

K.S. Design Group, Inc.

Landscape Design/Build Maintenance Contractor

UNILOCK PRODUCT CARE

Thank you for choosing Unilock products for your landscape project. Whether your investment includes a small walkway, a large driveway or a complete landscape project, we want you to enjoy the benefits of Unilock products to the fullest. For the most part, Unilock pavers require no maintenance. However, certain environmental conditions and certain types of use may require some additional care and maintenance to enable you to enjoy your Unilock installation for years to come.

Taking a few moments to read this brochure will help you determine what, if any, additional care may be required for your project. By doing so, you will be able to maximize the benefits of owning a Unilock paving stone installation and avoid any unexpected problems.

General Maintenance

When correctly installed and maintained, all Unilock products will provide a durable and pleasing surface for years to come. However, like many things around the home, periodic maintenance is needed to maintain the beauty and integrity of your installation.

A general cleaning performed each spring using a coarse-bristle "stable" broom and Unilock's General Purpose Paver Cleaner, followed by the application of a granular weed preventative in the joints, can make all the difference. While dirt and algae stains are merely aesthetically unpleasing, some weeds, if left unaddressed, can push pavers apart from each other. Please contact KS Design Group, Inc. 630-553-1773 for additional information, pricing or to schedule this service.

The joints between paving stones are undoubtedly the most vulnerable areas of any paving stone installation. Depending on the climate and amount of use, even the most expertly installed patio may require attention to the joints at some time in its life.

When using a garden hose to clean a paved area, you should direct water at the surface at an angle not greater than 30° and across the diagonal (i.e., not parallel to the joints as the intensity of the water stream may be too harsh and may break up the jointing material). A power washer may be used but you must exercise caution to avoid damaging the surface of the pavers. Many pressure washers have enough power to expose the aggregate on the surface. Nozzle style, distance from the surface and pressure (psi) are all factors which can affect the outcome. We recommend that you always test the cleaning on stones left over from the original installation.

Finally, when using a cleaning product, the product must be thoroughly rinsed from the surface and channeled to suitable drainage points. Once the area has been cleaned, it should be inspected to ensure the integrity of the sand joints. Any eroded joints should be re-sanded as necessary.

Joint Sand Maintenance

During the first few months after a new installation, the joints between the paving stones are relatively porous. The infiltration of rain or other water eventually consolidates the sand in the joints. However, with very sloped installations, the sand can potentially wash out of the joints. It is important that these joints be topped up with jointing sand to prevent the sand-bedding layer

K.S. Design Group, Inc.
P.O. Box 486 • Yorkville, IL 60560
Telephone: (630) 553-1773 • FAX: (630) 553-9678
www.landscapekit.com • email: KSDesigngroup@aol.com
Member ILCA • ISA • Certified Arborist

below from deteriorating, causing the pavers to settle. Keeping the joint sand topped up is also one of the best ways to prevent weed seeds from settling between the joints and germinating. To prevent weeds from taking root, we strongly recommend that paver joints be filled with Unilock Polymeric Jointing Sand. Preventing the sand from being washed or blown out of the joints is critical in this early period. Although regular jointing sand is acceptable for most applications, sloped areas, areas around swimming pools or any area subject to erosion should have Unilock Polymeric Jointing Sand swept into the joints at the time of installation.

Over time, the joints in a paving stone installation will become established and the joints will no longer erode. However, if wash-out occurs, we recommend "retrofitting" the joints with Unilock Polymeric Jointing Sand to re-stabilize the joints. For extra-wide joints or areas subject to heavy erosion, use Unilock Polymeric Max. Additional options are joint stabilizing sealers or EZ Pro Sand. Please contact KS Design Group, Inc. 630-553-1773 to obtain additional information, pricing or to schedule this service.

Cleaning

General Cleaning

Cleaning is an essential step in preparing for the sealing of concrete pavers. Depending on the age of the installation and the intensity of use, the area should be inspected for any stones that may have been damaged. The perfect time to replace these stones is prior to cleaning. It is always a good idea to keep some of the stones left over from installation for this purpose.

Make sure that tree branches, shrubs and vegetation are pulled back or covered to protect them from the over-spray of cleaning and sealing solutions. Before using any cleaning solution on an entire area, always test a small inconspicuous area to be sure that the results are what you expect and that there is no reaction to other sealers or substances which may have been applied to the installation previously. If there is no negative surface or color reaction, proceed with cleaning the entire area. Always rinse the cleaning solution off thoroughly.

