

AS 3740:2021



STANDARDS  
Australia



# Waterproofing of domestic wet areas



This is a preview. [Click here to purchase the full publication.](#)

AS 3740:2021

This Australian Standard ® was prepared by BD-038, Wet Areas In Buildings. It was approved on behalf of the Council of Standards Australia on 7 July 2021.

This Standard was published on 23 July 2021.

The following are represented on Committee BD-038:

- Association of Wall and Ceiling Industries of Australia
- Australasian Concrete Repair and Remedial Building Association
- Australian Building Codes Board
- Australian Industry Group
- Australian Institute of Building Surveyors
- Australian Institute of Waterproofing
- Australian Tile Council
- Better Regulation Division
- CSIRO
- Engineered Wood Products Association of Australasia
- Housing Industry Association
- Institute of Building Consultants

This Standard was issued in draft form for comment as DR AS 3740:2020.

### **Keeping Standards up-to-date**

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

[www.standards.org.au](http://www.standards.org.au)

ISBN 978 1 76113 435 7

This is a preview. [Click here to purchase the full publication.](#)

# Waterproofing of domestic wet areas

Originated as AS 3740—1989.  
Previous edition AS 3740—2012.  
Fifth edition AS 3740:2021.

Standards Australia Ltd 2021

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Cth).

## Preface

This Standard was prepared by the Standards Australia Committee BD-038, Wet Areas in Buildings, to supersede AS 3740:2010.

The objective of this document is to set out the criteria for waterproofing wet areas within domestic buildings. It gives minimum requirements for materials, designs and installations.

The objective of this revision is to bring this document in line with the current waterproofing practices in the building industry.

Changes from the previous edition include the following:

- (a) Restructure for useability.
- (b) Addition of figures with examples of application.
- (c) Addition of information on risk levels of different areas.
- (d) Inclusion of appropriate details for various risk levels.
- (e) Clarification of usage definitions.
- (f) Increased ease of reference for varying conditions.
- (g) Revision of design and installation techniques.
- (h) Expansion of information on shower and bath scenarios.
- (i) Inclusion of informative integrity testing.

The role of waterproofing is to install waterproofing systems as a combination of waterproof and water-resistant materials in order to retain water within the designated wet area and exclude water from non-water-resistant building elements. It is intended that water be managed to an outfall at surface and substrate. Systems are intended to accommodate expected service conditions of the wet area to prevent damage by water and accumulated moisture to building elements.

This document is not to be interpreted as preventing the use of materials, systems or methods that meet the design and installation criteria set out in this document, but are not specifically referred to herein (alternative solution).

Additional requirements may need to be considered for wet areas intended for use by people with disabilities.

Standards Australia thanks Stormtech for permission to reproduce the following: [Figure 4.3.1\(A\)](#), [Figure 4.3.1\(B\)](#), [Figure 4.3.1\(C\)](#), [Figure 4.3.2](#), [Figure A.6\(C\)](#) and [Figure A.6\(D\)](#). These figures are copyright of Stormtech. All rights reserved.

The terms “normative” and “informative” are used in Standards to define the application of the appendix to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

# Contents

<b>Preface</b>	<b>ii</b>
<b>Section 1 Scope and general</b>	<b>1</b>
1.1 Scope	1
1.2 Normative references	1
1.3 Terms and definitions	2
<b>Section 2 Design</b>	<b>7</b>
2.1 Design principles	7
2.1.1 General	7
2.1.2 Material selection	7
2.2 Shower classification	7
2.2.1 Enclosed showers	7
2.2.2 Unenclosed showers	7
2.3 Requirements for fall	8
2.3.1 Falls in substrate	8
2.3.2 Falls in shower area floor finishes (Category 1)	8
2.3.3 Falls in wet area floor finishes adjacent to shower area where there is a floor waste (Category 2)	8
2.3.4 Falls in wet area floor finishes where there is no floor waste (Category 3)	8
2.3.5 Whole of bathroom designed as an unenclosed shower	9
<b>Section 3 Materials</b>	<b>10</b>
3.1 Scope of section	10
3.2 Compatibility	10
3.3 Materials	10
3.3.1 Waterproof	10
3.3.2 Water-resistant substrates	10
3.3.3 Water-resistant surface materials	11
3.4 Preformed, prefinished shower bases and enclosures	11
3.5 Sealants	11
3.6 Fastenings for substrate sheet linings	12
3.7 Adhesives	12
<b>Section 4 Installation</b>	<b>13</b>
4.1 Scope of section	13
4.2 Membrane installation for tile bed or screed	13
4.3 Membrane to drainage connection	13
4.3.1 Leak control flanges	13
4.3.2 Linear drainage connections	15
4.4 Surface preparation	16
4.4.1 Surface preparation	16
4.4.2 Requirements for fall in substrate	16
4.4.3 Moisture content of substrates	17
4.4.4 Wall sheeting preparation	17
4.4.5 Render preparation	17
4.5 Membrane application	17
4.5.1 Installation of an external membrane	17
4.5.2 Curing of membranes	17
4.5.3 Membrane inspection	18
4.5.4 Additional continuity testing	18
4.6 Membrane termination	19
4.6.1 Termination of membranes at shower recess waterstops	19
4.6.2 Termination of membranes at showers with hobs	19
4.6.3 Vertical membrane termination	20
4.7 Hob construction	20
4.8 Waterstops	20

