

# CARE & MAINTENANCE: Granite & Natural Stone

## Sealing of Natural Stone Paving

Natural stone pavers do not specifically require sealing and will be left unsealed on the majority of projects. Natural stone pavers are porous to a degree and sealing may be considered an option in some cases. Sealing is also considered for its effect on appearance i.e. the wet look.

**There are two general categories of sealers – penetrating and coating sealers.**

### 1. Penetrating sealers

Penetrating sealers are designed to be absorbed into the surface of the paver. They usually do not leave a noticeable sheen on the surface of the paver after they have been applied although some types of penetrating sealers particularly oil based (solvent) sealers may make the surface seem darker in appearance. They are below surface fillers whose primary function is to reduce the absorbency of the paver surface and the capillary action in the stone. They also do not significantly affect the slip resistance of the pavers and do not need reapplication often nor do they show wear.

Typically the application of 2 coats of a good quality “penetrating” sealer is advised.

### 2. Coating sealers

Coating sealers or epoxy-based sealers are designed to remain on the surface of the paver and grout joint and generally leave a sheen or gloss that is commonly referred to as the “wet look”. These sealers typically alter the look; slip resistance and colour of natural stone.

Coating sealers are a surface coating whose primary function is to reduce absorbency of the paver surface. Many coating sealers require reapplication regularly, especially in high traffic areas or where exposed to UV. Slip resistance can be affected by surface coatings and due care should be given to this as obviously the co-efficient of friction test results are not applicable to sealed product unless units are tested with the coating sealer

*Note: Sealing should never be considered as a means of stopping or deterring efflorescence. Efflorescence will migrate to the surface of the paver by capillary action and be trapped below the surface of the sealer accentuating the problem.*

## Anti-slip Treatment

These are mentioned here because they tend to have an adverse effect on the cleaning of pavers and tiles. Older style treatments are based on fluorides, which are just safe enough to be used and just strong enough to attack the surface of the paver or tile.

Most of these treatments work by etching the surface (putting a fine pinhole effect in a previously glassy finish) which produces a slight increase in slip resistance. The major effect is dirt can become entrapped in these tiny voids leaving the paver looking grubby.

New anti-slip treatments tend to be epoxy based.

The emergence of Anti-slip treatments on the market can be attributed to concerns about safety and public liability.

Pavers are generally specified with the appropriate texture and finish to comply with the Australian Standard for slip resistance for the given application and any treatment to be applied is at the discretion of the customer. The customer should consult the manufacturer of the anti-slip treatment for further information.

# Care & Maintenance

Due to the hardness of granite and the surfaces resistance to soiling, generally little maintenance is required. A cleaning regimen is suggested to remove build-up of dirt and to maintain the appearance of the paver/stone.

Like all stonework, granite is generally best cleaned using warm water and a mild detergent on a regular basis in ensure aesthetics and product longevity.

Stone can be sealed at the outset, to help prevent immediate dirt ingress and facilitate future cleaning. Granite is no different. As durable as it is, granite is not 'self-cleaning'.

Once sealed correctly, granite requires minimal ongoing maintenance, other than a good cleaning as per cleaning and maintenance schedule.

The service of a competent pressure cleaning and sealing company familiar and experienced with cleaning and maintaining natural stone is always an advantage. Take care not to remove grout or joint filling material.

Allowing any soiling on the stone surface to be baked on in direct sunlight for weeks at a time, makes stain removal more difficult.

The cleaning frequency and methodology will vary depending on surface finish, volume of traffic, dirt accumulation and appearance requirements, and is therefore best trialed and set to suit the particular situation.

For large areas, it is advisable to use a commercial floor scrubber or ride-on cleaning machine. Where ride on cleaning machines are employed, these are generally more effective, when used in conjunction with heavy duty detergent hot water application. A high traffic pedestrian mall would typically be scrubbed and washed down approx. every 3-4 weeks by a ride-on machine.

Spot cleaning can be done when needed, using neat detergent, bleach, or in extreme circumstances, diluted (30:1) hydrochloric acid.

