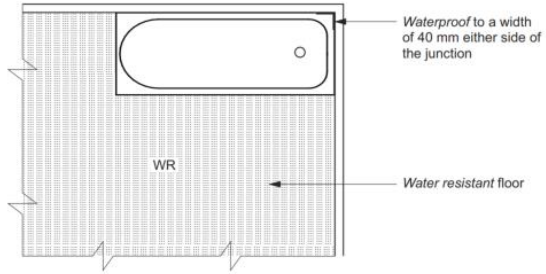
(c) For wall junctions and joints, the following applies:

(i) *Waterproof* junctions within 150 mm of a bath or spa.

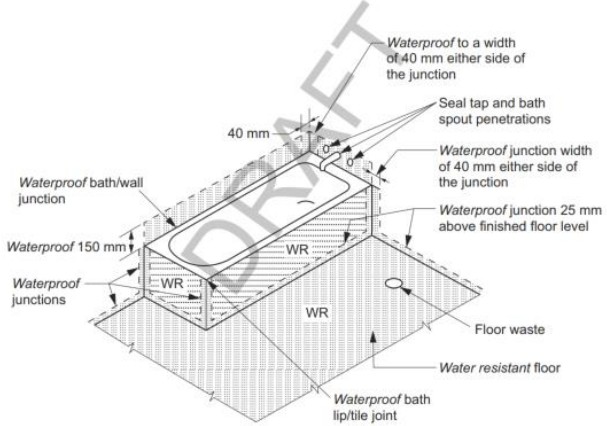
(ii) There are no requirements for junctions and joints in walls beneath the lip of a bath or spa.

(d) Tap and spout penetrations must be *waterproof* where they occur in horizontal surfaces.

Figure 10.2.4a: **Unenclosed showers above baths — area protected for concrete, compressed fibre-cement and fibre-cement sheet flooring**



(a) Plan view



(b) Isometric view

Didn't think Particle board was acceptable to use in Wet Area

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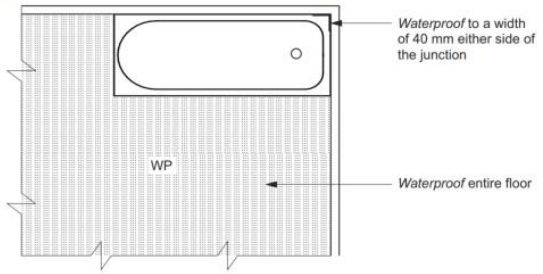
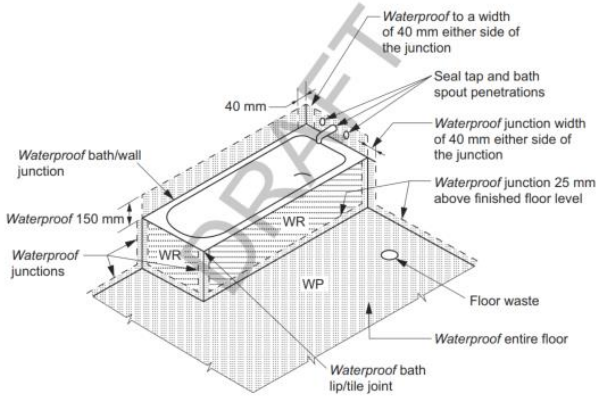
Figure 10.2.4b: **Unenclosed showers above baths — areas protected for timber floors including particle-board, plywood and other floor materials**



(a) Plan view



(b) Isometric view

10.2.5 Other areas

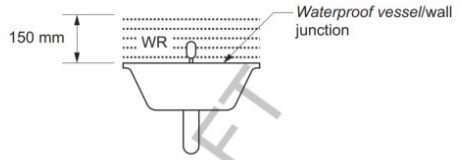
[2019: Table 3.8.1.1]

(1) For walls adjoining other types of *vessels* (e.g. sink, basin or laundry tub), the following applies:
- (a) Walls must be *water resistant* to a height of not less than 150 mm above the *vessel*, for the extent of the *vessel*, where the *vessel* is within 75 mm of a wall (see Figure 10.2.5).
- (b) *Waterproof* wall junctions where a *vessel* is fixed to a wall.
- (c) *Waterproof* tap and spout penetrations where they occur in surfaces required to be *waterproof* or *water resistant*.

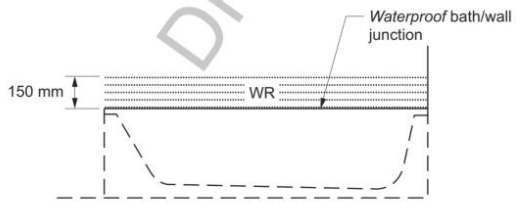
(2) For laundries and WCs, the following applies:
- (a) The floor of the room must be *water resistant*.
- (b) Wall/floor junctions must be *water resistant*, and where a *flashing* is used, the horizontal leg must not be less than 40 mm.

