



Residential wet area floor wastes

The intent of this industry bulletin is to raise awareness of key issues surrounding the installation of floor wastes in wet areas and grading to the floor waste.

Key issues

Non-compliant waterproofing requirements and incorrect grading of floors in wet areas continue to be some of the most commonly recurring building complaints to the Building Commission. The objective of any waterproofing to a building structure is to safeguard the occupants from illness or injury and protect the building from damage caused by the accumulation of internal moisture from wet areas in a building. This objective includes the correct grading of floor surfaces to ensure ponding of water does not occur.

Incorrect installation of the waterproof membrane in critical locations, such as around the floor waste, often leads to building damage from water ingress into adjacent building elements.

Regulatory requirements and compliance with the NCC

Western Australian building and plumbing legislation adopts the National Construction Code (NCC) as the minimum necessary standards of relevant safety, health, amenity and sustainability. The NCC comprises of Volumes 1 and 2 being the Building Code of Australia (BCA) and Volume 3 being the Plumbing Code of Australia (PCA). The NCC is a performance based code which gives the option to follow Deemed-to-Satisfy Provisions or develop performance (alternative) solutions for compliance with the Performance Requirements.

Any alternative solution on BCA requirements must be certified by the building surveyor and clearly detailed on the plans and specifications specified in the relevant certificate of design compliance for the building permit.

One way of meeting the Performance Requirements of the BCA for wet areas in residential houses can be through compliance with AS 3740-2010 Waterproofing of domestic wet areas. The construction practices in this Australian Standard together with the requirements detailed in Table 3.8.1.1 of Volume 2 of the BCA set out the requirements for building elements in wet areas within a building that must be waterproof or water resistant.

The Deemed-to-Satisfy Provisions in Volume 1 of the BCA require floor wastes to be installed in Class 2 or 3 residential buildings or Class 4 parts of a building, where the floor of a bathroom or laundry is located at any level above a sole-occupancy unit or public space and the floor is required to be graded to the floor waste to permit drainage of water. The BCA Volume 2 is silent on the need to provide floor wastes in a Class 1 building such as a single dwelling house.

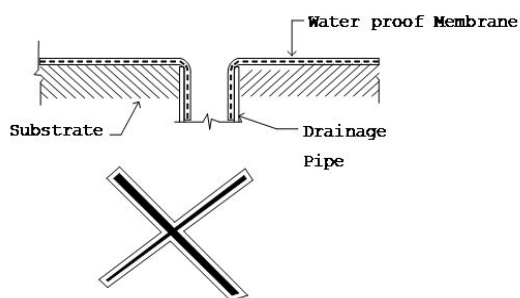
Except for rooms containing wall hung urinals in which a floor waste gully is mandatory, an untrapped floor waste is optional to achieve the performance requirements of the PCA. If an untrapped floor waste is installed, it is considered plumbing work and shall be installed in accordance with AS/NZS 3500.2, Clause 13.26.

There are, however, local health laws that each local government administers and which may contain requirements for the installation of a floor waste. Each local government makes health local laws to protect public health within its district and to facilitate the discharge of the local government's duties under the *Health Act 1911*.

Drainage flange connections

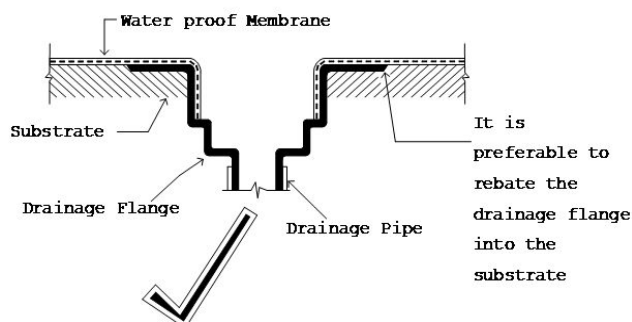
The Building Commission receives regular enquiries on whether a floor waste requires the incorporation of a drainage flange. Waterproofers are being asked to trim the drainage pipe riser to the level of the concrete floor or screed and the waterproofing membrane is then terminated into the riser. Whilst it cannot be conclusively verified in all cases without removal of the tiling, leaking around the floor waste (specifically in high use areas such as the shower) into the floor substrate can be due to failure of the membrane where it passes over the cut edge of the drainage pipe riser.

Specific requirements regarding the membrane to drainage flange connection are provided in section 3.14.1 of AS 3740. When following deemed to satisfy provisions all floor wastes installed in an area requiring a waterproof membrane are required to have a drainage flange, and the waterproof membrane is required to be terminated at or in the drainage flange to provide a waterproof connection. (See Figure 3.8 from AS 3740-2010 – indicated in Sketch B below) If a detail is proposed different to the requirements of AS3740, then it will need to be appropriately detailed and approved as an alternative solution.



Incorrect method of waterproofing membrane into the drainage riser.

Sketch A



Correct method of waterproofing membrane into the drainage riser.

Sketch B

Note: It is preferable to rebate the drainage flange into the substrate so that moisture can run freely into the drainage riser and not pool next to a lip if the flange is fitted to sit on top of the floor substrate. Section 3.14.2 of AS 3740 requires that the drainage flange/floor waste shall drain at the membrane level.

Falls to a floor waste

As mentioned previously, lack of sufficient falls on wet area floors towards floor wastes continue to result in complaints from owners. Generally, gradients are not achieved at the time of construction due to the installation of large format tiles and/or set downs not being made in concrete slabs. These two issues can present difficulties for the tiler to achieve recommended falls in floor finishes. Section 3 of AS 3740-2010 provides minimum gradient requirements for falls in floor finishes. Whilst gradient requirements are specified in the standard, the primary consideration for falls in floor finishes is always to ensure water does not remain on the finished floor in a manner that can adversely affect the health and amenity of the occupants or deteriorate building elements.

Falls in floor finishes should ensure water exits the area at the floor waste or doorway if that is the designed exit point, e.g. laundry door to exterior. Water should not pond on the floor, with the exception of residual water remaining due to surface tension.

Do floor wastes installed in floors not requiring waterproofing have to have a flange?

The extent of waterproofing is clearly dealt with in both volumes of the NCC for all classes of buildings and also in Appendix C of AS 3740-2010. Where there is no requirement for waterproofing, the floor waste does not require a drainage flange.

Disclaimer

The information contained in this bulletin is provided as general information only and should not be relied upon as legal advice or as an accurate statement of the relevant legislation provisions. If you are uncertain as to your legal obligations you should obtain independent legal advice.

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