



E3/AS1 Luxury Vinyl Tiles (LVT) Alternative Solution Compliance

This technical guide talks to the INZIDE recommended “**alternative solution**” to meet the **E3/AS1 NZ Building Code** requirement. Using technical information to demonstrate Building Code compliance is allowable under MBIE guidelines, as described on MBIE’s [Building Performance website](#).

INZIDE has proudly distributed both Forbo branded and Interface branded Luxury Vinyl Tile (LVT) in New Zealand since 2015. Both brands are widely recognized internationally, installed into residential and commercial spaces alike in over 50 countries, in areas such as kitchens, laundries, toilets, bathrooms, dining areas and/or wherever else a resilient acoustic-dampening LVT is required.

Products are manufactured in Holland (Forbo) and South Korea (Interface) to strict ISO requirements (Quality, Environmental and Health & Safety) and both Forbo and Interface LVT brands are backed by INZIDE’s full 15-year performance warranty for commercial applications.

It is key to note that B2 Durability is a consideration behind E3 and in particular B2.3.1 “*Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, OR; c) 5 years if;*

- i. *The building elements are easy to access and replace, and*
- ii. *Failure of those building elements to comply with the building code would be easily detected during normal use of the building”*

The LVT flooring is easy to access and replace and can be easily detected during normal use of the building. Hence it needs a 5 year life-span to meet code. Interface & Forbo LVT brands are backed by a FULL 15-year performance warranty for commercial applications and hence comply with B2 of the Building code.

E3 – Amendment 7 to Acceptable Solution E3/AS1 for internal moisture – effective 3rd November 2021

Amendment 7 reclassifies dishwashers and washing machines as Sanitary appliances and basins and sinks as Sanitary Fixtures. There is now a requirement to ensure flooring solutions have a finish that is both impervious and easily cleaned extending at least 1.5 metres from all sanitary fixtures and appliances. **Resilient sheet flooring is accepted automatically as an alternative solution as it is impervious.**

E3.3.1

An adequate combination of thermal resistance, ventilation and space temperature must be provided to all habitable spaces, bathrooms, laundries and other spaces where moisture may be generated or may accumulate.

Please refer to page 42 of FloorNZ’s [Best Practice Guidelines For the New Zealand Flooring Industry | Resilient Floor Coverings Planning and Installation](#) (“Best Practice Guidelines for Resilient Floor Coverings”)

E3.3.2

Free water from accidental overflow from sanitary fixtures or sanitary appliances must be disposed of in a way that avoid loss of amenity or damage to household units or other property

Where a floor waste is installed (if any) is a building/plumbing design consideration (not a flooring design consideration).

If it is determined that the flooring material is required to “contain free waterflow from accidental overflow prior to disposal” (i.e. mopping up), then a waterproof membrane must be used (as per Appendix 1).

E3.3.3

Floor surfaces of any space containing sanitary fixtures or sanitary appliances must be impervious and easily cleaned.

Both Interface and Forbo LVT are manufactured with a high-density PVC wear layer and urethane coat, making them impervious to moisture penetration. This urethane layer makes the LVT extremely easy to clean and provides high clarity. The PVC layer provides excellent impact resistance and ensures the LVT is impervious to moisture.

Vinyl sheet is an acceptable solution.

Vinyl tiles are made as a vinyl sheet and then cut to the tile size. As such each tile is impervious to moisture. This leaves the seams as potential pervious areas depending on how tightly they are butted together. Using a Wet area adhesive such as UZIN KE68 or Ardex AF180 to install the LVT ensures that the Vinyl tiles are brought back to being a sheet vinyl as the wet area adhesives are also impervious to moisture. Tiles rolled into V1 notched trowelled adhesive creating good adhesive transfer ensures that seams have adhesive forced up into them and that moisture is contained on the surface of the LVT.

Independently tested in New Zealand by SGS Industrial Certification Services, a 24-hour water spill test showed that there was no noticeable change to the Interface and Forbo LVT flooring and that there was no water penetration through to the flooring substrate when installed per the above installation methodology. In addition all perimeter edges and penetrations are to be sealed with a MS Silicone.

E3.3.4

Wall surfaces adjacent to sanitary fixtures or sanitary appliances must be impervious and easily cleaned.