(3) For WCs with handheld bidet spray installations, the following applies: Cat. 1 Wet Area as per AS 3740:2021
- (a) The floor of the room must be *waterproof*.
- (b) Walls must be—
  - (i) *waterproof* in WC area within a 900 mm radius from the wall connection of the handheld bidet spray device to a height of not less than 150 mm above the floor substrate; and
  - (ii) *water resistant* in WC area within a 900 mm radius from the wall connection of the handheld bidet device to not less than 1200 mm above the finished floor level of the WC.
- (c) Wall junctions within the WC area within 900 mm radius from the wall connection of the handheld bidet spray device must be *waterproof*.
- (d) Wall/floor junctions within the WC area within 1000 mm radius from the wall connection of the handheld bidet spray device must be *waterproof*.
- (e) Penetrations in the WC area must be *waterproof*.

Figure 10.2.5: **Bath and vessel abutting wall — areas to be protected**



(a) Vessel abutting wall



(b) Wall/bath junction

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10.2.6 Waterproofing systems

[New for 2022]

(1) For the purposes of this Part, a *waterproofing system* is deemed—
  (a) *waterproof*, if it complies with (2); or
  (b) *water resistant*, if it complies with (3).

(2) For a *waterproofing system* required to be *waterproof* in accordance with 10.2.2 to 10.2.5, the materials nominated in 10.2.8 must be used.

(3) For a *waterproofing system* required to be *water resistant* in accordance with 10.2.2 to 10.2.5, the materials nominated in 10.2.9 must be used in conjunction with the materials in 10.2.10.

10.2.7 Materials

[New for 2022]

Where *required* to be installed in accordance with 10.2.2 to 10.2.6, materials used in *wet areas* forming a *waterproofing system* must be either *waterproof* or *water resistant* in accordance with 10.2.8 and 10.2.9.

10.2.8 Materials — waterproof

[New for 2022]

The following materials used in *waterproofing systems* are deemed to be *waterproof*:

(a) Stainless steel.
(b) Flexible *waterproof* sheet flooring material with *waterproof* joints.
(c) *Membranes* complying with AS/NZS 4858.
(d) *Waterproof* sealant.

10.2.9 Materials — water resistant substrates

[New for 2022]

The following materials are deemed to be *water resistant*:

(a) For walls:
  (i) Concrete complying with AS 3600, treated to resist moisture movement.
  (ii) Cement render, treated to resist moisture movement.
  (iii) Compressed fibre-cement sheeting manufactured in accordance with AS/NZS 2908.2.
  (iv) *Water resistant* plasterboard sheeting.
  (v) Masonry in accordance with AS 3700, treated to resist moisture movement.
(b) For floors:
  (i) Concrete complying with AS 3600.
  (ii) Concrete slabs complying with AS 2870.
  (iii) Compressed fibre-cement sheeting manufactured in accordance with AS/NZS 2908.2 and supported on a structural floor.

10.2.10 Materials — water resistant surface materials

[New for 2022]

The following surface materials are deemed to be *water resistant*:

(a) For walls:
  (i) Thermosetting laminate.
  (ii) Pre-decorated compressed fibre-cement sheeting manufactured in accordance with AS 2908.2.
  (iii) Tiles when used in conjunction with a substrate listed in 10.2.9.
  (iv) *Water resistant* flexible sheet wall material with sealed joints when used in conjunction with a substrate listed in 10.2.9.
  (v) Sanitary grade acrylic linings.
(b) For floors, when used in conjunction with a substrate listed in 10.2.9:
  (i) Tiles.
  (ii) *Water resistant* flexible sheet flooring material with sealed joints.
(c) Concrete treated to resist moisture movement.

Explanatory Information

Sheet vinyl or linoleum would satisfy the requirements of this clause.

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10.2.11 Construction of wet areas — wall and floor substrate materials

[New for 2022]

For the purposes of this Part, materials used in wall and floor substrates must comply with 10.2.9.

10.2.12 Construction of wet area floors — falls

[New for 2022]

Where a *floor waste* is installed—

(a) the minimum continuous fall of a floor plane to the waste must be 1:80; and

(b) the maximum continuous fall of a floor plane to the waste must be 1:50.

10.2.13 Construction of wet areas — wall and floor surface materials

[New for 2022]

For the purposes of this Part, wall and floor surface materials must comply with 10.2.10.

10.2.14 Shower area requirements

[New for 2022]

Shower areas must be designed as either *enclosed* or *unenclosed*—

(a) to include a *floor waste* with falls complying with 10.2.12; and

(b) with a—

(i) stepdown complying with 10.2.15; or

(ii) *hob* complying with 10.2.16; or

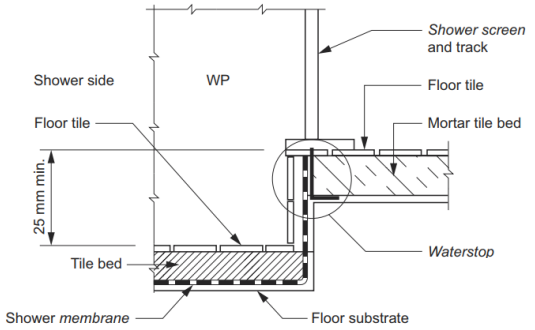
(iii) level threshold complying with 10.2.17.