Be sure to read and follow the directions printed on container labels for use, application, precautions and first aid. Protective clothing and goggles must be worn when working with cleaners and sealers.

Some cleaning systems mix water and a cleaning product together in a spray. The force of the spray depends on the flow and pressure in the hose, the type of nozzle, and the distance and angle between the nozzle and the surface. Care must be taken not to blow or wash the sand from the joints. Sand will remain in the joints if a "fan" spray nozzle is used and the angle of the spray is kept from directly blasting (or targeting) the joints.

Removing Grease and Oil Stains

Much like your indoor kitchen, your outdoor kitchen may require cleaning. Certain stains, such as those from soft drinks, barbecue grease, cooking or salad oils, or snack foods, can be stubborn to clean. Old stains resulting from oil dripping onto a driveway from a vehicle can also be difficult to remove. Oil will penetrate readily into a paved area but will not stain if the spill is removed promptly with granular oil absorbent. Spills should be soaked up, not rubbed, because rubbing will spread the oil over a larger area, driving the stain deeper into the concrete. Hint: Always keep some paper towels handy in the garage, as well as a small pail of oil-absorbent material such as cat litter, for those unexpected spills. For very small oil spills, a small amount of laundry detergent may also work.

K.S. Design Group, Inc.
P.O. Box 486 • Yorkville, IL 60560
Telephone: (630) 553-1773 • FAX: (630) 553-9678
www.landscapekit.com • email: KSDesigngroup@aol.com
Member ILCA • ISA • Certified Arborist

Product Recommendation: UNILOCK GENERAL PURPOSE CLEANER

This cleaner removes dirt, grease and oil from paving stones and concrete. It removes ground-in dirt and can be used on unsealed or previously sealed surfaces. An oil spot that has soaked into the concrete may resurface 24 hours after cleaning. If this happens repeat the cleaning process. An oil stain on a light-colored surface may still leave a darkish spot after cleaning but it can be significantly lightened by using Unilock Paint and Tar Remover.

Always trial clean first. If there is no negative surface or color reaction, proceed. Spills should always be soaked up and not rubbed.

Removing Efflorescence

Efflorescence is a naturally occurring powder-like deposit, usually white, that occasionally develops on the surface of concrete, often just after an installation is completed. Although unattractive, efflorescence is usually not a problem and will generally disappear on its own over time.

Efflorescence is caused by the soluble salts in the raw material used in manufacturing, and may react with moisture, humidity and frequent temperature fluctuations. These elements wick any salts that are present to the surface. In the summer, even after long periods of rain, moisture evaporates so quickly that small amounts of salt are brought to the surface.

Sometimes there are white deposits on the surface which resemble efflorescence but are actually stains resulting from salts wicked to the surface from the actual jointing sand or even the bedding sand below the surface. These salts come to the surface in repeated wetting and drying situations. These stains too will eventually disappear. The best way to treat an affected area remains open to debate, with natural weathering, time and patience being the recommendation of many. If you wish to speed up the cleaning process, you can remove any surface efflorescence with an appropriate cleaner. This cleaner can be somewhat abrasive, so a trial clean on a small inconspicuous area is recommended before you tackle the entire job.

Product Recommendation: UNILOCK EFFLORESCENCE REMOVER

This product is specially formulated to dissolve efflorescence (whitish salt deposits) and remove ground-in dirt on paving stones and concrete, without discoloring or damaging surfaces. It cleans evenly and enables the sealant to better penetrate the pavers.

Removing Rust

Whenever steel or iron sits on concrete for a period of time, the rust-colored oxidation that develops on the metal will wash onto the paver surface, resulting in a stain. Trailer hitches, barbecues, screws, nails and metal toys are some of the usual offenders. Removing rust stains can be challenging. The intensity and age of the stain will affect the outcome of the cleaning. Deeply embedded rust stains require the application of Unilock Rust Remover, which is an acidic solution designed to dissolve and remove rust stains. Unilock Rust Remover will generally not damage or discolor the surface of the paver, and will effectively remove the stain. However, if several applications are required to remove the stain, there may be some surface etching. Rust on light gray pavers is also more difficult to clean than stains on darker pavers.

