

**Solution - Before** attempting to fix the problem, allow for a long period of dry weather. The moisture needs time to leave the paver joints and bedding sand before the sealer can be fixed. Since the surface of the pavement is now sealed, no moisture or very little will evaporate through the top. This process may take 2 – 6 *dry* days.

Toluene, available at most commercial paint stores, should be applied to the affected pavers. This will re-emulsify the acrylic, allowing it to bond to the surface. Do NOT use xylene, as it may reduce the UV stability of the acrylic.

**NOTE:** Just as during the initial application of *PAVERGUARD*, make sure the surface is dry and no moisture is anticipated within 4 hours. Keep vehicle traffic off the surface for 24 hours.

#### WHAT IS EFFLORESCENCE?

PAVE TECH, INC. recommends waiting 3 months before cleaning and sealing a new installation. If efflorescence is severe upon installation of the pavers, they can be cleaned with *PAVERPREP* to improve the appearance, but the pavers should be cleaned again with *PAVERPREP* just before the first sealing even if no further efflorescence is apparent. The reason for waiting to clean and seal is efflorescence and secondary efflorescence.

Efflorescence is a natural by-product of all curing concrete and occasionally appears in clay products. It is the white haze or “chalky” substance on top of the pavers. Commonly, efflorescence shows more on darker colored pavers, especially a charcoal color. Efflorescence is mainly a cosmetic issue; it does not affect the structural integrity of the paver. It is brought to the surface by the slow evaporation of water through the paver. As water enters the microscopic capillaries in the pavers, it reacts with the calcium oxide and forms calcium hydroxide. This is raised to the surface during a slow evaporation and forms the white haze. When the supply of calcium oxide is exhausted, efflorescence will stop. Over time, it will usually wear off the pavers naturally.

Because efflorescence will only surface during slow evaporation, the process will take longer in dry conditions. The process can be sped up by watering the pavement in the evening every 2 or 3 days, but this could also cause other problems from hard water or rust in the water.

Another concern is possible secondary efflorescence caused by the material under the pavers, including the bedding sand, base material and even the soil below the base material. Water can react with any calcium oxide in these materials and surface on top of the pavers. This will take longer to occur. If the pavers are sealed with *PAVERGUARD* without removing the efflorescence first, it will still be visible after the sealer has dried. It will now be trapped under the sealer and can not be removed, even if the acrylic is stripped off. *PAVERPREP* is only used before the first time pavers are sealed. It has little or no effect on the sealed pavers before future applications. Likewise, if the pavers are cleaned and then sealed and more efflorescence surfaces, it can not be removed even if an attempt is made to strip off *PAVERGUARD*. It is impossible to remove all of the acrylic, which prevents *PAVERPREP*, or any acid cleaner, from dissolving the efflorescence after sealing.

Separate Application Guides and MSDS Sheets are available for *PAVERECOGUARD*, *SILOXAGUARD*, *PAVERPREP*, *PAVERDETERGENT*, and *PAVERDE-STAINER*. Contact your dealer or PAVE TECH for a copy. They are also available for downloading at [www.pavetech.com](http://www.pavetech.com).

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# APPLICATION GUIDE Version 4.0 PAVERGUARD®

**PAVE CHEM®**  
SEALERS, CLEANERS and ADHESIVES

Visit website for the most up-to-date version of application instructions

*PAVERGUARD* is a solvent based, **high gloss**, co-polymer acrylic surface coating sealer. It is a combination of the finest solvent and acrylics, specifically designed for EXTERIOR CONCRETE pavement surfaces to provide long-lasting protection. It will enhance the color of the pavers, leave them with a glossy “wet look” and provide excellent joint sand stabilization. When the pavers are cleaned properly and allowed to fully dry, *PAVERGUARD* will leave no milky residue, discolor or peel off. It virtually eliminates the potential for staining.

- *PAVERGUARD* is not recommended for use around pool decks (slip resistance is greatly reduced when wet and pavers are hotter to the touch in bright sunlight).
- *PAVERGUARD* should NOT be used on clay or some natural stone surfaces (see *SILOXAGUARD* for these materials). Exposed aggregate is OK to seal with *PAVERGUARD*.
- *PAVERGUARD* is not recommended for use on retaining walls.
- *PAVERGUARD* is not recommended for interior applications due to the solvent fumes in *PAVERGUARD*.

Before using *PAVERGUARD*, it is necessary to determine if the concrete pavers should be sealed with *PAVERGUARD*.