10.2.15 Stepdown showers

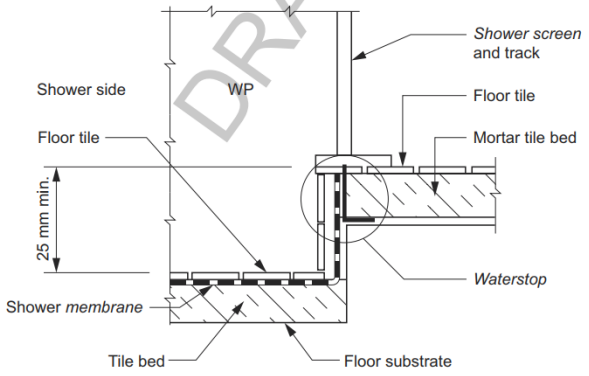
[New for 2022]

For stepdown showers, the highest finished floor level of the *shower area* must be stepped down a minimum of 25 mm lower than the finished floor level outside the shower (see Figures 10.2.15a and 10.2.15b).

Figure 10.2.15a: Typical enclosed stepped down shower construction (diagrams (a) and (b))



(a) Enclosed shower-Membrane below tile bed



(b) Enclosed shower-Membrane above tile bed

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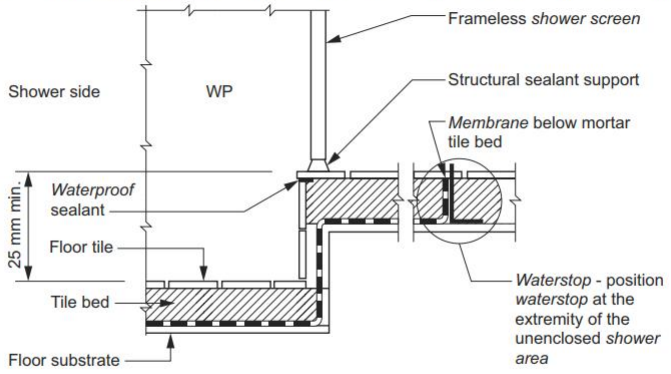
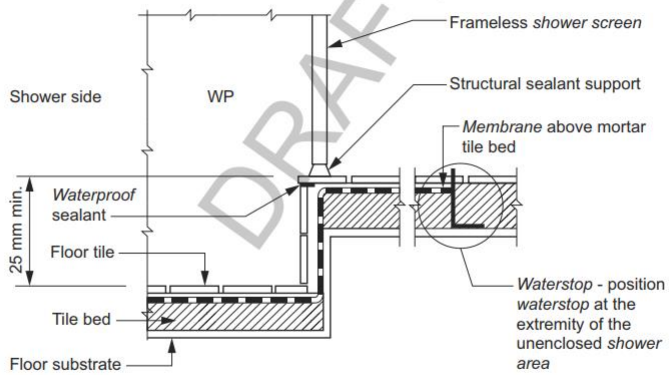
Figure 10.2.15b: Typical unenclosed stepped-down shower construction (diagrams (c) and (d))



(c) Unenclosed shower-Membrane below tile bed



(d) Unenclosed shower-Membrane above tile bed

10.2.16 Hob construction

[New for 2022]

(1) *Hobs* must be constructed of—

(a) masonry; or

(b) concrete; or

(c) autoclaved aerated concrete; or

(d) extruded polyurethane foam,

in accordance with Figure 10.2.16.

(2) All gaps, joints and intersections of the *hob* substrate must be made flush before application of a *membrane*.

(3) *Hobs* must be adequately secured to the floor and sealed against the wall prior to applying a *membrane*.

(4) Timber must not be used for *hob* construction.

Figure 10.2.16: Typical hob construction — internal membrane

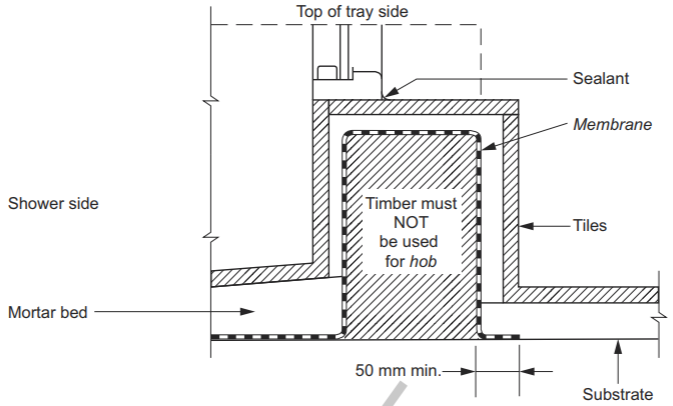


Figure Notes

For *shower screen* positioning, see 10.2.32.

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10.2.17 Enclosed showers with level threshold (without hob or set down)

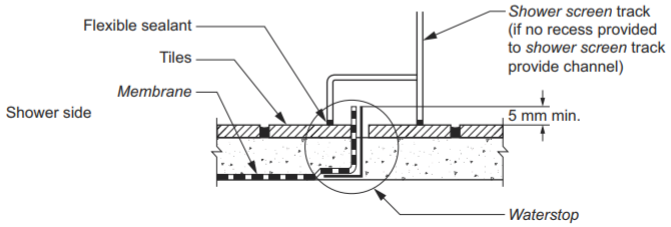
[New for 2022]

For enclosed showers without a stepdown or a *hob*, at the extremity of the *shower area*, a *waterstop* must be positioned so that its vertical leg finishes—

(a) where a *shower screen* is to be installed, not less than 5 mm above the finished floor level (see Figure 10.2.17); and

(b) where the *waterstop* intersects with a wall or has a joint, the junction must be waterproof.

