

## MAINTENANCE AND CLEANING

### GENERAL GUIDELINES FOR THE REMOVAL OF STAINS AND GROWTHS FROM CONCRETE HARD LANDSCAPING PRODUCTS



The advice detailed is for general guidance purposes and not intended to be exhaustive. Some cleaning methods inevitably involve the use of chemicals or proprietary brands. It is imperative that all safety warnings issued by the suppliers are always fully embraced and adhered to.

In general the following best practice precautions should always apply:

- When using chemicals or proprietary brands protective clothing such as gloves, goggles, boots and coveralls should be worn.
- Ensure adequate ventilation in confined spaces.
- When diluting acids, always add acid to water never the reverse.
- Never use cigarettes, naked flames or other sources of ignition when using flammable materials.
- When using chemicals or proprietary brands caution should be taken not to damage contaminate or stain any adjoining material.
- Contaminated clothing should be disposed of safely.
- Always take precautions to protect other personnel in the immediate vicinity.
- Consider your environmental impact.

It is imperative with all cleaning methods and materials that initial exploratory trials should be conducted on a small inconspicuous area to determine the effect.

## MAINTENANCE AND CLEANING

Properly installed Concrete Hard Landscaping requires very low maintenance.

During the initial early life of a Concrete Hard Landscaping scheme, the joints between pavers will be relatively porous. The ingress of water will have the effect of consolidating the jointing sand, therefore it is important joints are regularly inspected and filled.

With the passage of time joints will become semi-impervious. Until this has occurred paving should only be brushed by hand. Mechanical sweepers and those with high suction forces should not be used until the joints have consolidated.

There are many proprietary surface sealers. If any form of surface sealant is used it must be applied in strict accordance with the manufacturers instructions. It must be accepted that sealants may have an effect on colour and performance of the product. Furthermore a sealant may be detrimental to slip-skid resistance and will require ongoing maintenance.

Maintenance of Concrete Hard Landscaping which has been sealed:

- **General Cleaning**

Over the passage of time the surface of a Concrete Hard Landscaping scheme will lose its lustre as a consequence of atmospheric borne detritus and wear. Therefore, regular cleaning is recommended. This is best achieved by the use of a mild detergent and scrubbing brush, power washer or steam cleaner.

- **Oil Spillage**

Oil, food stuffs, drinks and grease may be addressed with a mild detergent and soft scrubbing brush. Stubborn stains may be removed using a stiff bristle brush, failing which a steam cleaner or water pressure washer may be deployed.

- **Weed and Grass Growth**

Weed and grass growth should not occur in a correctly sealed Concrete Hard Landscaping scheme. On occasion small areas of jointing sand may not have been fully coated and growth may appear. In such instances remove weeds by hand and brush a small amount of sealant into the affected joints.

- **Moss Lichens and Algae**

On a sealed surface, the prevalence of moss, lichens and algae will be reduced. areas where there is a high degree of foliage and or dampness, growth may reoccur. Under such circumstances washing with a mild detergent will remove growth.

- **Recoating**

Sealant life will depend upon traffic and environmental conditions. It is difficult to estimate but a sealant may be expected to last 3-5 years. Areas subject to heavy traffic may require regular recoating.

## REMOVING GENERAL DIRT AND DETRITUS

The removal of general dirt and detritus is best achieved by scrubbing with soap and warm water. After swilling the surface with soapy water the paving should be brushed with a bristle brush encouraging the surface detritus to loosen. The loosened surface material may be washed off with clean water. Always channel run-off into drainage point or containers for safe disposal.

Scrubbing can be implemented either by hand or by industrial cleaner. If a power hose is used care must be taken to avoid inadvertent removal of jointing material (sand or mortar).

## EFFLORESCENCE

Efflorescence is a transient, temporary and naturally occurring phenomenon which will disappear with time as a result of normal weathering. It appears as a white chalky deposit covering part or all of the surface of any Concrete Hard Landscaping product. The effect is to lighten the appearance and colour.



Except in very severe cases the phenomenon disappears completely when wet and reappears as the drying process progresses.

Efflorescence may occur in any product containing cementitious binders. Mortar is particularly prone to efflorescence and can contaminate other products. It is formed by soluble salts from the cement migrating to the surface of the product where it reacts with the atmosphere to produce Calcium Carbonate, a white chalky powder referred to as efflorescence. Environmental conditions may encourage efflorescence. Concrete Hard Landscaping products are most susceptible under damp conditions as this encourages the movement of soluble salts to the surface.

