

WATER SPLASH FLOORING: THE BUILDING CODE AMENDMENTS AND ITS EFFECT ON FLOORING

(Written by Jeff Henry, Technical writer for Floor NZ, May 2022)

Is it just the bathroom or is it a walk-in shower area, does it include the kitchen? The term wet area can be a little confusing. Wet area was a defined term only in the simple house acceptable solution which was withdrawn in 2020. Wet area has never been referenced in E3/AS1.

There is no doubt that the amendments to E3/AS1 Acceptable Solution introduced late last year have caused confusion across the construction sector; including the household owner when they visit flooring stores.

While developed separately from E3/AS1, the 'Building (Building Products and Methods, Modular Components, and Other Matters) Amendment Act 2021' is the first phase of a suite of reforms to building legislation, which introduced mandatory minimum information requirements for building products. The intention is to provide more information and confidence for home owners, builders and designers and to help choose the right products and use them as intended. It also assists building consent authorities.

For flooring, E3/AS1 internal moisture has changed the way floor coverings are deemed to comply with the building code. In summary, the two materials covered as Acceptable Solutions by E3/AS1 are:

- 1) integrally water proof sheet material, example vinyl with joints and edges sealed/coved where water splash may occur; and

- 2) ceramic or stone tiles laid having 6% maximum water absorption, on a continuous impervious substrate or a membrane specified by the manufacturer as being suitable for the tiles, substrate material and the environment of use.

Compliance for other popular and historically used floor covering options, such as timber/based, laminate, hybrid, vinyl planking may be demonstrated via Alternative Solution. An Alternative Solution requires providing appropriate supporting information at the time of consent. The vast majority of these floor coverings are manufactured overseas and are extensively used globally. They can be specifically designed for a kitchen or bathroom area; or both.

Building Authorities have a process to use to determine compliance. The information supplied for the floor covering and any associated installation materials should match the intended area/usage with the objective and performance criteria of the E3/AS1 clause. To read further into the process a building authority will use to determine compliance visit the link below. This will give you an insight on how decisions are made.

<https://www.buildmagazine.org.nz/articles/show/alternative-solutions-provide-options>

There are many building products available on the market which allows for choice, diversity and innovation in building designs. The illustration below provides the framework where Alternative Solutions are shown to make up a significant part of the building products used. (Source: MBIE www.How the building code works)

The Building Code regulatory framework is illustrated in Figure 1, below.