Please refer to wall supplier/builder for specific wall information.

E3.3.5

Surfaces of building elements likely to be splashed or become contaminated during the intended use of the building, must be impervious and easily cleaned.

Refer answer provided to clause E3.3.3 above and to INZIDE's [Cleaning & Maintenance Guides](#)

E3.3.6**Surfaces of building elements likely to be splashed must be constructed in a way that prevents watersplash from penetrating behind linings or into concealed spaces**

FloorNZ's Best Practice Guidelines for Resilient Floor Coverings (applicable to Interface and Forbo LVT) state that tiles are to be firmly butted together and have no gaps or cracks around any part of the perimeter.

The diagram in Appendix 1 illustrates the installation requirements to comply with clause E3.3.6. The use of a silicone bead around the perimeter and a wet room adhesive being used is mandatory. The use of a waterproof membrane (and primer) is a site-specific answer to:

- a) The watersplash being frequent enough to cause free flowing water; and/or
- b) The watersplash accumulating over time (not being mopped up regularly) causing free flowing water.

Interface and Forbo LVT comply with E3/AS1 as an acceptable alternative solution when this installation solution is used.

For further information, contact:

*Steve Aschebrock
Managing Director, INZIDE Commercial Ltd
Mob: 021 702 368
Tel: 09 441 9850
Email: steve@inzide.co.nz*

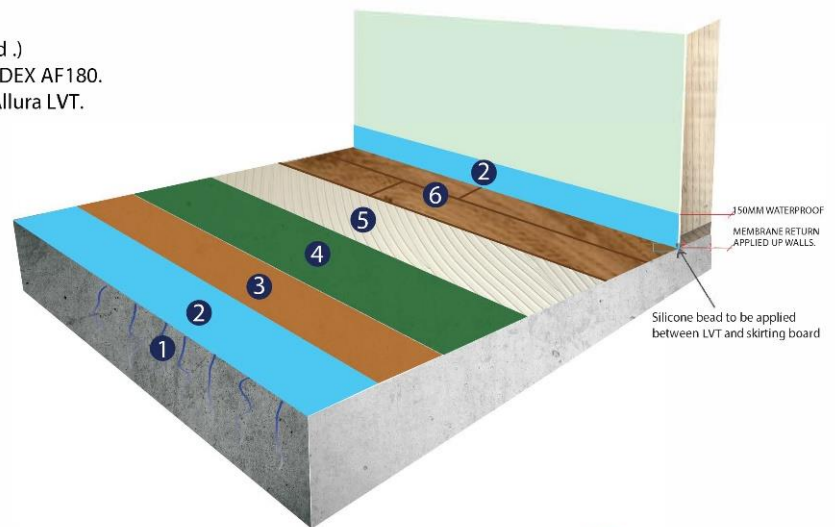
APPENDIX 1

LUXURY VINYL TILE (LVT) WET ROOMS CONTAINMENT INSTALLATION SYSTEM ALTERNATIVE SOLUTION- E3/AS1 BUILDING CODE - INTERNAL MOISTURE FOR FINISHES TO FLOORS:

Containment - water from accidental overflow from a sanitary Fixture that “could damage an adjoining household unit or other property”. The affected areas are defined as having a sanitary Fixing (e.g. toilet, sink, shower or bath) or sanitary appliance (e.g. washing machine or dishwasher.)

Must be read in conjunction with E3/AS1 November 4th 2021 Building Code.

- 1 Concrete Subfloor.
- 2 Waterproof Membrane if required for a wet area.
- 3 Water based primer (i.e Uzin PE-280 or Ardex PSI)
- 4 Subfloor Preparation Systems (Floor leveling compound .)
- 5 **ADHESIVE** : Wet area adhesive such as Uzin KE68 or ARDEX AF180.
- 6 Luxury Vinyl Tile (LVT) as Specified: Interface or Forbo Allura LVT.



The Functional requirement given in the clause E3.2 is the “building must be constructed to avoid the likelihood of – (a) Fungal growth or the accumulation of contaminants on linings and other building elements; and (b) Free water overflow penetrating to an adjoining household unit; and (c) Damage to building elements being caused by the presence of moisture”.