# Stone in the built environment – around the pool

*Jim Mann*

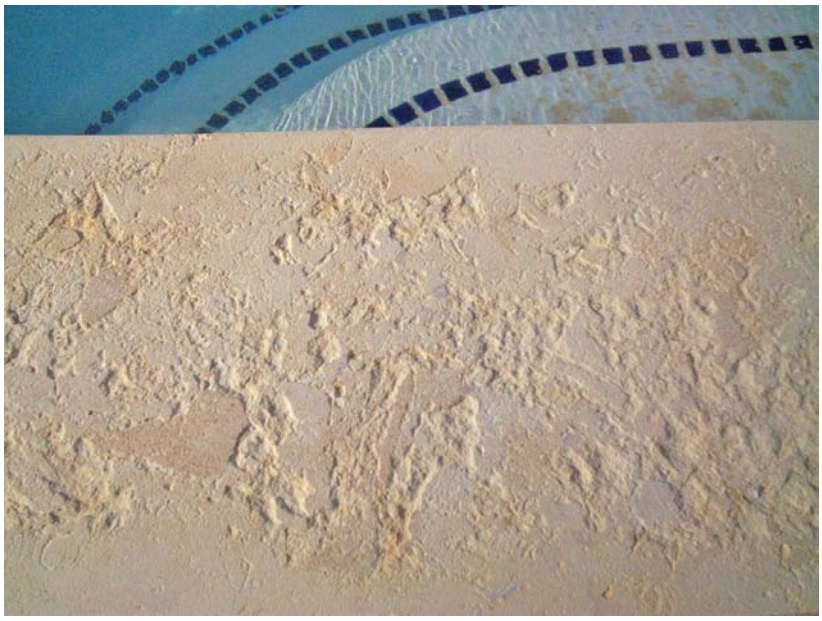
*Tiling pool surrounds and interiors is probably the largest domestic tiling project. According to the SPASA one in four Australian backyards features a pool. Although glass mosaic (such as the Ezarri product opposite) is the prime interior pool lining, a number of popular natural stone products are highly favoured as poolside paving materials: including bluestone, granite, sandstone and travertine. However, as Jim Mann explains, contractors and end users need to carefully address a number of factors before deciding which stone product they prefer.*

Summer is not far away, and some of us will be dreaming of sitting by the pool with a cool drink and a good book. On the other hand, some of us might be in the middle of a nightmare, looking at their stained, cracked or decaying paving.

Pools are no longer just a place for a 'quick dip'; they are now often the centrepiece of outdoor entertaining, with the surrounding paving and landscaping just as important as the pool itself.

We are presented with a wide range of natural and engineered products for use as poolside paving. Selection is primarily based on aesthetics but determining fitness for purpose of the right product is important to maintain the desired appearance. Your selection process (whether it be natural or engineered stone) should include a review of the five S's.

***Efflorescence has formed inside this granitic stone and it is now irremovable. Pre-sealing the back of the stone with a specialist solution could have avoided this problem.***



***Salt spalling on travertine around a salt water pool after only 5 months***

- Stain resistance
- Slip resistance
- Salt tolerance
- Strength
- Stability

**Stain Resistance:** Paving can be exposed to a wide range of staining agents. When it comes to entertaining poolside, red wine from spilt drinks is an obvious hazard along with oil from

*The perfect poolside match: hard wearing, attractive travertine coupled with a cool 'Iris Ocean' Ezarri glass mosaic supplied by exclusive distributor Europe Imports. Jim Mann explains that this outcome can easily be achieved if users focus on some key points when they make their stone selection. The pool was built by Finnish Pools Pty Ltd. (Image courtesy of Europe Imports).*

barbecues and foodstuffs. Tannin from fallen leaves and surrounding garden vegetation is also a potential source of staining.

You can reduce the risk of staining by selecting a paver that has a low absorption capacity. Stains can be more conspicuous on pavers with a uniform appearance (especially mid-tones) compared to material that is more highly figured. Most types of high density limestone, granite, slate and bluestone are effective at resisting stains.

Judicious use of an oil repellent impregnating sealer around high risk areas such as barbecues can help preserve the appearance of your stone.

**Slip Resistance:** Safety around the pool should include the installation of slip resistant paving. Most stone types can be prepared in a wide range of surface textures that are safe around a pool including sawn, grit blasted, flamed (exfoliated), and split face. The trapping of grime on rough texture surfaces can occur, but this can usually be handled with a hose and stiff-bristled broom.

*Delamination decay of sealed stone used as a pool edging. Although this stone had been tested and found to have a very high resistance to salt attack, the use of a sealer has affected the dimensional stability of the stone's surface in wetting / drying situations.*

**Salt Tolerance:** Pool surrounds are an aggressive environment for paving as it is regularly exposed to salt or chlorine. Resistance to salt attack can be determined by Australian standard method AS/NZS 4456.10A. This method measures the weight loss of the stone after repeated immersion in a salt solution. Stone used as pool paving should have a maximum weight loss of 1 per cent.

Granite, high density limestone and bluestone usually have very good salt resistance. Some types of slate and sandstone are also suitable for use. The use of a textured finish can hide minor surface decay.

It is also important to note that the incorrect use of sealers can lead to accelerated decay of poolside paving as it can trap salt within the stone.

*Flakes of sandstone that have spalled from sandstone paving which had been treated with an impregnating sealer. The flakes retained their water repellency while the underlying stone was unaffected.*

**Strength**: It is important that the paving has adequate strength to withstand service loads in both dry and wet conditions. Sedimentary stone types such as sandstone and limestone can lose over 50 per cent of its strength when wet.

Loss of strength can be accommodated in paving design. As an example, doubling the thickness of the paver increases the breaking load fourfold while use of square paving units also reduces the risk of breakage.

**Stability:** Frequent wetting and drying of pavers can lead to expansion and contraction of minerals within the stone which can lead to decay. Stone types that have a high clay content, or contain expansive minerals such as some volcanic sandstones may cause the stone to be dimensionally unstable. Long, thin pavers are at a greater risk of warping.

The inclusion of regular expansion joints (at least every 4.5 metres) and the use of rapid setting adhesives can reduce the risk of warping. Square paving units are usually more dimensionally stable than long rectangular units. Increasing the paver's thickness also improves stability.

Hopefully, these selection criteria will help you in discussions with your stone merchant. When discussing your project with the supplier, it is important that you provide as much information as possible about your project. It is in your interest that the supplier fully understands what you need so they can provide you with a product that is fit for purpose. Remember the five S's and enjoy your pool with peace of mind.