Figure 10.2.17: Typical hobless construction



10.2.18 Unenclosed showers

[New for 2022]

(1) Unenclosed showers must be constructed as follows:

(a) A *waterstop* must be installed a minimum horizontal distance of 1500 mm from the shower rose.

(b) The vertical leg of the *waterstop* must finish—

(i) flush with the top surface of the floor (see Figure 10.2.18); and

(ii) where the *waterstop* intersects with a wall or is joined—

(A) the junction must be *waterproof*; or

(B) the whole *wet area* floor must be waterproofed and drained to a *floor waste* as for the *shower area*.

(2) In the case of (1)(b)(ii)(B), at doorways, where the height of the tiling angle needs to be adjusted for tiling purposes, the angle must be fixed with a sealant compatible with the waterproofing *membrane* without damaging the *waterproofing system*.

Figure 10.2.18: Typical termination of membrane at extent of shower area

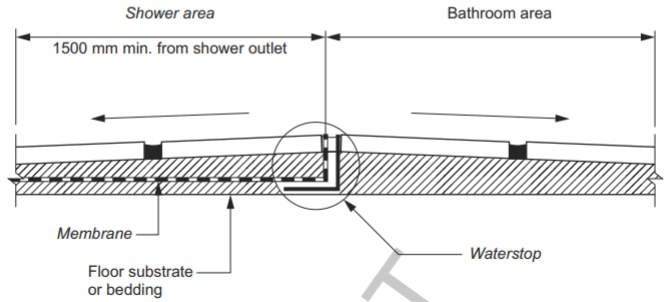


Figure Notes

Fall is to be provided in accordance with 10.2.12.

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10.2.19 Preformed shower bases

[New for 2022]

Preformed shower bases must—

(a) have an upturn lip (see Figure 10.2.19a and Figure 10.2.19b); and

(b) be recessed into the wall to allow the *water resistant* surface materials and substrate materials to pass down inside the perimeter upturn lip of the shower base (see Figure 10.2.19a and Figure 10.2.19b); and

(c) be supported to prevent distortion or cracking.

Remember – the DTS in Volume 2 (H4D4) states that if you cant comply with the requirements in the Housing provision, then use AS3740 as the DTS.. Note the Shower requirements here – no other preformed shower is allowed in the Housing provisions – only recessed showers with a lip, so couldn't use the HP for any other preformed shower.

Figure 10.2.19a: Typical preformed shower base wall/floor junction

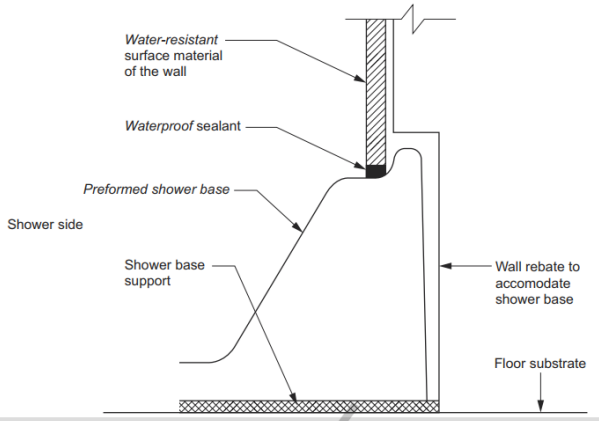
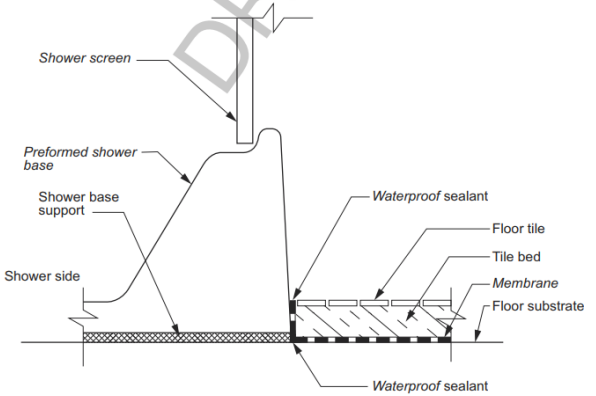


Figure Notes

(1) Rebating of timber and steel framed walls must be in accordance with AS 1684 or NASH Standard Part 2 as appropriate.

(2) Where rebating of masonry walls is required, it must be accommodated in the design in accordance with AS 3700.

Figure 10.2.19b: Typical preformed shower base/floor junction on timber floors, including particleboard, plywood and other timber materials



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10.2.20 Baths and spas

[New for 2022]

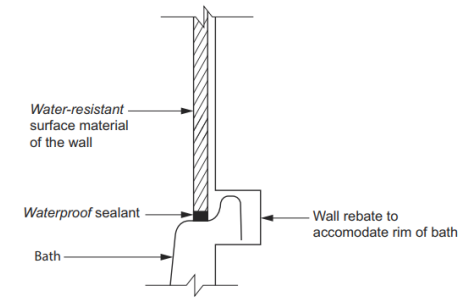
Baths and spas, except freestanding baths and spas, must—

(a) have an upturn lip; and

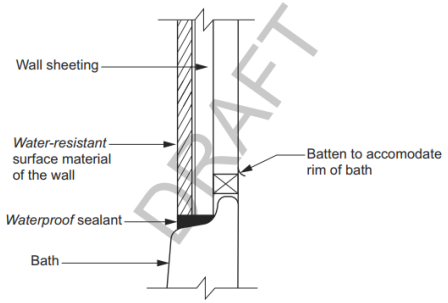
(b) be recessed into the wall (see Figure 10.2.20); and

(c) have the *water resistant* substrate materials of the wall pass down inside the upturn lip (see Figure 10.2.20).

