Marshalls
Creating Better Spaces

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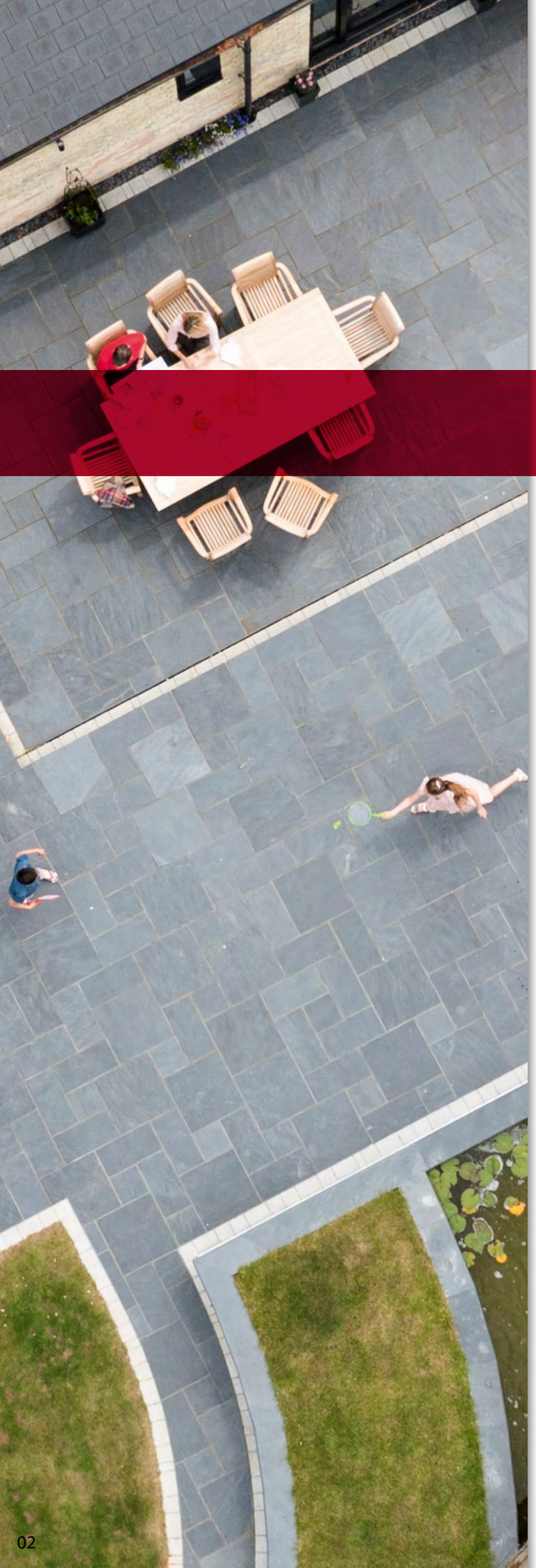
Marshalls
Creating Better Spaces

Cleaning & Maintenance Guidelines

Gardens & Driveways



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Introduction

Marshalls manufacture a range of paving materials in concrete and natural stone which provide a durable, hardwearing surface.

All paving will require some basic maintenance to keep them looking their best, even if it's just a wash with soap and water. Cleaning is usually easy and even the most neglected paving can often be rejuvenated with a little effort.

There are a variety of cleaning methods and products available for removing stains and growths from concrete and natural stone. Although these are generally successful, it can sometimes be difficult to remove stains completely. A regular maintenance regime is effective in the upkeep of a paved area.

These notes are meant for general guidance and are not intended to be exhaustive.