Note, Paving should be thoroughly wet down before any acid is applied

*Note: If unsure of the stone and its reaction to acid -test a small area prior to commencement of work to check that the particular stone will not be adversely affected by acid.*

## MAINTENANCE NOTE

- Clean as necessary
- Re-exfoliate on site when required to maintain slip resistance (in extreme cases)
- Replace broken pavers
- Reinstate paving after works that require footpath surface to be opened
- Use matching stones for replacement

PROBLEM	DESCRIPTION	SOLUTION
Efflorescence	A white or yellow deposit of salts which may occur after rain. It can come from the paver or the soils under the paving.	Can be removed by placing coarse & salt free sand on surface, stiff brushing.
Moulds	This is a common problem usually found in damp and shady places.	Vigorous brushing when dry will remove this. There are many products in the market for this purpose, use accordingly to manufacturers specifications
Food stains and tyre marks		It is recommended that any spills be treated immediately. The use of a neutral cleaner and scrubbing should have the desired effect. There are many products in the market for this purpose, use accordingly to manufacturers specification
Dirt and grime		This may be cleaned by frequent sweeping and occasional hosing of surface.

## Exfoliated or Sawn Finished Granite

External granite paving should be cleaned on a regular basis either fortnightly or monthly clean using high pressured water. Take care not to remove grout or joint filling material when using high pressure water.

External granite paving can benefit from a mild acid wash on an as-needs basis to remove any dirt build up by using a diluted hydrochloric acid mix: 1 part hydrochloride acid to 30 parts water applied using a stiff bristled broom. Wash off within a couple of minutes with a further rinse 10-15 minutes later. Take care when using hydrochloric acid, use safe work practices and provide appropriate ventilation and avoid damage to glass or other fittings from acid and avoid use where polyurethane/silicone jointing exist. Acid washing treatments should be professionally applied.

For internal exfoliated granite paving, wash with mild detergent followed by clean water. Mop down surface once or twice per week with regular vacuuming.

- Rough finishes will not repel contaminates such as coffee or wine like a polished finish will and can result in the surface absorbing the substance leaving a stain. We strongly recommend flamed stone to be sealed in order to repel and protect the stone from staining , it is still recommended the seal polished granite
- In an outdoor environment, pressure spraying with detergent is suggested to remove stains.
- In an interior environment, generally the only solution is hand washing with detergent.
- For stubborn stains, cleaning using a poultice or complete replacement (of unit or units) may be the only practical solution.
- NB! At all times test the cleaning method in a remote area first.

## Polished Granite

A wash with mild detergent followed by clean water will suffice in foyers and lift lobby areas. For internal polished and honed granite paving, mop down surfaces daily with a suitable detergent which doesn't require excessive rinsing off to stop build up and yellowing.

- Don't use abrasive cleaning products such as scouring pads as they may scratch the surface if used vigorously
- Avoid using silicone based cleaning pads as they may leave a coating making the surface impermeable for further cleaning.
- NB! At all times test the cleaning method in a remote area first

*See detailed Cleaning Chart on following pages.*

# Cleaning & Maintenance Chart

## Granite Cleaning & Maintenance Chart

Due to the hardness of granite, little maintenance is generally required.

Product or Application	Finish	Comments	Internal or External	General Cleaning product Advice	Method & Precautions	Cleaning Frequency* *Frequency of cleaning is required to be assessed on a case by case basis.
PAVERS	Polished	Polished finishes tend to repel contaminates, such as coffee or soft drinks better than exfoliated or sawn or honed finishes, but sealer is recommended	Internal	Neutral pH detergent – For indoors the typical solution is hand washing with detergent. For large areas, it is advisable to use neutral pH detergent with a commercial floor scrubber	Mop down with a neutral pH detergent which doesn't require excessive rinsing off to stop build up and yellowing.	Mop - daily
	Honed	Honed finishes tend to only repel contaminates, when sealed, honed finishes mark very easily with a much higher cleaning frequency is required. Black granite surfaces mark and stain easier, sealer is recommended. cleaning frequency is high	Internal	Neutral pH detergent – For indoors the typical solution is hand washing with detergent. For large areas, it is advisable to use neutral pH detergent with a commercial floor scrubber	Mop down with a neutral pH detergent which doesn't require excessive rinsing off to stop build up and yellowing.	Mop - daily
	Exfoliated	Exfoliated finishes tend to repel contaminates, when sealed, such as coffee or soft drinks better than exfoliated or sawn or honed finishes, but sealer is recommended. Due to the texture of the stone stains and marks are less visible, cleaning frequency is low	Internal	Neutral pH detergent – For indoors the typical solution is hand washing with detergent. For large areas, it is advisable to use neutral pH detergent with a commercial floor scrubber	Mop once or twice Mop once or twice nights the surface should be vacuumed of dust using a soft pliable brush fitting to ensure material is picked up from the even surface.	Mop – once or twice per week
			External	Neutral pH detergent – Clean with water with a neutral pH detergent	High Pressure spraying with detergent is suggested to remove the stains in an outdoor setting	High water pressure clean – fortnightly / monthly
			External		It should be noted that a water blaster/high pressure device may be used directly, but care is to be taken not to remove grouted joints.	
			External		For large areas, it is advisable to use neutral pH detergent with a commercial floor scrubber/ride-on	Commercial Scrubber – fortnightly / monthly