4.8.1	General	20
4.8.2	Waterstop for unenclosed showers	20
4.8.3	Waterstops for enclosed showers	23
4.8.4	Waterstop for enclosed showers without hobs or set-downs	23
4.8.5	Showers located near exits to wet areas	24
4.9	Door openings	25
4.9.1	Perimeter flashing at floor level openings	25
4.9.2	Protection of door frames and architraves	25
4.10	Fillets and bond breakers — bond breaker installation for bonded membranes	28
4.11	Junctions, transitions, and terminations	29
4.11.1	Types of junctions, transitions, and terminations	29
4.11.2	Vertical flashing for shower wall junctions	30
4.12	Penetrations	30
4.12.1	Shower areas	30
4.12.2	Horizontal surface taps	31
4.12.3	Other penetrations in Category 1 areas	31
4.12.4	Niches, inlaid soap holders, and footrests	31
4.13	Baths and spas	32
4.13.1	General	32
4.13.2	Baths without showers over them	32
4.13.3	Baths with showers over them	35
4.13.4	Freestanding baths	38
4.13.5	Bath end walls abutting a shower	38
4.13.6	Spa baths	38
4.14	Preformed shower bases	39
4.15	Enclosed shower screen placement	41
4.15.1	Showers with hobs	41
4.15.2	Showers with step-downs	41
4.15.3	Showers without hobs or step-downs	41
4.15.4	Bath end walls and nib walls abutting a shower	42
4.16	Vinyl	42
4.17	Polished concrete	45
4.18	Floor heating	45
<b>Appendix A (informative) Design considerations in wet-area waterproofing</b>		<b>46</b>
<b>Appendix B (informative) Falls in floor finishes</b>		<b>54</b>
<b>Appendix C (normative) Membrane continuity testing</b>		<b>55</b>
<b>Appendix D (informative) Suggested installation checklist</b>		<b>57</b>
<b>Appendix E (informative) Compatibility</b>		<b>59</b>
<b>Appendix F (informative) Testing for moisture content in subfloors</b>		<b>62</b>
<b>Bibliography</b>		<b>65</b>

# Australian Standard®

## Waterproofing of domestic wet areas

### Section 1 Scope and general

#### 1.1 Scope

This document sets out minimum requirements for the materials, design and installation of waterproofing for domestic wet areas.

This document applies to internal wet areas as defined in the National Construction Code (NCC).

NOTE 1 [Appendix A](#) provides design considerations for categories of wet area waterproofing.

The following are excluded from the scope of this document:

- (a) Situations where flooding of the wet areas occurs through overflowing of vessels or plumbing failures.
- (b) Concrete admixtures or penetrant sealers or similar.
- (c) Decorative coatings.
- (d) Communal or group wet areas such as shower areas as in swimming pool complexes, sporting facilities, steam rooms, and similar situations.

NOTE 2 A suggested checklist of items to be reviewed following installation of waterproofing is provided in [Appendix D](#).

NOTE 3 A method to determine whether the subfloor moisture content is suitable for the installation of waterproof membranes is provided in [Appendix F](#).