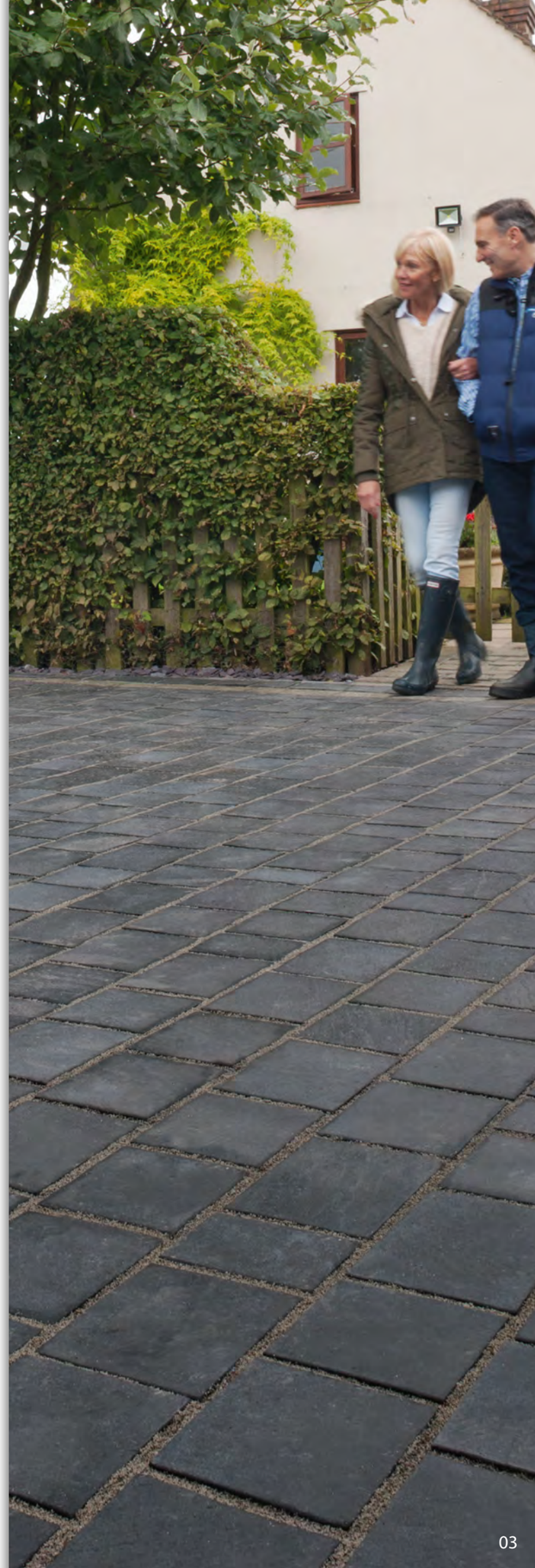
Health and Safety

Some of the methods described in this document employ chemicals and other materials which could be dangerous in inexperienced or careless hands. It would be impracticable to describe in detail precautions for every conceivable situation, and so it is advised that any safety warnings issued by the suppliers of materials should be carefully read and followed accordingly.

In general the following precautions should be taken:

- When using chemicals, protective clothing such as gloves, goggles, boots and overalls should be worn.
- Adequate ventilation is required when using chemicals in confined spaces.
- When using flammable materials; cigarettes, naked flames and other sources of ignition should be carefully controlled.
- When diluting acids, always add acid to water and not water to acid.
- Any clothing that is contaminated with chemicals should be disposed of safely.
- When using any chemicals, care must be taken not to damage, contaminate or stain any adjoining materials, landscaping or finishes.
- Care must be taken to protect personnel operating in the area of the cleaning from any injury or hazard created by the cleaning. The appropriate First Aid must be available.

Before undertaking any cleaning operation, a trial should be carried out on a small, preferably inconspicuous area, to determine the effect of the chemicals before treating a large area.



General Advice

Removing General Dirt and Debris

To remove general dirt and detritus, regular brushing is recommended. If the colour of the paving becomes masked it may be re-established by scrubbing with soap and warm water, either by hand or by using a domestic jet wash cleaner (see Power Washing).

The simplest way is to scrub the area with soapy water. Use washing-up liquid or an acid-free soap-based floor cleaning product. The soapy water is swilled onto the surface of the paving and then brushed with a bristle brush to loosen the surface detritus.

Wash off the loosened dirt with clean water, ensuring all the soap has been thoroughly washed from the surface. Carefully channel the resulting run-off to either drainage points or containers where it can be safely disposed of.

