

Slate: What is it?

Slate is quite often associated with the 1970's and 80's as far as western markets are concerned, however it seems to be making a bit of a come back and in many Asian countries & the USA has never gone out of fashion. So I thought it appropriate to have a closer look at slate and how we should protect and maintain it.

Slate is a fine-grained metamorphic stone derived from sedimentary rock composed of mainly clay. It was formed in simple terms when volcanic lava flowed over the ground super heating the clay. This then mixed with the volcanic ash, cooled, forming slate.



Slate is composed mainly of quartz and muscovite or illite. Muscovite and illite are both phyllosilicates (layered silicates). Muscovite is the most common mica found in granites and schist high in silicon, aluminium and potassium. Illite has an even higher silicon content along with iron and magnesium. Other main components are biotite, chlorite, hematite and pyrite. With the main components being silicates slate has characteristics that make it

a very chemically resistant (almost inert) and thermally stable stone. In the early 20th century slate was used to construct electrical switchboards due to it being fire-proof and a good electrical insulator. This same chemical resistance and thermal stability is also the reason why slate has been used for roofs as well as laboratory bench tops. Slate can however have some soluble content. This is mainly in the form of soluble salts (efflorescence) and some of the iron compounds (such as the mineral pyrite) that give some of the slate its brown and red hues. However these are relatively rare in slate in a soluble form.

So does Slate need any protection if it is so chemically and thermally stable? The answer is yes.

This is because slate has a relatively high range of water absorption varying between a low of 0.5% and a high of 12-15%. If something can absorb water then it can absorb liquid contaminants and can benefit from sealer protection.

Slate is a stone that can benefit from all three classes of sealer; penetrating, enhancing and coating. In most situations, both interior and exterior, a penetrating sealer will be the most commonly used sealer. It will reduce the slates rate of water absorption and in doing so increase its stain resistance, but will leave the slate looking natural. However slate was traditionally sealed with oil based sealers that enhanced the colour variations within the stone. This was seen as a benefit and hence is a pre-requisite by many clients when they select a sealer today. The problem with the oil based sealers

was they offered poor stain resistance as well as poor vapour transmission sometimes trapping water and soluble salts turning the slate white. Today we have the new generation of penetrating enhancers that have none of these side effects. They give the same stain protection as normal penetrating sealers but enhance the natural colours in the same way the old oil base sealers did.

Due to the foliated nature of slate some slate can break under load making flaking damage relatively easy. Slate does have two lines of breakability, cleavage and grain and this can make some slate in some situations more prone to surface damage than other types of stone. This is where a coating or topical sealer can assist. When a coating sealer is applied it tends to bind the surface together giving added protection from scratching, loading and flaking. It must be noted that in most cases coating sealers should be applied in interiors only.

How should slate be maintained? The answer to this lies in its chemical composition and relative stability. The first problem that commonly arises for a slate installation is grout residue. The textured nature of most slate surfaces makes it easy to get grout caught in the small micro environment and so the first recommendation is to pre-seal the stone prior to grouting. However if grout residue is present then it can be removed by either the new Nanotechnology based cleaners such as Aqua Mix NanoScrub (a chemically inert and safe cleaner) or the more traditional phosphoric acid based grout cleaners. Perhaps the most important point here is that Slate in general is resistant to even acid based cleaners something that is not always widely recognised. However it is always safer to recommend non-acidic solutions where possible because these will not damage the surrounding grout joints. This also holds for the removal of any soluble salts from slate. Traditional acids can be used, however the newer non-acidic formulations such as Aqua Mix Eff-Ex are safer as they do not damage grout joints and other surrounding materials that may be damaged by acid.

Slates chemical resistance makes it inert to alkaline chemicals that are ideal for removing oil based contaminants. However acid and alkaline chemicals should not be used for daily routine cleaning. This is best done with ph neutral cleaners that will not only be safe on the slate but also safe on just about any surface found in a domestic or commercial installation. In summary Slate is a very durable stone. It has great chemical and thermal stability as well as good relative hardness and is the reason why it has been used in so many different types of applications for thousands of years. The instances where you get efflorescence or some iron leaching due to soluble components are very rare. Due to its water absorption it has the ability to stain however a good sealer and proper maintenance schedule will result in a stone floor that can perform for many years to come.



Seal & Finish Low Sheen

- Provides both a stain resistant surface seal and a durable low-sheen finish
- Premium stain resistance
- For interior and exterior applications
- Waterbased blend of acrylic polymers

Recommended for porous & textured:

Terracotta • Slate • Sandstone • Quartzite • Saltillo • Cement Pavers and other Masonry products.



Aqua Mix Trained Independent Care & Maintenance Applicator Course – Sydney NSW – August 2007

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Aqua Mix is an industry leader in hard surface cleaning and maintenance products. We are uniquely qualified to train you or a designated employee, to take advantage of this business enhancement by becoming an **Aqua Mix Trained Independent Care & Maintenance Applicator**.