Efflorescence does not affect the structural integrity of the product. The phenomenon is temporary and will, with time disappear as a result of normal weathering. The length of time is dependant upon many factors such as rainfall, atmospheric pollution and environment.

The process of efflorescence may be accelerated by deploying an Acid Wash. However we do not recommend an Acid Wash to remove efflorescence, instead we recommend dry brushing.

There are three different approaches to deal with efflorescence should it occur.

- 1. Leave it to naturally fade**

Simply allowing the efflorescence to naturally fade away and vanish is a guaranteed solution. However, a degree of patience is required.

- 2. Regular dry brushing**

Our recommended and preferred remedial method to encourage the natural and permanent dissipation of efflorescence is regular dry brushing. Using a medium stiff-bristled brush (not a wire brush) scrub the affected areas and sweep away as much from the whole surface as possible to prevent any residue from re-dissolving when wet. Foot-traffic has a similar effect and repeated footfall is helpful. Avoid wet brushing as this will redistribute the dissolved salts across the surface which will ultimately reappear when dry.

The process of dry brushing should be repeated regularly. Should the efflorescence appear to worsen do not be alarmed, this is conversely a positive sign that the salts are being brought to the surface and the abrasion is helping speed up the natural exhaustion of efflorescence causing compounds.

- 3. Chemical treatments**

Many proprietary products are available which claim to deal with efflorescence. These are usually either detergent or acid based. Such products may be effective in removing initial efflorescence. However, salts will continue to naturally migrate to the surface to form new deposits. Furthermore, the chemicals contained within the proprietary treatments may damage the surface of the concrete product. For this reason we do not recommend the use of strong chemical treatments and advocate the dry brushing method.

## ACID WASHING

The recommended procedure for Acid Wash cleaning is to first dampen the Concrete Hard Landscaping with water. This will facilitate a reaction on the surface layer. Thereafter brush highly diluted Hydrochloric Acid over the concrete surface. The area is then washed down using clean water being careful to contain and control the run-off into drainage or suitable containers where it can be safely disposed.

Light staining may be removed without affecting the surface texture or appearance of the product. However, deeper stains may require several applications which could result in surface disfiguration. and damage.

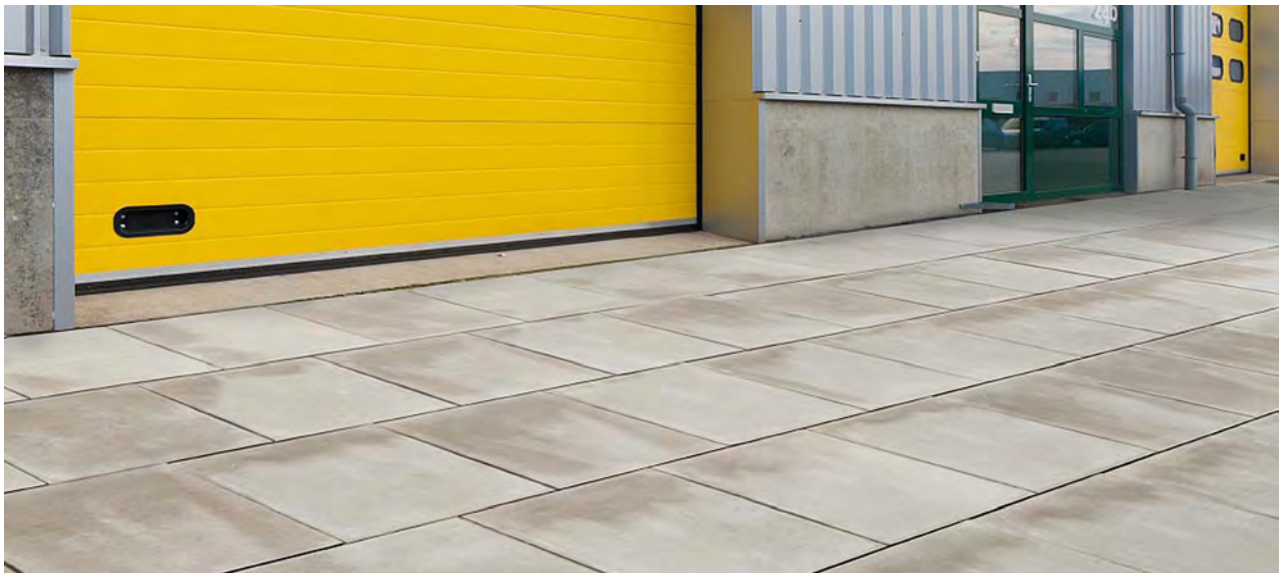
In domestic applications, Acid Wash cleaning should only be considered as a last resort.