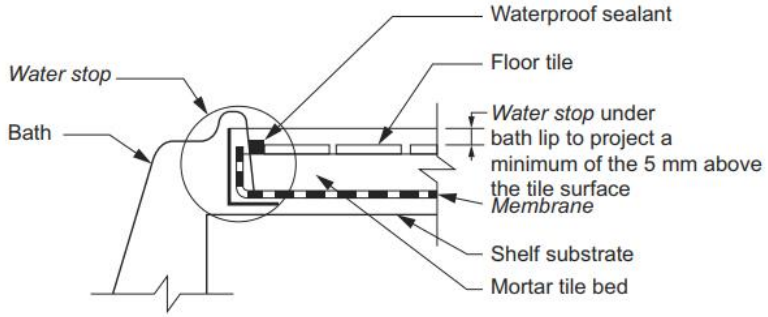
Figure 10.2.20: Typical bath junctions



(a) Bath/wall junction - recessed



(b) Bath/wall junction - battened



(c) Bath/shelf junction

Figure Notes

(1) Rebating of timber and steel framed walls must be in accordance with AS 1684 or NASH Standard Part 2 as appropriate.

(2) Where rebating of masonry walls is required, it must be accommodated for in the design in accordance with AS 3700.

(3) For diagram (c), where a *waterstop* cannot be provided, a Type 1 or Type 2 junction can be used with AS 3740.

Remember – the DTS in Volume 2 (H4D4) states that if you cant comply with the requirements in the Housing provision, then use AS3740 as the DTS.. Note the bath requirements here – no other bath is allowed in the Housing provisions – only recessed baths with a lip, so couldn't use the HP for free standing baths, insert baths, etc.

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10.2.21 Membrane installation for screed

[New for 2022]

Where a *screed* is used in conjunction with a *waterproof* membrane, the *waterproof* membrane can be installed either above or below the tile bed or *screed*.

10.2.22 Substrate surface preparation for application of membrane

[New for 2022]

The substrate surface area where a membrane is to be applied must—

(a) be clean and dust free; and

(b) free of indentations and imperfections.

10.2.23 Penetrations

[New for 2022]

Penetrations within *shower areas* must comply with the following:

(a) Penetrations for taps, shower nozzles and the like must be waterproofed by sealing with—

  (i) sealants; or

  (ii) proprietary flange systems; or

  (iii) a combination of (i) and (ii).

(b) The spindle housing of the tap body must be able to be removed to enable replacement of the washer without damaging the seal.

(c) The following must be waterproofed:

  (i) All penetrations due to mechanical fixings or fastenings of substrate materials.

  (ii) Any penetration of the surface materials due to mechanical fixings or fastenings.

  (iii) Recessed soap holders (niches) and the like.

(d) Tap and spout penetrations on horizontal surfaces surrounding baths and spas must be waterproofed by—

  (i) sealing the tap body to the substrate with sealants; or

  (ii) proprietary flange systems.

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10.2.24 Flashings/junctions

[New for 2022]

Flashings must be installed in accordance with 10.2.2 to 10.2.5 and the following:

(a) Perimeter *flashing* to wall/floor junctions must have a—

(i) vertical leg that extends a minimum of 25 mm above the finished floor level, except across doorways; and

(ii) horizontal leg that has a minimum width of not less than 50 mm.

(b) Where a *water resistant* substrate is used in conjunction with a *water resistant* surface material, a *waterproof* sealant must be installed at the substrate junction at the wall/floor junction.

(c) Perimeter *flashings* at a floor level opening must comply with the following:

(i) Where the whole *wet area* floor is *waterproof*, at floor level openings, a *waterstop* must be installed that has a vertical leg finishing flush with the top of the finished floor level with the floor *membrane* being terminated to create a *waterproof* seal to the *waterstop* and to the perimeter *flashing* (see Figure 10.2.24).

(ii) In any other case, at a floor level opening a *waterstop* must be installed that has a vertical leg finishing flush with the top of the finished floor level and waterproofed to the perimeter *flashing*.

(d) A vertical *flashing*, either external to the *wet area* or internal, must extend a minimum of 1800 mm above the finished floor level.

Explanatory Information

Vertical *flashing* may be used as follows:

(a) External vertical *flashing* may be used with external *membrane* systems and installed behind the wall sheeting or render. They must have legs of sufficient width to allow the wall sheeting or render to overlap by not less than 32 mm.

