

Acceptable Solution

E3 Internal Moisture

First Edition – effective 5 November 2020

Internal Wet-area Membrane Systems

OVERVIEW (commentary only)

E3/AS2 references a code of practice for the selection, design and installation of internal wet-area membrane systems that help protect *buildings* from the effects of overflow and water splash when required as part of clauses E3.3.2 – E3.3.6 of the Building Code.

REQUIREMENTS

1.0 Internal Wet-area Membrane Systems

1.1 Building work involving internal wet-area membrane systems that are installed in accordance with sections 1 – 4 of the Waterproofing Membrane Association Incorporated (WMAI) Code of Practice for Internal Wet Area Membrane Systems (IWAM) as modified by Paragraph 2.0 of this Acceptable Solution will comply with New Zealand Building Code (NZBC) clauses E3.3.2 – E3.3.6, when the additional requirements described below are met:

NZBC Performance clause	Installation requirements additional to the IWAM Code of Practice
<p>E3.3.2 Free water from accidental overflow from <i>sanitary fixtures</i> or <i>sanitary appliances</i> must be disposed of in a way that avoids loss of <i>amenity</i> or damage to <i>household units</i> or other <i>property</i>.</p>	<p>The building work involving internal wet-area membrane systems need only include a floor waste in locations where accidental overflow could damage an adjoining <i>household unit</i> or <i>other property</i>.</p> <p>Compliance of the floor waste with NZBC clause G13 Foul water is outside the scope of this Acceptable Solution.</p>

NZBC Performance clause	Additional requirements additional to a membrane installed in accordance with the IWAM Code of Practice
<p>E3.3.3</p> <p>Floor surfaces of any space containing <i>sanitary fixtures</i> or <i>sanitary appliances</i> must be <i>impervious</i> and easily cleaned.</p>	<p>The building work involving internal wet-area membrane systems must be installed in conjunction with an over-surface finish that is easy to clean, to form the floor surfaces of spaces containing <i>sanitary fixtures</i> or <i>sanitary appliances</i>.</p> <p>Over-surface finishing work, such as tiling, is outside the scope of this Acceptable Solution.</p>
<p>E3.3.4</p> <p>Wall surfaces adjacent to <i>sanitary fixtures</i> or <i>sanitary appliances</i> must be <i>impervious</i> and easily cleaned.</p>	<p>The building work involving internal wet-area membrane systems must be installed in conjunction with an over-surface finish that is easy to clean, to form the wall surfaces adjacent to <i>sanitary fixtures</i> or <i>sanitary appliances</i>.</p> <p>Over-surface finishing work, such as tiling, is outside the scope of this Acceptable Solution.</p>
<p>E3.3.5</p> <p>Surfaces of <i>building elements</i> likely to be splashed or become contaminated in the course of the <i>intended use</i> of the <i>building</i>, must be <i>impervious</i> and easily cleaned.</p>	<p>The building work involving internal wet-area membrane systems must be installed in conjunction with an over-surface finish that is easy to clean, to form the surfaces of <i>building elements</i> that are likely to be splashed or become contaminated in the course of the <i>intended use</i> of the <i>building</i>.</p> <p>Over-surface finishing work, such as tiling, is outside the scope of this Acceptable Solution.</p>
<p>E3.3.6</p> <p>Surfaces of <i>building elements</i> likely to be splashed must be constructed in a way that prevents water splash from penetrating behind linings or into concealed spaces.</p>	<p>The building work involving internal wet-area membrane systems must form the surfaces of the <i>building elements</i> that are likely to be splashed.</p> <p>The construction of any surfaces that are likely to be splashed, but do not involve internal wet-area membranes, is outside the scope of this Acceptable Solution.</p>

1.2 The IWAM Code of Practice may exceed the requirements of the NZBC in relation to:

- a) The provision of floor wastes, where these are not located where accidental overflow could damage an adjoining household unit; and
- b) The provision of overflows within plumbed cabinetry units; and
- c) The installation of a waterproof membrane system behind *impervious* secondary shower linings (including showers over baths), and beneath and behind *impervious* sanitary fixtures which are sealed to adjacent walls and floors in a manner that prevents water penetrating behind linings and into concealed spaces; and
- d) The height which a waterproof membrane system in a shower must extend above the shower rose.

1.3 Within the IWAM Code of Practice, text that is WMAI commentary is non-mandatory and does not form part of this Acceptable Solution. Such text is shown in italics on a grey background within the IWAM Code of Practice.

2.0 Modifications to the IWAM Code of Practice

2.1 Modification to IWAM Code of Practice Section 1.2.4.

Delete from Section 1.2.4 of the IWAM Code of Practice the commentary text that reads: "Both the Applicator (ie the company), and the Installer (ie the person or people) who carry out or supervise the work, must be certified by the Supplier. The Applicator should provide a Producer Statement – Construction (PS3) to verify that the installation of the waterproof membrane system complies with this Code of Practice and the approved building consent documents."

Also delete from Section 1.2.4 of the IWAM Code of Practice the statement "All waterproof membrane systems must be installed by or under the supervision of an installer certified by the supplier of the waterproof membrane system, working for a certified applicator".

