

# the need for waterproofing

by Barry L. Schafer

(Chair of Standards Australia Committees on Waterproofing)

All too often little time is spent on specifying waterproofing as it is the system that is hidden under the tile system. It is not until leaks start appearing that it suddenly becomes very important, especially if legal action results. The Building Code of Australia (BCA) has the following requirements for waterproofing of wet areas:

To protect the structure of the building and to maintain the amenity of the occupants, water must be prevented from penetrating-

- (a) behind fittings and linings; or
- (b) into concealed spaces, of sanitary facilities, bathrooms, laundries and the like.

In some classes of construction there is an additional requirement to prevent water leakage from one occupancy to that of another.

For external waterproofing there is the requirement that water shall be prevented from entering the building envelope to the extent that it will cause damage to the structural elements or make unhealthy conditions in the internal habitable spaces within the building. Thus there are legal requirements on the waterproofing of buildings.

With wet areas there are two separate types of services that waterproofing is to provide:

- (a) confining water within a drained area for every day operation of the facility, such as a shower.
- (b) confining water to a drainage point in the event of accidental flooding.

This second case is only a requirement on the BCA where such flooding can cause damage to an adjoining occupancy. However often it is installed within single occupancy buildings to limit damage from accidental flooding. This type of flooding occurs from burst hose connections to appliances, faulty solenoid valves not closing off, overflow of baths,

basins and the like. Such events usually occur infrequently. There are long periods of drying out between incidents and minor leaking outside the waterproofed area is not a major issue, as the areas affected will be completely dried before the next wetting.

The first case is what causes most problems. Here even a minor leak can result in considerable damage. Most of the timber and wood-based products used today are very susceptible to fungal attack if they remain in a damp condition. Thus minor leaks can continue to accumulate, as there is insufficient drying time before the next wetting. With showers it is important that the water is confined within the shower area by correct detailing of the waterproofing and use of products that will remain serviceable over the design life. Correct detailing can be obtained by complying with the design requirements of Australian Standard AS 3740. The current revision of this Standard, due out later this year, singles out the shower area as needing the most critical detailing to waterproofing of wet areas within buildings. Water confinement within the shower area is not simple, especially in enclosures without hobs or step-downs. Some of the shower screens can even cause leakage problems. The hollow metal framing used in the screens, often have water paths within the framing that drain to the outside of the screen, resulting in leaking outside the shower enclosure. The use of frameless glass screens is another cause of leaking.

The use of large format tiles on shower floors results in the need to lay them on very flat falls. To make the reverse in the falls required around the grate to get the adequate drainage for showers without hobs or step-downs causes tile kicking. The flat falls result in overflowing outside the shower area where there is no hob or step down even if 150 mm diameter floor grates are used, especially if a high flow rate shower rose is used.

In the next issue the detailing of showers to confine water will be outlined along with the differences in the type of bond breakers required depending on the elastic properties of the membranes used.

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