PAVERS		External		For larger areas (such as a high traffic pedestrian mall), it is advisable to use heavy duty neutral pH detergent and hot water with a commercial floor scrubber / ride-on cleaning machine	Commercial Scrubber / Ride-on cleaning machine – every 3 to 4 weeks
	Like all textured finishes, it will have the tendency to retain some dirt and spillages until removed	External	Mild Acid Wash – External paving can benefit from a mild acid wash, as needed, to remove any dirt build up.	The mix is usually 1 part Hydrochloride Acid to 30 parts water. This is broomed on using a stiff bristled broom and washed off within 2 minutes with a further rinse 10 minutes later	Mild acid-wash – Monthly (or as required)
	Exfoliated and brushed	Exfoliated and brushed finishes tend to repel contaminates when sealed, such as coffee or soft drinks better than exfoliated or sawn or honed finishes, but sealer is recommended Due to the texture of the stone stains and marks are less visible, cleaning frequency is low	External		Acid wash should be avoided where polyurethane /silicone jointing and exists and precautions need to be taken to avoid the deterioration of grouting material between pavers.
		External		Care should be taken to avoid damage to glass or other fittings from acid as well as proper ventilation and taking necessary safety considerations for use of Hydrochloric acid.	
		External		If the surface is extremely dirty, the concentration may be increased 10:1 Hydrochloric acid	
		External	Other organic anti-fungal cleaners	Refer to Manufactures instructions. At all times test the cleaning method in a remote area first.	
		External	Proprietary cleaning agents – To remove stubborn stains	Refer to Manufactures instructions. At all times test the cleaning method in a remote area first.	
		External	Ammoniated cleaner – For oil and grease marks,	Scrub with a solution of clean water and an ammoniated cleaner (20:1), and then follow with a pH neutralizer. Finish by using a wet vacuum (for internal) or simply hose down with clean water (for external).	

<b>TILES</b>	Polished & Honed Granite	Foyers and lift lobbies	Internal	Wash with mild a neutral pH detergent followed by clean water rinse	For indoors the typical solution is hand washing with detergent. For larger areas, it is advisable to use neutral pH detergent with a commercial floor scrubber.	Mop – daily
				Don't use abrasive cleaning products, steel wool or silica carbide scouring pads, as these will scratch the surface if used vigorously, avoid using silicone based cleaning pads as they may leave a coating, making the surface impermeable for further cleaning.		
<b>CLADDING</b>			External	Granite cladding on external walls may only need to be wiped down when the windows are cleaned.		

Source: [graniteofaustralia.com.au](http://graniteofaustralia.com.au)

# CARE & MAINTENANCE:

## Marble, Limestone & Travertine Tiles

### Cleaning Marble and Slate Tiles

Marble Tiles require regular cleaning with a PH neutral cleaner. Do not use bleach based or acid based products as these will damage the surface of the tile resulting in etching and / or staining. Light etching may possibly be minimised or removed by a professional, but heavy etching is likely to result in permanent damage to the tile. Tiles with a rough or textured surface may benefit from the use of a doodlebug rather than a mop for a more effective clean.

#### Common Cleaning Mistakes

- Using the wrong cleaning products – too harsh a chemical or too abrasive a cleaner.
- Using too much product – dilute as per instructions, more is NOT better.
- Applying too much water to the surface / flooding the area.
- Not changing the water or cleaning solution often enough.
- Not finishing with a rinse to remove any cleaner / chemical residue.
- Leaving residual moisture on the floors – make sure to dry mop, wet vac or dry with an old towel or rag so that there is no residual moisture left on the floors (especially in the grout joints).