This comprehensive classroom and hands-on workshop is designed and taught by professionals in the Care and Maintenance business. The curriculum includes the newest techniques and information on the latest products for hard surface cleaning and maintenance. Instructors will provide the practical step-by-step training needed to begin an applicator business or to expand the services of your existing business.

The 2 Day Advance Course includes:

Ceramic Tile & Porcelain

- Tile Identification & Manufacture
- Cleaning & Maintenance
- Sealing
- Wax Removal
- Stain Removal

Grout

- Cleaning & Maintenance
- Sealing
- Re-colouring
- Stain Removal

Natural Stone

- Natural Stone Identification
- Cleaning & Maintenance
- Sealing
- Stain Removal
- Natural Stone Restoration (Re-polishing & Honing)

Product Knowledge On...

- Sealers
- Cleaners
- Problem Solvers
- Floor Finishes
- Hands-on Application Methods

Marketing

- Business Development Strategies
- Sales Techniques
- Advertising



Aqua Mix Now Offers IICRC Continuing Education Credits (CEC)



Aqua Mix, the industry leader in delivering innovative, water-based products for stone, tile, masonry, and grout, announces that its Independent Applicator Program (IAP) now offers IICRC Continuing Education Credits (CECs) for IICRC registered technicians in the cleaning and restoration industry.

CEC Approved

Aqua Mix's IAP training program received CEC approval by the Institute of Inspection, Cleaning and Restoration Certification (IICRC). The IICRC is a nonprofit certifying body for the inspection, cleaning and restoration industry representing over 3,300 certified firms and 27,590 certified technicians in eleven countries. The IICRC, with participation from the entire industry, sets standards for inspection, cleaning and restoration. By attending Aqua Mix's IAP Training Program registered technicians will qualify to earn two CEC units.

Course Dates - August 2007

IAP Course: Wednesday 29th - Thursday 30th August 2007

Course Location

Aqua Mix (Aust)
Unit 7, 38 Waratah Street, Kirrawee NSW 2232

Testimonials

"Aqua Mix have set the standard. They are the University & everyone else is the High School. Before the course, we thought we knew everything. Now we do." Shaun Roberts, The Marble Man, Mermaid Waters QLD

"The most comprehensive tile & stone course I have ever attended. With our new knowledge & skills, we have now added a new division to our company to do cleaning & sealing" Marlon Marescia, Tileco Tilers, Baulkham Hills NSW

"A professional & eye opening course. It had all the answers to all my question. I now have the confidence & knowledge to take on all jobs" Tony Morrissey, Osprey Floor Care, Box Hill North VIC



Aqua Mix Trained Independent Care & Maintenance Applicator Course – Sydney NSW – August 2007

Applicants Name: _____ Date: _____

Company Name: _____

Address: _____

Suburb: _____ State: _____ Post Code: _____

Phone: _____ Fax: _____ Mobile: _____

E-mail: _____ Website: _____

1. How did you hear about our seminar? _____
2. How long have you been in the tile industry or hard surface business? _____
4. What do you or your company specialize in? _____
5. What do wish to gain from this seminar? _____
7. Where do you plan to offer this new service? _____
8. Do you currently work with the Aqua Mix Products? _____

Course allocations will be on a first paid, first choice basis.

IAP Course : Wednesday 29th - Thursday 30th August 2007

10. If you require accommodation, please contact on of the following Hotels:

A. **Quest Apartments**, Cronulla Beach Ph: 02 8536 3600

B. **Rydges Cronulla Beach** Ph: 02 9527 3100

C. **Cronulla Motor Inn**, Cronulla Ph: 02 9523 6800

D. **Metro Inn**, Miranda Ph: 02 9525 7577

(Shuttle bus will depart outside Quest Apartments at 8:00am SHARP daily for transport to Course facility)

Signature: _____ Date: _____

Cost

\$390.00 (plus GST)

Includes: Training & Technical Manual, Morning & Afternoon Tea, Lunch.

Should a cancellation occur, a \$100.00 (plus GST) cancellation fee will apply.

Payment

Payment must be received **in full** at time of booking to confirm your place.

Course allocations will be on a first paid first choice basis.

Please forward your completed application form and full payment (cheque/money order or direct deposit) to:

Aqua Mix (Aust)

PO Box 3001, Kirrawee NSW 2232

Course Location

Aqua Mix (Aust)

Unit 7, 38 Waratah Street, Kirrawee NSW 2232

Bank Details for payment

Bank ANZ Sutherland NSW

BSB 012 - 430

Account Number 108 748 563

Account Name Aqua Mix (Aust)

(Please fax confirmation of transaction to 02 9521 5222)

For more information contact

A'nge Kokkiliaris at Aqua Mix (Aust) on 02 9521 4000 or 0413 059 935 or email info@aquamix.com.au

www.aquamix.com.au