If a power hose is used then care must be taken to avoid the removal of the jointing material (sand or mortar). After completion the pavement should be inspected and the jointing material replaced as required.

Weed Control

Unfortunately there is no such thing as a weed-free surface. If detritus is allowed to accumulate on a surface, it will only be a matter of time before weeds or other plants germinate. Secondly, when properly constructed, weeds do not grow through block paving. Weeds will grow into paving, by colonising the sand-filled joints or settling onto accumulated detritus, but it is very rare for weeds to grow through 200mm or so of pavement structure.

Weeds can usually be pulled off the surface of most paving, or scraped off using a hoe or similar tool. Where roots have been sent down into the jointing, removal of the weed often brings away some of the sand, and this should be replaced as soon as the surface is clean. Partially-filled or empty joints are detrimental to pavement performance.

Regular trafficking by foot or by wheels will limit the ability of the weeds to re-colonise an area, but for those areas with little or no traffic there are a number of anti-weed strategies available.

- Regular brushing disturbs any newly emerging weeds and removes them before they can establish themselves.
- Weed killers, when used with care, can be very effective at killing existing weeds and deterring re-colonisation for a period of weeks or even months.

Look for products which have been specifically developed for use with paving or in gardens, rather than general herbicides which kill everything. Contact weed killers work by coming into contact with the weed and are suitable for rapid killing of simple surface weeds. A systemic weed killer takes longer to kill the weed, but it is absorbed and taken into the whole plant and not just the above-ground leaves and stems.

Always follow the manufacturer's instructions and avoid washing-off into any planted areas.

Power Washing

When used correctly power washers can help to keep paving in good condition, but used to excess they can damage the paved area and shorten its service life.

When using any form of power washer the following guidelines should be strictly adhered to:

- Sweep the area with a stiff bristle brush to remove any loose material. Protect or move any vulnerable items.
- The power washer should be used on a setting which is sufficient to remove the dirt without causing any further distress. A low-pressure setting is recommended.
- Do not direct the power lance directly down on to the paving, as this can result in loss of jointing material and cause damage to the surface of the unit.
- Ideally, a spraying movement should be adopted holding the power lance at a shallow angle, not greater than 300 across the diagonal (i.e. not parallel to joints).
- Certain high-pressure jetting machines have been known to mark or damage the surface of certain wet cast paving material. It is, therefore, prudent to carry out a small test area before commencing on a larger area.
- The area should be inspected after cleaning to ensure that joints are full.

Power-washing is effective at removing moss and algae that can thrive on certain types of paving. The addition of "Jeyes Fluid" may inhibit the return of the vegetation for a short period of time.

Acid Washing

Stubborn and persistent stains that will not generally weather away naturally may require the application of a specific acid cleaning treatment to remove them.

Extreme care must be taken when using chemical cleaners on wet cast concrete products (e.g. Heritage, Coach House, Firedstone and Woodstone paving) as these are less resistant to such treatments.

Care must also be taken when using chemical cleaners on Natural Stone products. Most granites, basalts, porphyry, slates and quartzite stones are unaffected by acid-based cleaners, but a discreet area must be tested first, before cleaning commences.

Sandstones and Pennant Stones are variable. Some will have no reaction to acid-based cleaners, whilst others may turn orange. This is related to the iron content in the paving and will vary from stone to stone. Yet again before cleaning a large area a small test area should be cleaned first.

Limestones and marbles should not be cleaned by acid-based cleaners. Limestone and marbles are dissolved by Hydrochloric acid, so this type of cleaner should be avoided.

Where possible, initial trials should be carried out on inconspicuous areas to evaluate the final appearance of the concrete and optimize the concentration and number of applications of acid.

We would recommend that you seek specialist advice prior to undertaking any invasive cleaning method using acid. Further information and advice can be sought from our Technical Department. Please contact us on 0370 411 22 33.

Seasonal Maintenance

The frequency for cleaning and maintaining your garden or driveway will depend on its surroundings. You may find it useful to carry out your cleaning and maintenance regime in line with seasonal changes in order to keep your paved area looking its best.