(b) Internal vertical *flashing* may be used with both external and internal *membrane* systems provided each leg has a minimum overlap of 40 mm to the wall sheeting or render and where used with—

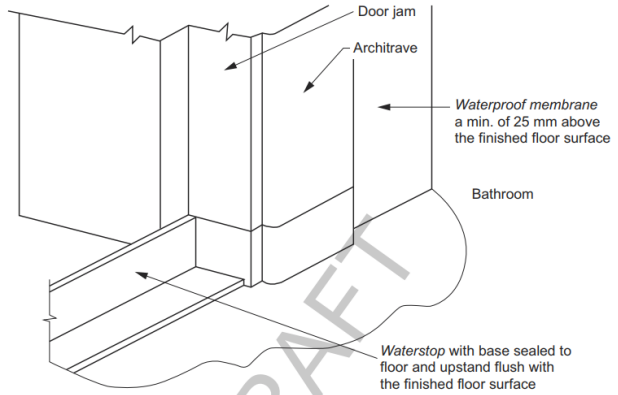
(i) internal *membranes*, must extend vertically from the shower tray; and

(ii) external *membranes*, must overlap the top edge of the floor *waterproofing system* by not less than 20 mm; and

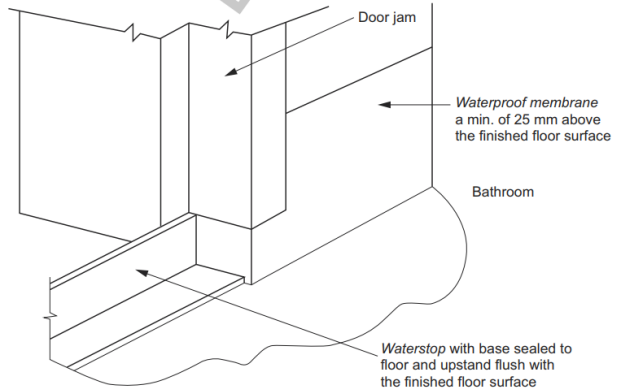
(iii) *preformed shower bases* or baths, must extend to the bottom edge of the wall sheeting or render.

AS 3740 has more detail about Waterstops and sealants at waterstops

Figure 10.2.24: Typical bathroom door details for whole bathroom waterproofing



(a) After installation of architrave



(b) Prior to installation of architrave

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10.2.25 Shower area floor membrane application

[New for 2022]

The *membrane* must be applied over the floor and up the vertical face of the wall substrate material as follows:

(a) For showers with *hobs* or stepdowns, to a height the greater of—

(i) a minimum height of 150 mm above the finished tile level of the floor; or

(ii) 25 mm above the *maximum retained water level*.

(b) For hobless showers, a minimum height of 150 mm above the finished tile level of the floor.

10.2.26 Shower area membrane requirements for wall sheeting substrates

[New for 2022]

(1) Where wall sheeting is used with an external *membrane* system in a *shower area* it must be *waterproof* to prevent water movement by capillary action.

(2) Where *water resistant* plasterboard is used all cut edges that have the potential to be affected by water and moisture must be waterproofed, including the bottom edge over a *preformed shower base*.

10.2.27 Bond breaker installation for bonded membranes

[New for 2022]

(1) *Bond breakers* must be installed at all wall/wall, wall/floor, *hob*/wall junctions and at movement joints where the *membrane* is bonded to the substrate.

(2) *Bond breakers* must be of the type compatible with the flexibility class of the *membrane* to be used.

Explanatory Information

Typical details for *bond breaker* types are given in Explanatory Figure 10.2.27.

Figure 10.2.27 (explanatory): Typical bond breaker details

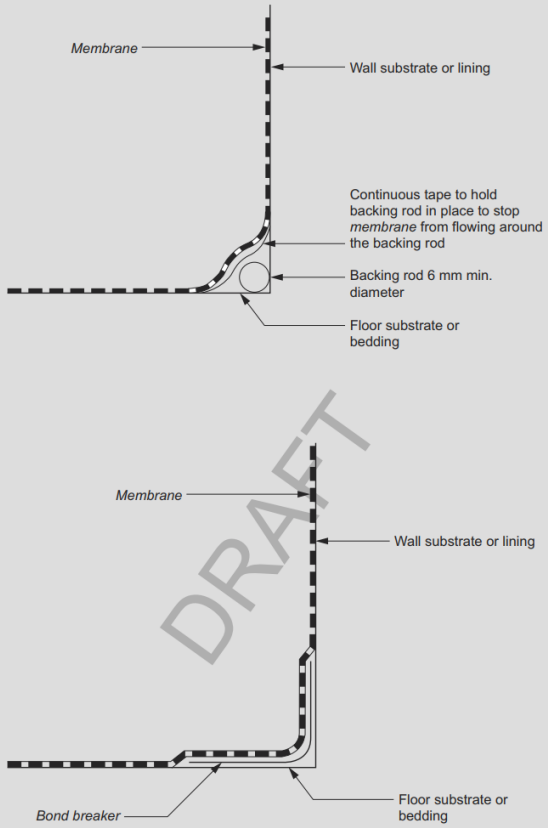

Figure Notes

(1) *Bond breakers* for Class I *membranes* (low extensibility) allow the *membrane* to flex rather than stretch.

(2) *Bond breakers* for Class II *membranes* (medium extensibility) allow the *membrane* to stretch. If a tape is used as a *bond breaker*, either the *membrane* must not bond to the tape or the tape must have elastic properties similar to the *membrane*.

(3) *Bond breakers* for Class III *membranes* (high extensibility) allow the *membrane* to have an even thickness.