SUPPORTING INFORMATION (commentary only)

The IWAM Code of Practice is available for free download from:

<https://www.building.govt.nz/assets/Uploads/building-code-compliance/e-moisture/e3-internal-moisture/code-of-practice-for-internal-wet-area-membrane-systems-4th-edition-august-2020.pdf>

Effective use

The IWAM is applicable to internal wet-area waterproof membrane systems, including their substrates, for bathrooms, kitchens and laundries within *buildings*. Facilities such as industrial processing areas (for instance a cowshed or an industrial food making facility), or the surrounds and changing facilities of internal swimming pools or spas, are outside the IWAM scope.

Information on the types of locations where accidental overflow could damage an adjoining *household unit* or *other property* is available in E3/AS1 Paragraphs 2.0.2 – 2.0.3. Information on the height which a waterproof membrane system in a shower must extend above the shower rose is available in E3/AS1 Paragraph 3.3.1.

Demonstrating installation quality

The Building Consent Authority must be satisfied on reasonable grounds that the installation of a waterproof membrane system meets the requirements of the NZBC.

Avoiding problems

Internal wet-area membrane systems that will be installed in conjunction with specialist systems such as underfloor heating and sound insulation systems are outside the scope of this Acceptable Solution.

Over-surface finishing work, such as tiling, is outside the scope of this Acceptable Solution. Where an over-surface finish must be easy to clean to enable compliance with NZBC clauses such as E3.3.2 – E3.3.5, compliance of that finish must be demonstrated by other means.

SUPPORTING INFORMATION (commentary only)**Other requirements of clause E3**

This Acceptable Solution cannot be used to demonstrate compliance with NZBC Performance clause E3.3.1, which is not addressed by the IWAM Code of Practice. Building designers using this Acceptable Solution to demonstrate compliance of building work involving internal wet-area membrane systems will separately need to demonstrate compliance with NZBC Performance clause E3.3.1:

NZBC Performance clause	Additional information
<p>E3.3.1</p> <p>An adequate combination of <i>thermal resistance</i>, ventilation, and space temperature must be provided to all <i>habitable spaces</i>, bathrooms, laundries, and other spaces where moisture may be generated or may accumulate.</p> <p>Performance E3.3.1 does not apply to <i>communal non-residential, commercial, industrial, outbuildings, or ancillary buildings</i>.</p>	<p>This NZBC Performance clause is outside the scope of this Acceptable Solution.</p> <p>Paragraphs 1.0 – 1.3.3 of Acceptable Solution E3/AS1 provide a means of demonstrating compliance with NZBC Performance clause E3.3.1.</p>

REFERENCES AND DEFINITIONS**REFERENCES**

For the purposes of NZBC compliance, the documents referenced in this Acceptable Solution must be the editions, along with their specific amendments, listed in this section.

Publisher and document name/number

Waterproofing Membrane Association Inc.	Code of Practice for Internal Wet-area Membrane Systems August 2020
---	--

DEFINITIONS

Within this Acceptable Solution, words and terms that are italicised in the text have the meaning given in this section.

Term and definition

Allotment	has the meaning ascribed to it by section 10 of the Building Act 2004
Amenity	means an attribute of a <i>building</i> which contributes to the health, physical independence, and well being of the <i>building's</i> users but which is not associated with disease or a specific illness
Building	has the meaning ascribed to it by sections 8 and 9 of the Building Act 2004
Building element	any structural or non-structural component and assembly incorporated into or associated with a <i>building</i> . Included are <i>fixtures</i> , services, drains, permanent mechanical installations for access, glazing, partitions, ceilings and temporary supports
Fixture	an article intended to remain permanently attached to and form part of a <i>building</i>

**DEFINITIONS
(CONTINUED)**

Within this Acceptable Solution, words and terms that are italicised in the text have the meaning given in this section.

Household unit	means any <i>building</i> or group of <i>buildings</i> , or part of any <i>building</i> or group of <i>buildings</i> , used or intended to be used solely or principally for residential purposes and occupied or intended to be occupied exclusively as the home or residence of not more than one household; but does not include a hostel or boardinghouse or other specialised accommodation
Impervious	that which does not allow the passage of moisture
Intended use	intended use of a <i>building</i> includes— (a) any reasonably foreseeable occasional other use that is not incompatible with the <i>intended use</i> ; and (b) normal maintenance; and (c) activities taken in response to fire or any other reasonably foreseeable emergency—but does not include any other maintenance and repairs or rebuilding
Other property	means any land or <i>buildings</i> or part thereof which are— (a) not held under the same <i>allotment</i> ; or (b) not held under the same ownership—and includes any road
Sanitary appliance	an appliance which is intended to be used for <i>sanitation</i> , but which is not a <i>sanitary fixture</i> . Included are machines for washing dishes and clothes
Sanitary fixture	any <i>fixture</i> which is intended to be used for sanitation. Toilets, urinals, bidets, baths, showers, basins, sinks and tubs are examples of common <i>sanitary fixtures</i> .
Sanitation	the term used to describe the activities of washing and/or excretion carried out in a manner or condition such that the effect on health is minimised, with regard to dirt and infection