Spring
You may wish to give your paved area its first good clean after the winter months. Dependent on your surroundings there may be a build-up of organic growth to remove, or just general dirt and detritus to clear away.

This would also be an ideal time for checking the area to ensure that joints around the paving remain intact. Paving areas installed with a sand joint may require re-filling.

Summer
Your paved area may see an increase in use during the warmer months of the year as the weather improves so regular checks would be advisable during this time. We would recommend that you address any problems as they are found, for example cleaning up any spillages as they occur to minimise the risk of staining.

Autumn
During the autumnal months deciduous trees and shrubbery will begin to lose their leaves. You may wish to remove these from your paved area on a regular basis to ensure that the area is kept clear.

Those trees, shrubs and plants that bear fruit or berries may also lose these during this time. In some cases they can cause temporary staining. You may wish to remove them from your paved area as you see them to minimise the risk of staining.

Winter
During the winter months your paved area will receive the least amount of use. Adverse weather conditions such as snow and ice can cause the area to become slippery so you may wish to remove these deposits.

It is common for homeowners to utilise de-icing salts (rock salt) during the winter months to allow easy access to their property. Rock salt can be applied to most of Marshalls' concrete and natural stone products without risk of damage, however once the area has dried out after any thaw, you may notice some temporary discoloration caused by the salt material. Normal weathering should soon remove such discoloration.

If there is concern to avoid temporary discoloration of a paved area, then other de-icing materials should be used. Please note that rock salts must not be used on Marshalls' wet cast concrete products such as Heritage, Coach House, Firedstone and Woodstone paving.

General Advice

Purer marine salt is also available. It is non-toxic, however it is corrosive to steel and aluminium, as well as being harmful to vegetation and can leave a white residue on the paving. Products such as 'Magic Ice Melts' and 'Ice-Thaw Granules'* can be used on all Marshalls' paving products. These Urea based products have a mild ammonia odour. It is non corrosive to metals and surfacing materials; however it may release ammonia and nitrates into water courses and is more expensive than rock salt.

Sealants

Marshalls do not stipulate the use of proprietary sealing agents on products installed in external applications. Whilst such products may offer certain advantages, careful consideration must be given to the suitability of the sealant and any subsequent effect on the colour, appearance and slip/skid resistance of the paving. Following the application of a sealing agent, the area will require reapplication of the sealant during the life of the paving.

However, Marshalls do recommend the use of proprietary sealing agents in situations where products are installed in an internal application.

Whilst Marshalls do not produce sealants, we have included the contact details below for a number of manufacturers that Marshalls have had contact with in relation to proprietary sealing agents. We would recommend that you contact them directly prior to use of such products to discuss their application.

Extensive
Address: Unit B Prospect Commercial Park, Alresford, Hampshire, SO24 9QF
Telephone: 01962 732325
Email: info@extensive.co.uk
Website: https://www.extensive.co.uk/

Lithofin
Address: Wood End, Prospect Road, Alresford, Hampshire, S024 9QF
Telephone: 01962 732126
Email: sales@casdron.co.uk
Website: http://casdron.co.uk/

Resiblok
Address: Resiblok House, Archers Field Close, Basildon, Essex, SS13 1DW
Telephone: 01268 273355
Email: custserv@resiblok.com
Website: http://www.resiblock.com/

Stains

Oil

Oil can penetrate readily into hard surfacing materials (particularly lubricating or fuel oil), but it should not stain if any spillages are removed promptly with an absorbent material e.g. paper towels, cloth or absorbing granules (eg: clay based cat litters, cornflower, talcum powder etc).

Do not attempt to wipe the stain as this will drive the oil into the surface of the units and spread it over a wider area.

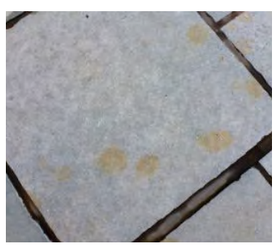
If the stain persists then an emulsifying degreaser should be employed (eg: Gunk engine degreaser). Brush the cleaner onto the affected area, leave for a period of time according to the manufacturers instructions and then wash the emulsified oil away with plenty of clean water.

