

## **MAINTENANCE AND CLEANING OF URBANSTONE CONCRETE PAVERS**

This cleaning guide is not intended to be used as a contract document and it is not appropriate to include a copy of it in a project specification, nor to refer to it as a standard specification, since each section needs to be reviewed for relevance to particular situations or projects.

Procedures and cleaning methods applicable to one project may not be technically or economically relevant elsewhere.

Clauses and selected commentaries have been prepared to cover a probable range of cleaning situations.

As the information provided is intended for general guidance only and in no way replaces the service of professional consultants on particular projects, no liability can be accepted by UrbanStone for its use in part or wholly.

## **INTRODUCTION**

Soiling of UrbanStone pavers can be unsightly.

It is useful to differentiate between soiling that is generated during construction or installation and that generated during normal service.

In general, prevention is better than cure, and regular maintenance is better than occasional, drastic cleaning.

Soiling can be reduced or prevented by correct design and by careful workmanship and housekeeping.

Recognition of the stain is the first and most essential step in cleaning.

In instances where stains are unable to be removed, and rectification procedures have caused surface damage to the pavement, it is most likely that the stain in question has been incorrectly diagnosed, and hence the applied rectification procedure has been incorrect.

Successful cleaning is largely a process of trial and error, and thus small areas should be test-cleaned to determine the appropriate procedure to be adopted.

UrbanStone is not a hard product to keep clean and staining or graffiti can be removed without excessive costs or harsh treatments.

It is always advisable to establish a good maintenance and cleaning regime immediately after the completion of the pavement installation.

Cleanliness of the pavement will largely depend on this maintenance regime.

Selection of the maintenance and cleaning regime will depend on the paver selection, its application and the location of the pavement in question.

## **DESIGN CONSIDERATIONS.**

Prevention is better than a cure!

The following items should be considered carefully during the design stage to minimise unsightly stains on UrbanStone paving.

### **1. Selection.**

The colour and texture of the unit to be used should take into account the location of the masonry and the building.

Dark or multicoloured units can mask unsightly staining, such as food or car exhaust deposits. On the other hand, dark units may accentuate the presence of efflorescence during and after installation.

### **2. Drainage.**

Stormwater from roofing should be shed so as to clear the paving, situated immediately below or in the area of the roof itself. Flat pollution-catching surfaces and features which channel 'run off' into narrow paths should be avoided where possible.

## **CONSTRUCTION TECHNIQUES.**

Extreme care is needed to avoid paint, timber and other like staining products being splashed onto the paving during installation.

Once paint has dried it is extremely difficult to remove and most timber stain products are virtually impossible to remove.

Prevention is the only cure.

The use of washed jointing and bedding sands during installation will alleviate possible problems with sand staining.

Regular sweeping of the pavement during construction will minimise the possibility of staining caused by rusty nails and foot trodden mulching soils, site sands and other contaminants.

## RECOMMENDED CLEANING TECHNIQUES FOR SPECIFIC TYPES OF STAINING IN CONCRETE PAVERS

**Note: A test area should be trial cleaned before the final cleaning technique is adopted.**

TYPES OF STAINING	CAUSES	RECOMMENDED CLEANING TECHNIQUES
EFFLORESCENCE	Refer to 'An explanation of the formation and treatment of efflorescence on concrete'	Refer to 'An explanation of the formation and treatment of efflorescence on concrete'
SOILS	Splashing from adjacent soil areas. Unwashed jointing and bedding sands. Inadequate drainage or ponding from water run-off.	These deposits should be removed as soon as possible. First saturate the soiled area with water and then scrub with a bristle brush and strong detergent solution. A solution of one cup of detergent to five litres of hot water is recommended.
BITUMEN, TAR, OILS & FAT	Motor vehicle oil leaks. Motor vehicle tyres. Food spills. BBQs and cooking areas adjacent to or near paved areas	These usually need two treatments with a commercial emulsifying agent (degreasing solution). (Bitumen stains will penetrate the masonry deeply, making effective treatment very difficult.)
TIMBER	Water spreading tannins and resins particularly from new hardwoods.	Timber staining can be removed by scrubbing with a solution of 120gm oxalic acid per 4 litres of hot water. Neutralise the paving after this treatment where the stain is not removed by this solution utilising clean, fresh water. Apply a bleaching solution containing sodium hypochlorite and allow it to dry.
GRIME	Deposits from airborne pollutants and atmospheric debris.	First saturate the soiled area with water and then scrub with a bristle brush and liquid detergent solution. Steel wire brushes should not be used, to avoid rust staining from broken steel bristles.
ORGANIC GROWTH	Common where pavers are continually damp and are positioned in sunless spots.	As much growth as possible should be removed by vigorous brushing with a bristle brush or broom. After this dry brushing, apply a proprietary weed killer which should be left on the surface for several days. Brush off and clean with hot water and detergent by lightly brushing.

## ... CLEANING CONTINUED

TYPES OF STAINING	CAUSES	RECOMMENDED CLEANING TECHNIQUES
RUST	<p>Steel components on outdoor furniture.</p> <p>Waste steel construction materials left on pavers eg. Nails, strapping, etc.</p>	<p>Scrubbing with detergent and water may remove surface staining.</p> <p>Very difficult to remove, prevention is the best policy.</p>
MORTAR SMEARS & CUTTING SLURRY	<p>Inadequate cleaning after joints have been mortar filled.</p> <p>Inadequate cleaning after pavers have been saw cut.</p>	<p>Mortar smears should be cleaned off before they set by wiping with a clean, wet sponge. If this does not occur, the following recommendations are made for removal:</p> <ol style="list-style-type: none"> <li>1. Stiff brushing.</li> <li>2. High-pressure water cleaning.</li> <li>3. Dilute hydrochloric acid (this should only be done on exposed aggregate pavers by experienced qualified personnel).</li> </ol> <p><b>Hydrochloric acid should only be used as a last resort.</b> This method will remove additional surface matrix off the paver which may in turn change the appearance and finish of the exposed aggregate surface.</p> <p><b><u>This method of cleaning is to be undertaken by a qualified, licenced expert only.</u></b></p>