Removing Paint, Tar or Tire Marks

From time to time a more serious stain will be caused – by a paint can tipping over or someone tracking in tar from a neighboring property or the street. Rubber tires can also mark up a beautiful installation. Tire marks are usually due to a combination of factors. When the weather is hot and both the tires and the paving stone driveway are new, you may get some marking. If you were to

K.S. Design Group, Inc.
P.O. Box 486 • Yorkville, IL 60560
Telephone: (630) 553-1773 • FAX: (630) 553-9678
www.landscapekit.com • email: KSDesigngroup@aol.com
Member ILCA • ISA • Certified Arborist

look at one of the stones under a microscope you would see tiny particles of rubber clinging to the surface of the stone. New paving stones are generally a little more abrasive than older pavers are. The tiny aggregate particles on the surface will sometimes remove tiny particles of rubber from a tire, especially a new tire or one with the rubber softened by design or temperature. Always avoid turning a tire needlessly on a paver surface. The vehicle should always move and turn simultaneously in a non-aggressive manner. The good news is that rubber markings are easily removed and can sometimes be removed simply by weather, or water along with a light scrubbing.

Product Recommendation: UNILOCK PAINT, TAR AND RUBBER REMOVER

This cleaner removes paint, tar, rubber, chewing gum and other sticky substances from paving stones and concrete slabs. Follow directions on the container for best results.

Removing Moss

Moss is one of those things that one person considers a nuisance and another considers attractive, adding to the "country" or "old English" look and feel of the installation. Moss generally develops in shaded areas that are slow to dry up after rain. (West coast installations are particularly subject to the emergence of moss.) If you want to remove moss, it is recommended that you simply pressure wash the surface after applying a solution of 20% dish soap and 80% water to the surface. Do not use the pressure washer on high power when rinsing, or you risk damaging the surface. Always keep the nozzle at a 30° angle to the surface and use the fanned nozzle setting. If some jointing sand washes out, you may need to sweep in some new sand.

Removing moss may need to be done annually, depending on the location and conditions. Hint: If you like the look of moss but do not like its staining aspect, you can plant some creeping thyme seeds into the joints. This may not be suitable for all paving stone styles, but certainly is for those styles with large joints. This type of planting is not recommended on driveways or where surface integrity is critical.

Product recommendation: UNILOCK GENERAL PURPOSE CLEANER or MOSS BEGONE

You may also try warm water and dish soap; however, if the moss is ground in by foot traffic, UNILOCK GENERAL PURPOSE CLEANER or MOSS BEGONE will do a much better job.

Removing Stains from Plants

Trees can stain paving stone surfaces in a number of ways. Flowers, fall leaves, birch tree branches and certain seed pods can leave stains on the surface when combined with moisture. In the majority of cases, several rains or the passing of a winter will resolve the issue naturally, but the combination of moisture and the branches from young birch trees (the brown stems) can stain in mid-season even after a heavy rain. A light pressure washing or the application of copious amounts of water in combination with a light scrubbing will yield favorable results. Common dish soap or Unilock General Purpose Cleaner will also accelerate the cleaning.

Product Recommendation: UNILOCK GENERAL PURPOSE CLEANER

SEALING

There are basically two types of Unilock Protective Sealers. One is a solvent-based thermoplastic acrylic protective sealant and the other is a water-based thermoplastic acrylic emulsion. Both are effective in protecting your paver surface from the penetration of dirt and oil-based stains. Both types will enhance the original color of the units and give them a satin "wet" look. Be sure to read the label instructions carefully when cleaning and sealing. Please contact KS Design Group, Inc. 630-553-1773 for additional information, pricing or to schedule this service.

K.S. Design Group, Inc.

P.O. Box 486 • Yorkville, IL 60560

Telephone: (630) 553-1773 • FAX: (630) 553-9678

www.landscapekit.com • email: KSDesigngroup@aol.com

Member ILCA • ISA • Certified Arborist

Note: Sealers should not be applied more than once in three years, to a maximum of two applications. Too many applications will create a film on the surface which may discolor in sunlight. Please contact KS Design Group, Inc. 630-553-1773 to obtain pricing or to schedule this service.

Winter Maintenance and De-icing

If there is one question that remains in the minds of many people, it's the question about the performance of paving stones during the winter. The question covers such concerns as durability, skid resistance, snow clearing and de-icing.

Durability is one of the things that Unilock paving stones are known for. Unilock paving stones have some of the highest compressive strength and lowest water absorption levels in the industry. The advantage of this is that the concrete will not absorb and trap water in its micro-voids, minimizing the risk of any water freezing and expanding, ultimately damaging the concrete.