Alternatively the surface can be scrubbed with detergent and hot water taking care to ensure that the strength of the detergent is not detrimental to the appearance of the paving. However, for persistent oil staining, steam cleaning may have to be considered.

If the stain is proving impossible to shift, you may have to consider replacing the contaminated area of paving.

Rust

Rust stains from patio furniture



Rust stains from spilled moss killer

Rust (iron oxide) stains can be difficult to remove. Many dyes used to colour concrete products are based on iron oxides, so many chemical cleaning agents may affect both the rust and the dyes.

Initially action must be taken to eliminate the sources of staining. Iron rust stains are recognisable by their characteristic rust red/brown colour and their proximity to steel or iron, in or on the concrete.

There is also a danger of accidental staining when weed and moss killers containing Ferrous Sulphate are applied to lawns next to the paving.

Household remedies such as lemon juice or vinegar may help in the removal of rust stains. As ever a small discreet area should be tested first.

- Lemon Juice. Squeeze fresh lemon juice directly onto the stained area and allow it to react for 5 minutes. Scrub the stained area with a bristle brush, working the lemon juice into the surface of the paving. Wash off with plenty of clean water and repeat as necessary.
- Vinegar. Use clear or white vinegar and follow the instruction described above.

We would recommend that you seek specialist advice prior to undertaking any invasive cleaning method using acid based cleaners to remove the stains. Further information and advice can be sought from our Technical Department. Please contact us on 0370 411 22 33.

Beer, Wine and Soft Drinks

These can normally be removed by scrubbing the stain with detergent and hot water. If the stain is persistent, carefully apply a mild household bleach solution (Sodium Hypochlorite or Sodium Perborate) and then rinse the area with clean water taking care to dispose of the run-off safely.

Fruit, Berries and Leaves

Berries, drupes, other soft fruit and leaves in autumn can stain paving when they are dropped onto the surface of paving. When allowed to dry, the resulting stain can prove difficult to remove.

A recommendation is to use a mix of liquid Sodium Hypochlorite ($NaClO$), obtained from swimming pool maintenance suppliers and a non-oxidising shampoo (eg: Baby Shampoo). Dilute 1.5 litres of Sodium Hypochlorite with 4.5 litres of water and add 100ml of baby shampoo. If possible the mixture should be applied via a pump spray and the whole area treated not just individual spots.

Pre-wet the whole area with clean water and spray the cleaning fluid over the surface. Gently scrub the area with a stiff bristle brush. After 15 minutes wash the pavement down with clean water making sure that the residue does not run onto any vegetation. Repeat if necessary. It has been suggested that for heavy staining a domestic laundry pre-wash product (eg: Oxi Clean) may be used.

NOTE: Sodium Hypochlorite is dangerous. It is corrosive, an irritant and will burn skin, so it is essential that full protective gloves, goggles and clothing are worn at all times when using the product. The liquid will also burn or kill plants and vegetation.

Blood

Wet the stain with water and cover with a thin layer of Sodium Peroxide powder. Care should be taken not to breathe any of the peroxide dust nor allow it to come into contact with the skin. Sprinkle with water or apply a water-saturated cloth and allow to stand for a few minutes. Wash with water and scrub vigorously. Alternatively, a Hydrogen Peroxide or Sodium Perborate solution may be effective.

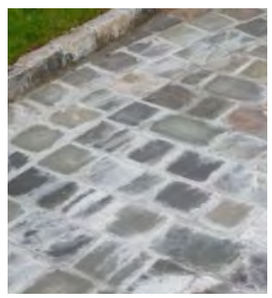
Chewing Gum

Chewing gum is a particularly difficult substance to remove from hard surfaces.

