



Technical Bulletin

Cleaning & Treatment of Flat Concrete Surfaces Using Softwashing.

Issue:

Dark streaks covering concrete sidewalks, drives and decks, usually resulting from mold, mildew and other organic stains.

Cause:

Fungal, Algae and Bacteria microbes colonizing the concrete surface and creating dark unsightly streaks eventually covering the entire surface, resulting in an unsightly and dangerous (safety) condition

Potential Damages:

It has been documented that when left unchecked these micro organisms will decompose the flat concrete surface. Though once thought as merely an esthetics problem, the proliferation of these organisms on many surfaces will cause these surfaces to prematurely age reducing the designed service life of the concrete. Algae, fungus and bacteria break down surfaces decomposing them with their filament root system and their appetite for the organics in the attacked surface. Another condition that has been widely documented is the safety issues created by these infestations building up and becoming slippery. This creates a dangerous safety concern in that pedestrians can slip and fall on these infested surfaces resulting in injury and liability for the property owner.

Warning:

Pressure washing, though used in the past for cleaning these surfaces, has been attributed to accelerating the premature ageing and eventual failure of these surfaces. Pressure washing is described as water under pressure (500 psi or greater) that is driven from a combustion engine and a pump, in which the high pressure / high volume of the water is used to blast away the surface stain. Pressure washing only removes the surface of the stain which is a living organism and resides deep in the pours of the concrete surface. In this case the old stains grow back just like a weed that was pulled yet the root remained.

Solution:

Recently many agricultural style spraying systems have become available for spraying cleaning chemicals on flat concrete surfaces. These delivery systems utilize low pressure pumps to project cleaning and sanitizing solutions onto the infected surface. These systems are in no way pressure washers. Property owners should be wary of individuals or companies who say they are soft washing and are not. Use of gasoline powered equipment that are merely modified pressure washers is not considered soft washing. It is easy to identify a system that utilizes non-pressure softwash cleaning in that the chemical "not the machine" cleans the surface. The mechanical system should only be responsible for the delivery of the chemical not for the cleaning itself.

Cleaning solutions treat the issue of concrete staining topically. The chemicals are applied, then the chemicals remove the stain and in many cases the chemicals protect against further staining. Chemicals that are safe for concrete stain removal are, but are not limited to, sodium hypochlorite (bleach), calcium hypochlorite (powder bleach) and sodium per carbonate (powder hydrogen peroxide). These are bleaching agents (oxidizers) that clean and sanitize the surface.

(continued page 2)

Environmental:

The property owner should note that some states and local authorities have made laws limiting the use of traditional chemicals like tri sodium phosphate (TSP) and other soaps that contain phosphates. The Federal Clean Water Act exists to keep our rivers, streams and waterways clean. Federal and local laws can be very strict regarding what is allowed to go into the streets and into the storm drains. Our contractors follow the general rule of thumb, which is legal in all fifty states, in that we keep waste streams on the property, avoiding any contact with the storm drain system. All of SoftWash Systems chemicals are 100% non-hazardous and biodegradable. SoftWash Systems Authorized Companies, have been adequately trained on how to keep waste streams on property and how to dispose of waste water onsite without ecological harm.

Scope:

When applying a softwash cleaning to a flat concrete surface follow these general scope of work guidelines.

1. Remove all dry debris from the surface using either a blower or broom.
2. Make sure grass and or landscape has been pruned or edged away from the surface being treated.
3. If necessary and concrete has been neglected a light pressure washing with a flat surface disc may be needed to remove years of layers of thick algae. (mowing the surface as you will)
4. Make sure during this mowing / cleaning process that you collect the waste water via a vacuum system or by redirecting the water onto the grass with a squeegee or a broom.
5. Once the surface is prepped apply a 3 to 4 percent bleach and water solution to the surface with SoftWash Systems Green Wash additive. (Green Wash is a wetting agent, detergent, as well as a accelerant that makes bleach based cleaners "bleach" better at a much lower concentration. Also allowing for deeper penetration and a more thorough clean of the layers of the surface.)
6. Apply the softwashing solution with an agricultural style spraying system like SoftWash Systems Cradle Skid System.
7. Keep softwashing solution on property by working the product with a broom or squeegee allowing proper dwell time and surface coverage.
8. Allow the softwashing solution to dry in place. DO NOT RINSE.
9. The organic stains will bleach out and the flat concrete surface will look dramatically better, however the dead, bleached clear algae and mildew do remain. They will be rinsed away by the next good hard rain.

Many surface manufacturers have their own technical articles addressing this growing problem. This is not a condition or service to be taken lightly and deserves your full due diligence in research before possible damaging costly surfaces on your property.

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