#### 1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their contents constitutes requirements of this document:

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1288, *Glass in buildings—Selection and Installation*

AS 1566, *Copper and copper alloys—Rolled flat products*

AS 1684.2, *Residential timber-framed construction, Part 2: Non-cyclonic areas*

AS 1684.3, *Residential timber-framed construction, Part 3: Cyclonic areas*

AS 1684.4, *Residential timber-framed construction, Part 4: Simplified—Non-cyclonic areas*

AS 1884, *Floor coverings—Resilient sheet and tiles—Installation practices*

AS 2870, *Residential slabs and footings*

AS 3500.2, *Plumbing and drainage, Part 2: Sanitary plumbing and drainage*

AS 3588, *Shower bases and shower modules*

AS 3600, *Concrete structures*

AS 3700, *Masonry structures*

AS/NZS 1170.1, *Structural design actions, Part 1: Permanent, imposed and other actions*

AS/NZS 1170.2, *Structural design actions, Part 2: Wind actions*

AS/NZS 2269 (all parts), *Plywood—Structural*

AS/NZS 2588, *Gypsum plasterboard*

AS/NZS 2908.2, *Cellulose-cement products, Part 2: Flat sheets*

AS/NZS 2924.1, *High pressure decorative laminates—Sheets made from thermosetting resins, Part 1: Classification and specifications*

AS/NZS 4858, *Wet area membranes*

### 1.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 1.3.1

##### **backing rod**

section of closed cell foam made from polyethylene or similar suitable product

#### 1.3.2

##### **bond breaker**

system that prevents the membrane bonding to the substrate, bedding or lining in order to dissipate the shear forces that may otherwise cause failure of the membrane

Note 1 to entry: This may include proprietary transition tapes when used in accordance with the product specifications.

#### 1.3.3

##### **dry film thickness**

##### **DFT**

measurement of thickness of a coating remaining on the surface after full cure of the coating

#### 1.3.4

##### **competent person**

person who has acquired, through education, training, qualification or experience or a combination of these, the knowledge and skill enabling that person to perform the task required

#### 1.3.5

##### **efflorescence**

accumulation of calcium and/or other soluble salts that stains or etches surface finishes after evaporation of the solvent (water)

Note 1 to entry: Typically, cement-based installation materials may provide the initial source of soluble salts.

#### 1.3.6

##### **fall**

difference in level over a given length in the direction of flow

Note 1 to entry: Commonly expressed as the ratio or percentage of unit rise to horizontal distance.

#### 1.3.7

##### **flashing**

strip or sleeve of impervious material dressed, fitted or built-in to provide a barrier to moisture movement, or to divert the travel of moisture, or to cover a joint where water would otherwise penetrate between wet and dry areas

#### 1.3.8

##### **flashing, perimeter**

flashing used at the floor-wall junction



**1.3.9****flashing, vertical**

flashing used at wall junctions within wet areas

**1.3.10****floor waste**

grated inlet within a floor intended to drain the floor surface

**1.3.11****full cure stage**

stage of curing at which the product is cured for service

Note 1 to entry: This may include components such as membranes, primers, sealants, and other materials requiring curing.

**1.3.12****hob**

upstand at the perimeter of a shower area

**1.3.13****insert bath**

bath where the bath lip is installed onto a horizontal plinth or surface

**1.3.14****leak control flange**

flange connected to a waste pipe, at the point at which it passes through the floor substrate

Note 1 to entry: Intended to prevent leakage and enable tile bed drainage into the waste pipe and connection of waterproofing membrane into the waste pipe.

**1.3.15****linear drain**

longitudinal floor waste containing a channel, waste outlet, and grating

Note 1 to entry: Also known as shower channel, strip grate.

**1.3.16****maximum retained water level**

point at which surface water will start to overflow out of the shower area

**1.3.17****may**

indicates the existence of an option

**1.3.18****membrane**

barrier that is impervious to moisture

Note 1 to entry: A barrier may be a single or multi-part system.

**1.3.19****membrane states**

stages of curing

Note 1 to entry: See also [1.3.26](#) recoat stage, [1.3.23](#) overlay stage, [1.3.11](#) full cure stage.

**1.3.20****membrane, external**

membrane that is installed behind the wall sheeting or render

Note 1 to entry: Usually external membranes are preformed trays or sheet material systems.