DO NOT use hydrochloric acid, vinegar or phosphoric acid

### Sealing Marble and Slate Tiles

Sealing of Marble Tiles is necessary to protect them from premature decay and contamination, ie, oil, grease and dirt. Even old Marble Tiles and grout can be cleaned and resealed to give them back a new lease of life! Marble Tiles are porous, matt finish more so than highly polished. They should be sealed (using a penetrating sealer only) after laying, and then approx once every 7-10 years. Sealing your Marble tiles and grout provides reaction time to deal with spills, except in the case of acid based spills which will begin to damage the surface of the tile (etch) immediately. AMS Surfaces strongly recommend that any newly laid Marble Tiles and grout be sealed immediately so that the area gains the full benefit of the protection.

1. Prevent unsightly stains
2. Prevent discolouration
3. Keep your tiled floors looking better for longer
4. Please check with AMS head office on the types of sealing products we recommend for marble, travertine and limestone

### About Grout

Grout is a porous product and should always be sealed. Once discoloured, re grouting is the best option for renewing grout between porous tiles.

# CARE & MAINTENANCE:

## Slip Stop maintenance

To keep your area safe and in top condition, follow our guidelines below:

### CLEANING GUIDELINES - S015 - DAILY

1. Clean your floor with a good quality liquid cleaner. **SlipStop - S015 Everyday Cleaner** is recommended for best results. Never use a cleaner that leaves a film on the floor. Avoid cleaners containing sodium hydroxide or alkaline content. **Mild acidic cleaners are preferable.**
2. It is recommended to give the floor a thorough scrub with a deck brush or a scrubbing machine at least once a week.
3. If you use a mechanical scrubber, use only with a brush attachment. **Do not** use an abrasive pad.
4. **Do not** use a powdered detergent, as it leaves a calcite film on the surface.
5. **Do not** polish or seal SlipStop treated floors, as this will negate the treatment.

### CLEANING GUIDELINES - S085

1. Clean your floor with **Wax & Grease Remover S.085** to remove heavy buildup and contamination. **Dilute in hot water 1:50** and apply with a mop on the surface.
2. Scrub the floor using a scrubbing brush, either mechanical or manual.
3. Vacuum or mop up the liquid off the floor once scrubbing is complete.
4. Complete the above procedure using **S.015** to neutralize the effects of Wax & Grease Remover S.085, immediately after.
5. If you use a mechanical scrubber, use only with a brush attachment. **Do not** use an abrasive pad.
6. **Do not** use a powdered detergent, as it leaves a calcite film on the surface.
7. **Do not** polish or seal SlipStop treated floors, as this will negate the treatment.

*When these guidelines are followed, the floor is guaranteed to stay 'SLIP-RESISTANT' for a minimum of five years.*

## Recommendations and tips

1. **Avoid Using Scrubbing Machines:** Do not use scrubbing machines on the floor. These machines tend to polish the surface, which is not desirable and should not be necessary.
2. **Use Recommended Cleaning Products Across All Areas:** Consider using the recommended cleaning products for the pool floor, lobby, corridors, and gym toilets. This practice reduces the risk of cross-contamination and simplifies the cleaning process by allowing cleaners to use one product for the entire pool level.
3. **Designate a Dedicated Mop for the Pool Area:** Ensure that a mop dedicated solely to the pool area is used. This mop should be reserved for the pool level floors as well, to maintain hygiene and prevent contamination.
4. **Adhere to S015 Dilution Rates:** Do not exceed the recommended dilution rates for the S015 cleaning product. Using a stronger solution than recommended can be ineffective and potentially harmful.
5. **Perform Monthly Deep Cleaning:** It is advisable to conduct a monthly deep clean. Start by mopping the floor with S085, then squeegee the cleaning water into the floor drains (not the pool water strip drain). Follow up with another mopping using S015, and squeegee the water into the drains again. Finally, flush the entire floor with fresh water and squeegee it into the drains.
6. **Consider Installing a Hose Tap for Easy Floor Flushing:** To make the cleaning process easier, especially when flushing the floor with fresh water, consider installing a general tap that a hose can be connected to. This setup would help remove freshly applied cleaning chemicals efficiently and reduce the risk of buildup over time.

*By following these steps, you'll ensure that your pool area remains safe, clean, and well-maintained.*