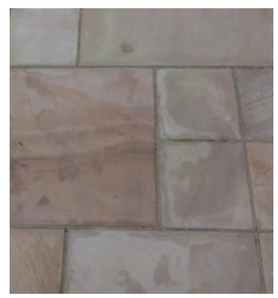
Newly discarded gum can be scraped off by using a mechanical scraper but hardened gum can only be removed by both freezing the gum and chiselling it from the surface of the paving or utilising a hot water/steam cleaner.

Cement, Mortar and Concrete

Both types of staining can occur on paved surfaces, usually as a result of contamination from other sources, such as concrete furniture or the use of onsite mortars and concrete.



Cement staining on setts



Staining from mortar bed beneath

Cement and lime deposits are generally insoluble and therefore, require treatment by a suitable acid cleaner to fully remove them.

We would recommend that you seek specialist advice prior to undertaking any invasive cleaning method to remove the stains. Further information and advice can be sought from our Technical Department. Please contact us on 0370 411 22 33.

Stains

Paint, Ink and Graffiti

Both paint and graffiti are difficult to remove from most hard surfacing materials.

Fresh wet paint should be soaked up with an absorbent material without wiping the paint, as this will spread the stain. It should then be treated with a suitable solvent such as white spirit and then the area washed with a de-greasing agent taking care in the disposal of the run-off material.

Dried paint should be scraped off as far as possible and then an appropriate paint remover applied.

Paint manufacturers may often be able to give more detailed advice on the removal of paint and graffiti. Therefore, they should be consulted directly for specific recommendations.

Colour which has penetrated the surface can be removed by acid-washing but this may affect the surface appearance. Sometimes old paint films can be burnt off using a blow-torch and the final traces removed by scrubbing and scouring.

Paint and ink are the normal tools of the graffiti-artist.
Several manufacturers produce products specially formulated for graffiti removal.

There are various types of ink with different chemical compositions, so removal of ink stains may require some trial and error.

For ordinary blue writing inks, make a strong solution of Sodium Perborate in hot water. Mix with whiting to a thick paste, apply to the stain and leave until dry. Repeat as necessary.

Many red, green, violet and other bright coloured inks are aqueous solutions of synthetic dyes, and can often be removed using the same method. Blue inks containing Prussian blue cannot be removed by this method but should yield to treatment with an Ammonium Hydroxide solution (or a household cleaner containing ammonia).

Indelible inks can often be removed by the method using Sodium Perborate. In some cases it may be necessary also to treat with an Ammonium Hydroxide solution (or household cleaner containing ammonia). Proprietary 'ink eradicators', available from hardware stores, can also be used.

It is often difficult to eliminate completely all traces of graffiti from concrete, and in situations where it is likely to be a problem, the concrete should be treated with an anti-graffiti coating. Such coatings seal the surface of the concrete, preventing penetration of ink or paint, and any subsequent graffiti can easily be removed.

Tyre Marks

These can normally be removed by steam cleaning, or by scrubbing the area with detergent and hot water.

Bitumen

Fresh bitumen should be allowed to cool down before removing it with a paint scraper or similar. If it is particularly resistant, the use of ice to make the bitumen brittle may be required prior to scraping it from the paving. Any residue should be removed with an abrasive powder (eg: household scouring powder) and finally the whole area rinsed with clean water. Certain proprietary cleaning agents are available to remove bitumen but these should be tested on an inconspicuous area of paving first.

Emulsified bitumen consists of very small drops dispersed in water and penetrates only slightly into concrete. It can be removed in the same way as molten bitumen although rather less easily. Do not use solvents as these will increase the penetration of the stain into the surface.

Smoke, Fire and Tobacco

Normally such stains can be removed by scrubbing with detergent and hot water. Where the stains persist, a mixture of scouring powder and household bleach can be used. It is important the bleach is washed from the area with clean water once cleaning is completed and the run-off carefully disposed of.

Bleach is detrimental to plant life so care should be taken to protect adjacent lawns and borders.

Epoxy and Polyester

Areas of solidified epoxy or polyester resin can be removed by carefully burning off with a blowtorch. Care must be taken not to inhale any fumes given off or to overheat the concrete sufficient to cause explosive fracture of the coarse aggregate.

