

171202

LEAKING SHOWER MEMBRANE FAILURE.

THE ISSUE

The owners of a slab on ground dwelling noticed, over a period of time, evidence of moisture damage and mould to areas immediately adjacent a screened shower enclosure in their bathroom. The problem became progressively worse to the point where water appeared at the external floor/hob junction 60 seconds after turning on the shower.

The shower base was simply a bedded and tiled recess and formed tiled hob with traditionally fitted framed glass shower screens.

BRISBANE
11 Edmondstone Street
South Brisbane
QLD 4101
Telephone 3225 2855
Facsimile 3225 2829
PMB 84 Coorparoo DC
4151

CAIRNS
Telephone 4031 6828
Facsimile 4031 6831

GOLD COAST
Telephone 5575 7999
Facsimile 5575 7666

MACKAY
Telephone 4957 4477
Facsimile 4953 4151

ROCKHAMPTON
Telephone 4926 1922
Facsimile 4926 1377

SUNSHINE COAST
Telephone 5479 8500
Facsimile 5479 8555

TOOWOOMBA
Telephone 4632 9455
Facsimile 4638 1917

TOWNSVILLE
Telephone 4725 2588
Facsimile 4725 3401



OBSERVATION

The shower combination was tested by guiding a stream of water directly at the tap flanges. No evidence of water migration was found using this method of testing and the possibility of inadequate sealing around and behind the taps was dismissed.

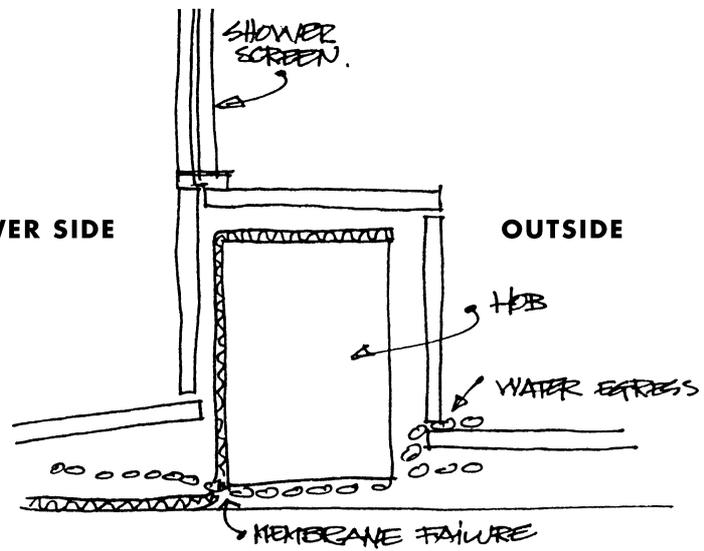
The recessed tray was then tested by sealing the shower waste and flooding the area to a level just below the upper edge of the hob. Within approximately 60 seconds evidence of water migration was visible outside the shower enclosure at the junction of the floor and hob. This migration was found along both elevations of the hob and became

apparent at the wall/floor junctions on the opposite side of the shower recess.

No destructive examination of the shower recess was conducted as the probable cause of the failure was readily apparent. Consequential damage, being swelling of the particleboard gables and base of the vanity unit alongside the shower enclosure, was observed. Significant damage was also observed to the plasterboard sheeting of the broom cupboard. Destructive testing of these areas was conducted to establish the condition of the timber bottom plates and other primary structural elements. In this case the timbers were found to be suitable for continued use.

SHOWER SIDE

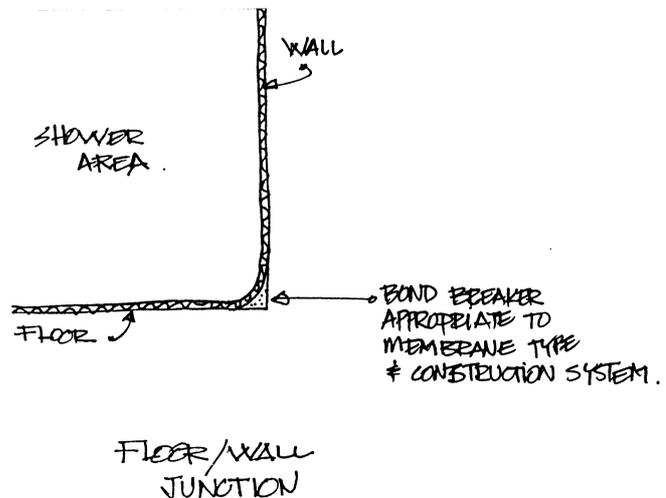
OUTSIDE



REASON FOR FAILURE

The speed at which the water travelled from within the shower recess to the outside of the hob indicated a massive failure of the waterproof membrane. In this instance complete failure of the membrane at

the internal corner occurred as a result of poor installation and inadequate bond breakers at the horizontal vertical junction.



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CORRECTIVE MEASURES

The problem was corrected by:

- Completely removing all the fixtures to the shower area including tap hardware and shower screens
- Completely removing all tiles to the shower base, walls and hob
- Stripping the waterproof membrane and preparing the surface to take a new membrane
- Applying a new membrane to the correct installation standards and re-fitting the shower area

The remainder of the areas that suffered consequential were repaired and returned to their normal condition.

PREVENTION

Ensuring the installation of waterproof membranes in wet area construction is critical to the proper functioning of the entire shower system. Installation of the waterproof membrane should be in accordance with Australian Standard 3740 1994 – Waterproofing of wet areas within residential buildings.

Good and careful preparation of the substrate before the application of the waterproof membrane is essential. Attention to the floor/wall junctions and the correct selection of membrane material is critical to the performance of the overall shower system.

Consideration must also be given to the type of shower installation proposed. For example slab on ground and recessed showers as opposed to moulded shower tray systems on timber floors.