Skid resistance is one of the greatest benefits of Unilock paving stones. Many styles of Unilock paving stones have excellent skid resistance because of their textured surface. If skid resistance is a concern because of a sloped surface, you should select a Unilock textured surface for all or part of the installation.

Snow clearing on paving stone surfaces is much easier than you think. Almost all Unilock paving stones have a slight bevel around the edge of the stone. Not only does this facilitate the movement of rainwater across the surface, but it also protects the edges from potential chipping by snow clearing equipment. We recommend that you always use a plastic snow shovel for paving stones. This means that your snow blower should also be fitted with a plastic shoe on the adjustable gliders and on the scoop edge. Hint: If you hire someone to plow your driveway, you must have your snow clearing firm confirm in writing that it has protective edges on the snowplow to avoid scratching the surface. Although the metal on snow clearing equipment will not adversely affect Unilock paving stones structurally, the contact of any steel on concrete can potentially leave tiny particles of metal in the surface of the concrete which will rust and leave unsightly brown streaks after a couple of months. (A good example of this can be seen on the municipal curbs at the street. Take a close look and you will see what the snowplows have done.)

De-icing substances, when used in proper amounts, will not damage good-quality concrete. They will, however, speed up the surface wear on some styles of pavers. Many of the exposed aggregate products and tumbled products are unaffected by virtue of their style.

There are four types of de-icing salts:

- Sodium chloride (common rock salt) is the most popular de-icing salt. It is widely available and it will melt snow and ice at temperatures down to approximately 16° F. Below 16° F, rock salt stops melting snow and ice. Sodium chloride can damage adjacent grass, plants and metal. Apply with caution and use as sparingly as possible.
- Calcium chloride is another de-icing salt. It generally looks like small, white, round, pellets. It will melt snow down to about 0° F. It can irritate skin. Studies indicate that depending on the concentration, calcium chloride is less damaging to grass than sodium chloride is. Heavy concentrations of calcium chloride can chemically attack concrete.

K.S. Design Group, Inc.
P.O. Box 486 • Yorkville, IL 60560
Telephone: (630) 553-1773 • FAX: (630) 553-9678
www.landscapekit.com • email: KSDesigngroup@aol.com
Member ILCA • ISA • Certified Arborist

- Potassium chloride is a de-icing salt available in some markets. It will not hurt skin or damage plants. However, it melts ice only when the air temperature is above 15° F, but it can be combined with sand to improve effectiveness.

- Magnesium chloride is one of the newest de-icing products on the market. It will melt snow and ice down to -13° F. Magnesium chloride's benefits include less damage to weak concrete surfaces, less toxicity to plants and no white residue. Magnesium chloride does attack aluminum and should not be used where it will come in contact with aluminum or electrical utilities below ground.

Hint: If you do not know what is in your de-icing material, do not use it on concrete surfaces; just use sand to prevent slipping and sliding.

Note: Fertilizers that contain ammonium nitrate and ammonium sulfate should not be used for de-icing since these substances attack the integrity of concrete. Always read manufacturers' recommendations for use and heed all warnings and cautions.

Retaining Wall Maintenance

Unilock retaining walls, if installed properly, should be virtually maintenance free. If your retaining wall has efflorescence or any other stain on its face, you may use the same cleaners as described for pavers. One important thing to check for is loose coping. If coping was not adhered to the top of the wall or steps properly, it could result in injury. We recommend Unilock Concrete Adhesive for maximum adhesion strength. This adhesive is one of the strongest adhesives on the market and will provide years of performance. Please contact KS Design Group, Inc. 630-553-1773 for additional information, pricing or to schedule this service.

Product Recommendation: UNILOCK CONCRETE ADHESIVE

Use this adhesive wherever a permanent bond is desired between two concrete surfaces. It will also adhere to masonry brick, wood and unpolished metals.

We trust this information has been helpful. Please contact KS Design Group, Inc. 630-553-1773 to answer any questions, obtain pricing or to schedule services.

K.S. Design Group, Inc.
P.O. Box 486 • Yorkville, IL 60560
Telephone: (630) 553-1773 • FAX: (630) 553-9678
www.landscapekit.com • email: KSDesigngroup@aol.com
Member ILCA • ISA • Certified Arborist