If black stains remain after burning, this can be removed by scrubbing with soap and water.

For larger areas, grit blasting may also have to be considered. This will not affect the durability of the material but may affect the micro-texture of the surface. It is advisable to test a small area before any large scale operation is undertaken.

Copper, Bronze and Aluminium

Copper and bronze stains are usually green although in some cases they are brown. To remove them, mix together in the dry form, 1 part of Ammonium Chloride (sal ammoniac) and 4 parts of whiting (powdered gypsum or chalk). Add Ammonium Hydroxide (household ammonia) to form a thick paste. Apply over the stain and leave to dry. Repeat as necessary.

Aluminium stains appear as a white deposit which can be removed by washing with acid.

SYMPHONY Grey at RHS Chelsea 2015

Organic Growth

Organic growth can be prevalent on hard surfacing where the area is heavily shaded, is under trees or is not laid to an adequate fall.

There are many types of organic growth and some will require different treatments in order to remove them. The most common types of organic growth have been detailed below with brief explanations to help you identify them.

Algae is a green film or powdery deposit is typical of algae on paving and stonework. (1*)

Moss is typically found on hard surfaces and may form large, coarse, loose, green or yellowish-green tufts, densely matted tufts, or compact green cushions. (2*)

Lichen are common on paving and timber structures.
The colour of lichen varies with species, but most are silver-grey, grey-green, yellow or orange. They can be crust-like, leafy or scurfy in texture. (3*)

If such growths do occur and are considered undesirable then the area should be treated with the appropriate treatment according to manufacturers' instructions. Such products take some days to be effective and are most effective when applied during a spell of dry weather. The washes work best if any thick growths are scraped off first and the wash is well brushed in.

Normally, one treatment is sufficient to kill the growths but sometimes repeat applications are necessary. The dead growths will eventually weather off and disappear.

If rapid removal of the dead growths is required, this can sometimes be achieved using a high-velocity jet of water.
In the absence of a high-pressure water cleaner, an ordinary garden hose with a constriction at the end may produce a jet of water of sufficient velocity to be effective.

Some toxic washes leave a residue which discourages subsequent growth, but even under favourable circumstances the residual effect is unlikely to last for more than two or three years.

NOTE: Products containing Ferrous Sulphate can chemically react with concrete products resulting in a brown stain to the surface. Please check with the manufacturers of the weed or moss treatment for further advice on this matter.

Growths are not normally deleterious to concrete and in some circumstances can impart a mellow and pleasing appearance. They can be encouraged by applying a wash of cow dung and water (or alternatively skimmed milk).

1. https://www.rhs.org.uk/advice/profile?pid=418
2. https://www.rhs.org.uk/advice/profile?PID=415
3. https://www.rhs.org.uk/advice/profile?pid=418

Algae

Moss

Lichen

Information

Acknowledgments

A J McCormack & Son	www.pavingexpert.com
Interpave	www.paving.org.uk
Royal Horticulture Society	www.rhs.org.uk

Useful Contacts

Extensive	https://www.extensive.co.uk/
Lithofin	http://casdron.co.uk/
Resiblok	http://www.resiblock.com/

Useful Products

Brinton's Patio Magic	http://www.brintonproducts.co.uk
Gunk	http://www.gunk.com/
Ice-Thaw Granules	-
Jeyes Fluid	www.jeyes.co.uk
Karcher	https://www.kaercher.com/uk/
Magic Ice Melts	-
Oxiclean	www.oxiclean.com
Weedol	http://www.lovethegarden.com/weedol
Pathclear	http://www.lovethegarden.com/weedol
Roundup	http://www.roundup-garden.com/

How to contact Marshalls

(Calls may be monitored or recorded)

The Marshalls Technical Advisory Service is here to help customers and installers with all aspects of installation technical advice
0370 411 2233

The Marshalls website is a comprehensive source of ideas, product information, and much, much more.
www.marshalls.co.uk/homeowners

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Lowfields Business Park, Elland HX5 9HT**

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