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10.2.28 Installation of internal membranes

[New for 2022]

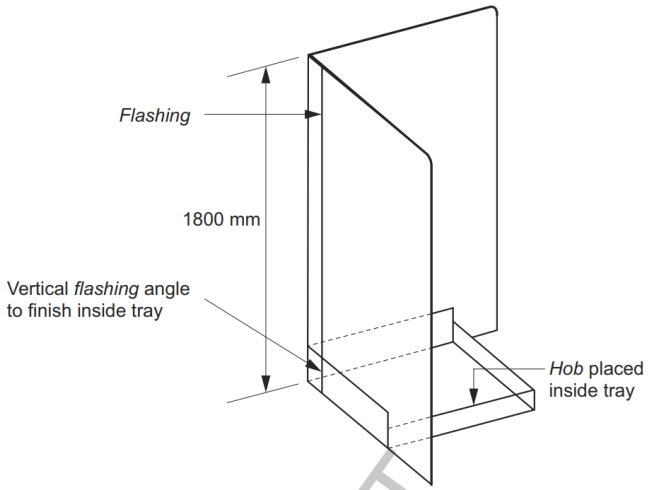
(1) Where a shower has a *hob*—

(a) the *membrane* must be brought over the top of the *hob*, down the outside face and terminate not less than 50 mm onto the floor (see Figure 10.2.16); and

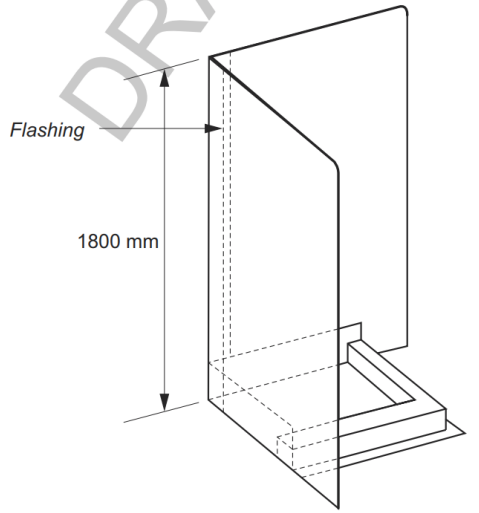
(b) the *membrane* must comply with Figure 10.2.28 for an internal shower tray.

(2) Where the shower has a *waterstop*, the *membrane* must be brought to the top of the finished floor, except where it is under a framed *shower screen* where it must terminate not less than 5 mm above the finished tile surface (see Figure 10.2.17 and Figure 10.2.18).

Figure 10.2.28: Typical shower construction



(a) External system-Shower membrane installed before wall sheeting



(b) Internal system-Shower membrane installed after wall sheeting

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10.2.29 Membrane to drainage connection

[New for 2022]

(1) *Membrane* drainage connections in concrete floors must comply with one of the following:

  (a) A *drainage flange* must be installed with the waterproofing *membrane* terminated at or in the *drainage flange* to provide a *waterproof* connection (see Figure 10.2.29).

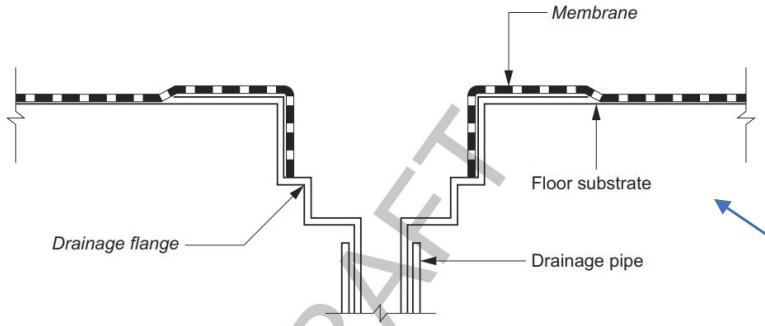
  (b) Where a *preformed shower base* is used, provision must be made to drain the tile bed and provide a *waterproof* connection to the drain.

(2) For *membrane* drainage connections in other floors, a *drainage flange* must be installed with the waterproofing *membrane* terminated at or in the *drainage flange* to provide a *waterproof* connection (see Figure 10.2.29).

(3) Where a *preformed shower base* is used, provision must be made to drain the tile bed and provide a *waterproof* connection to the drain.

(4) *Floor wastes* must be of sufficient height to suit the thickness of the tile and tile bed at the outlet position.

Figure 10.2.29: Typical membrane termination at drainage outlet



Explanatory Information: Drainage flanges

- For *membrane* drainage connections in concrete floors: *drainage flanges* may be either cast into the concrete slab or set into the top surface of the concrete slab or the tile bed.
- For *membrane* drainage connections in other floors: *drainage flanges* may be either set into the floor substrate or the tile bed.

10.2.30 Drainage riser connection

[New for 2022]

(1) Where a *preformed shower base* is used, the *drainage riser* must be connected to the tray with a *waterproof* joint.

(2) Where an in situ shower tray is used, the *membrane* must be able to form a permanent *waterproof* seal to the *drainage riser* or *drainage flange* (see Figure 10.2.29).

10.2.31 Door jambs on tiled floors

[New for 2022]

Where the bottom of a door jamb does not finish above the floor tiling, the portion of the door frame below the floor tiling must be waterproofed to provide a continuous seal between the perimeter *flashing* and the *waterstop*.