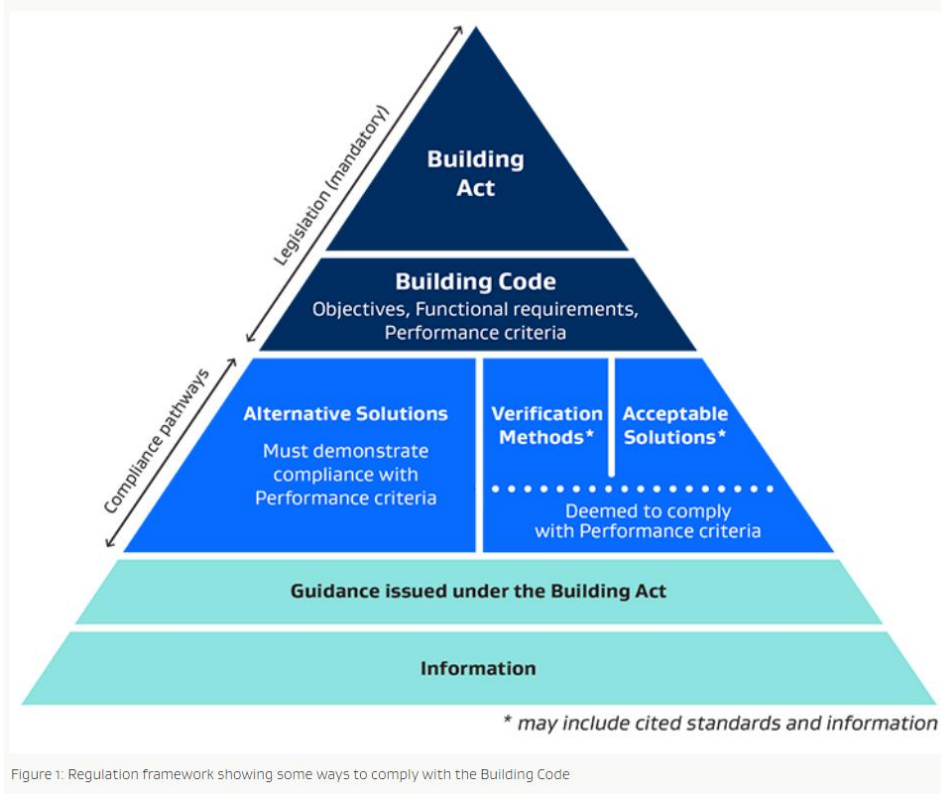


Figure 1: Regulation framework showing some ways to comply with the Building Code

How much has E3/AS1 actually changed?

There has been much confusion and different interpretations made around the amendments.

There are not as many amendments as some would think. In summary there are three areas where amendments have been made. Two are additions to already current sections.

- 1) **Water splash on Floor Lining materials** - anything other than the two materials covered in E3/AS1 (in short, sheet vinyl and ceramic or stone tiles) now require supporting information at time of consent about the product and its surface being impervious and easily cleaned. This amendment lines up with the 'Building (Building Products and Methods, Modular Components, and Other Matters) Amendment Act 2021'.

- 2) **Over-flow** - there has been one subsection added to E3/AS1, the original clause which has been current since 2001. The addition mentions that if wastes are not specified then Over flow can also be in the form of integrated overflows and water flow restrictors in household kitchens and tubs. This amendment allows for designers to specify integrated overflow systems and water restrictors to contain and dispose of the water in a house rather than specify a floor waste.

- 3) **Containment** - there has been one subsection added to E3/AS1, the original clause that has been current since 2001. As well as Impervious floor covering surfaces covered or sealed joints at the wall, the additional paragraph mentions the area extends to the doorway and all walls of the room, or to at least 1.5 metres from all sanitary fixtures and sanitary appliances in open-plan rooms.

Looking at the 1.5 metre amendment and putting it into context. If there is an

island bench between a kitchen and dining area and you were doing the dishes, any typical water splash under normal use would be in the kitchen side of the room rather than the dining side of the room. Where carpet has been a choice in dining areas for many years this should still be considered as a suitable option, particularly in small apartments where the rooms and areas are confined. Designers and specifiers will want to discuss the Alternative Solution with the local council.

Membrane use

It is now mandatory in E3/AS1 for ceramic or stone tiles to be laid on a continuous impervious substrate or a membrane. While this is the case for ceramic or stone tiles, it is not a requirement in E3/AS1 for the example of sheet vinyl as an Acceptable Solution, or other flooring coverings (e.g., timber or timber based, laminate, hybrid, vinyl planking). What could determine the use of a membrane or a moisture protection system will be the type of building, area, usage and how that fits with the supporting information provided by the supplier of the floor covering.

Keeping it in context

All floor coverings have their benefits and limitations as every building design and usage is different so context of the situation is important when choosing floor coverings for areas. As an example, water splash from doing the dishes in a household kitchen is different to the water splash when getting out of a shower or bath in a bathroom.

The context of this situation and the intent of the E3/AS1 should be considered together i.e., is the chosen floor covering likely to cause illness or injury to the people through accumulation of moisture

and/or cause water damage to an adjoining building or building element? This may determine what is used in the bathroom or kitchen, or it may determine the installation method and the associated materials that are to be used.

The amendments should not deter specifiers and home users from having choice with their preferred floor coverings. Timber, laminate, hybrid, vinyl planking are used worldwide. Not much has actually changed with the E3/AS1 amendments. The biggest change is the need to for designers and specifiers to provide information for an Alternative Solution. Working with your flooring suppliers and local councils is the best way to make sure your projects run smoothly.