Always consult your supplier before subjecting coloured Concrete Hard Landscaping to Acid Wash treatment.

## OIL STAINS

Oil readily penetrates the surface of Concrete Hard Landscaping products. Prompt removal with an absorbent material is recommended. Resist the temptation to wipe clean the spillage as this will drive the oil into the surface and spread over a wider area.

Persistent stains may benefit from either an emulsifying degreaser or detergent and hot water. The selected cleansing material should be brushed onto the affected area and left to remain on the surface in accordance with manufacturer's instructions. The emulsified oil is then washed away with clean water.



## RUST STAINS

In the first instance trace and eliminate the source of staining.

Removal of rust staining is best affected by applying a 10% Hydrochloric Acid solution in the same process as detailed in Acid Washing. The same safety precautions and recommendations apply.

## BITUMEN STAINS

Bitumen does not readily penetrate the surface of Concrete Hard Landscaping products. The preferred method of removal is to allow the bitumen to cool and cover with ice. Once the material is brittle chip or scrape the bitumen from the surface using a paint scraper or similar implement. Any remaining residue can be removed with an abrasive scouring powder and rinsed clean with water.

## EPOXY AND POLYESTER

Solidified epoxy and polyester resin can be removed by burning off with a blowtorch. It is imperative to avoid breathing in any fumes. Any residual staining can be removed by scrubbing with soap and water.

## GRAFFITI AND PAINT

Fresh wet paint should always be soaked up with an absorbent material. Prompt removal with an absorbent material is recommended. Resist the temptation to wipe clean the spillage as this will drive the paint into the surface and spread over a wider area. The area should then be scrubbed with scouring powder until no further improvement can be achieved.

Dried paint should be scraped off and a proprietary paint remover applied, carefully following the manufacturer's instructions.

Removal of graffiti requires careful consideration due to the variety of different paints and inks used. There are many specialist proprietary brands on the market designed for the removal of graffiti. Always consult the manufacturer before application.

## SMOKE FIRE AND TOBACCO

In general terms smoke, fire and tobacco stains can all be removed by scrubbing with soap and water. Persistent stains may require the use of bleach. Always take precautions to contain run-off when rinsing bleach from the surface.

## CHEWING GUM

Chewing gum is extremely difficult to remove from Concrete Hard Landscaping.

Newly discarded chewing gum can be removed using a scraping device. Aged, oxidised and inground chewing gum may require more vigorous encouragement to remove. Under such circumstances it may be necessary to first freeze the gum and thereafter chisel from the surface. Larger areas may require a specialist high pressure steam cleaner.

## BEVERAGES

Scrub the stain with hot soapy water. If the stain is persistent apply a bleach solution and rinse with clean water. Repeat as necessary.





#### MOSS LICHENS AND ALGAE

Under certain circumstances, moss, lichens and algae may add a welcome patina to the surface of Concrete Hard Landscaping. Where moss, lichens and algae are not considered desirable an organic cleaner rather than fungicide is recommended. Organic cleaners are most effective when applied during dry weather and work best on thick growths if brushed in.

#### FRUIT, BERRIES AND LEAVES

Fallen fruit, berries and leaves in Autumn may leave particularly stubborn stains.

Prompt removal of fallen fruit, berries and leaves from the surface of any Concrete Hard Landscaping scheme is advised. Scrubbing with a stiff bristle brush and hot soapy water is recommended. Should this fail to remove stubborn staining there are several proprietary brands available. Always follow manufacturer's instructions and take precautions to control and contain rinsing run-off.

#### VEHICULAR TYRE MARKS

Remove tyre marks by scrubbing with hot water and a strong detergent. Stubborn marks may require steam cleaning.

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