10.2.32 Shower screens

[New for 2022]

(1) For a shower with a *hob*, the *shower screen* must be installed flush with the *shower area* side of the *hob* or overhang into the *shower area*.

(2) For a shower with a stepdown, the *shower screen* must be installed flush with the finished vertical surface of the stepdown of the *shower area*.

(3) For a shower without a *hob* or stepdown, the *shower screen* must incorporate or be mounted on an inverted channel, positioned over the top of the *waterstop*, that defines the *shower area*.

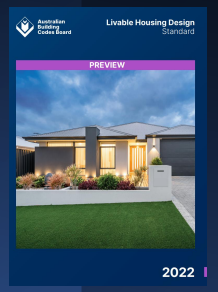
(4) For bath end walls and dividing walls abutting a shower, the *shower screen* must be positioned so that the bottom edge within the *shower area* is either flush with the outside edge of the bath or overhanging into the *shower area*.

Explanatory Information

A self-draining sub-sill is considered to be part of the *shower screen*.

Note – AS 3740:2021 shows the LCF recessed into substrate- HP doesn't..

NCC 2022 Changes - Livable Housing Design Standard



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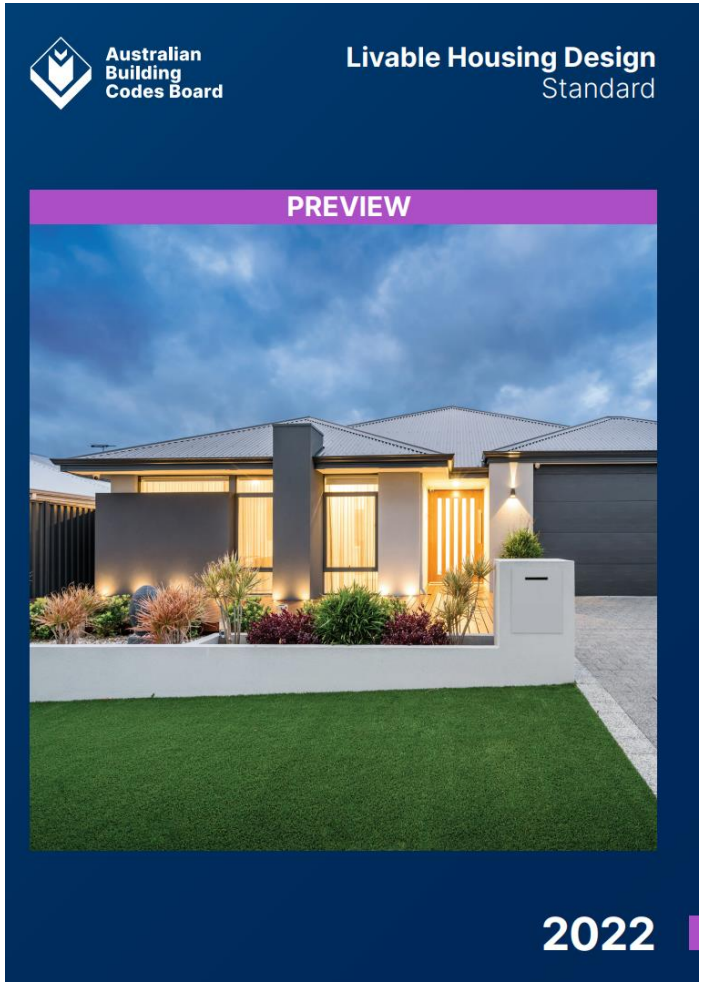
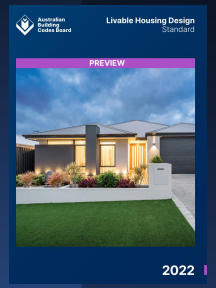


NCC 2022 Changes – Livable Housing Standard – Waterproof Relevant Sections



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Part 5 Shower

5.1 Application

At least one shower must comply with Clause 5.2.

Information

"At least one shower" means that in a dwelling with two or more showers, only one of the showers needs to comply with the requirements of this Part.

A shower subject to this Part is not required to be located on the ground or entry level of the dwelling.

5.2 Hobless and step-free entry

(1) At least one shower must have a hobless and step-fee entry.

(2) A lip not more than 5 mm in height may be provided for water retention purposes if it is constructed in accordance with the specifications given in Clause 4.15.3 and Figure 4.8.4 of AS 3740 or Part 10.2 of the ABCB Housing Provisions.

Information: Hobless and step-free

Clause 5.2(1) refers to a shower entry being 'hobless' and 'step-free' because those two terms have different meanings. A shower where the floor within the shower compartment is level with the floor adjacent to its entry would be 'step-free' but could still have a hob. Conversely, a shower with a step-down into the shower recess does not have a 'hob' (i.e. 'hobless'), but would not be 'step-free'. Therefore, to achieve the intent of Clause 5.2(1), it is necessary to specify that the shower is both 'hobless' and 'step-free'.

Information: Waterproofing

AS 3740 and Part 10.2 of the ABCB Housing Provisions include specific requirements for waterproofing a hobless, step-free shower area. Both are referenced in the NCC *Deemed-to-Satisfy Provisions* for general waterproofing of *wet areas* (note that Part 10.2 of the ABCB Housing Provisions only applies to Class 1 and 10 buildings).

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Questions?