- Do NOT apply *PAVERGUARD* if the pavers have not been installed for 3 months (see “WHAT IS EFFLORESCENCE?” Section for explanation).
- It is not recommended to use *PAVERGUARD* if the pavers have not been cleaned with *PAVERPREP* or other cleaner specifically designed for pavers. NEVER use muriatic acid. Muriatic acid is a by-product of the leather tanning industry. There are contaminants in it that may stain the pavers and there is no control of the strength of the acid. This may cause etching of the pavers if too strong or unsuccessful removal of efflorescence if too weak.
- Do NOT apply *PAVERGUARD* to pavers that have been previously sealed with anything other than *PAVERGUARD* without first testing for product compatibility.
- Do NOT use *PAVERGUARD* to reseal pavers, previously sealed with *PAVERGUARD*. See *PAVERGUARD Resealing* Application Guide for instructions on how and when to reseal.

#### *PAVERGUARD* Instructions

##### CAUTION!

Before using *PAVERGUARD*, be sure to read this entire application guide. *PAVERGUARD* is combustible; keep away from all sources of ignition. Make sure to check tightness of lids before transport or handling. Avoid contact with skin and eyes. **Always wear protective glasses, gloves, boots and a high volume, double filter mask designed for use with organic solvents such as paint spray.** Prolonged contact with skin can cause skin irritations.

Solvent vapors or excessive spray mists can cause headaches, nausea, drowsiness, tremors and irritation of the nose, throat and lungs. Keep out of reach of children. Shield buildings, landscaping and vehicles from spray drift. Dispose of empty containers according to federal, state and local regulations.

Do **NOT** allow *PAVERGUARD* or the solvents toluene or xylene to come in contact with **asphalt**. Damage to the asphalt will occur.

[pavetech.com](http://pavetech.com)

Apply 2 coats of undiluted *PAVERGUARD* to unsealed pavers. The 2<sup>nd</sup> coat can be applied after the 1<sup>st</sup> coat is dry enough to walk on (30-60 minutes). It can be applied with a roller or a sprayer. Do NOT dilute before applying. The 1<sup>st</sup> heavier coat of *PAVERGUARD* seals the pavers and locks in joint sand. The 2<sup>nd</sup> lighter coat evens out the gloss and adds more protection. 2 coats must be applied, but no more than 2 coats.

#### Coverage:

**Sprayer:** Coverage when spraying with a low pressure sprayer is approximately 100 – 120 sq ft per gallon for 2 coats (i.e. 1 gallon of *PAVERGUARD* is enough to put 2 coats on a 100 sq ft area). When using a sprayer to apply *PAVERGUARD*, do not use one that has been used with other chemicals (including other PAVE CHEM products).

**Roller:** When rolling on *PAVERGUARD*, coverage is approximately 70 – 80 sq ft per gallon for 2 coats (i.e. 1 gallon of *PAVERGUARD* is enough to put 2 coats on a 70 sq ft area). When applying with a paint roller, be careful not to over-roll the surface. Once it is spread, leave it alone. If not enough sealer is used or is over-rolled, the acrylic may be raised and show a surface texture.

#### Preparation:

1. Make all repairs to the pavement and conduct a thorough cleaning using PAVE CHEM's *PAVERPREP* (also use *PAVERDETERGENT* and/or *PAVERDE-STAINER* as necessary). See the *PAVERPREP* Application Guide for these instructions and procedures.
2. Once the surface is cleaned, barricade the pavement and keep all traffic off. Make sure that the tops and joints of the pavers are completely dry before starting application. After cleaning, this will take 24-48 hours, or longer, depending on temperature and humidity. Make sure that all sprinkler systems are turned off. If it rains within the 24-48 hour drying time, start the clock over.
3. When the pavers and joints are dry, check the weather forecast. Do not start applying *PAVERGUARD* if rain is anticipated in the next 12 hours. Also, application is not recommended below 45°F (7°C).

#### Warning:

Today's environmental VOC solvents, now required in solvent-based sealers, flash off the surface quicker. In extreme hot & sunny conditions (i.e. mid-day sun, 90° +) the acrylic may start to bubble. If this happens – STOP APPLICATION. Wait until these extreme conditions improve before proceeding with application.

#### Application (Sprayer):

1. **Joints must be dry.** Start at the HIGHEST elevation of the pavement. Spray side to side working toward the bottom of the pavement. Be sure to overlap each pass and apply the 1<sup>st</sup> coat liberally to previously unsealed pavers. When working next to a building or retaining wall, hold up a piece of cardboard or other material to shield from overspray. When spraying near edges with grass, try to angle the tip back toward the pavement to reduce overspray on grass. There may be some browning of the grass, but it will come back after 1-3 weeks.
2. The 2<sup>nd</sup> coat should be applied after the 1<sup>st</sup> coat is dry enough to walk on (30-60 minutes). Return to the highest elevation and apply the 2<sup>nd</sup> lighter coat in the same pattern. Spray enough to fully wet the surface, but no joint run off. Again, don't forget to shield buildings and walls.  
**TIP:** During the application process, when you stop to refill the sprayer tank, rest the sprayer wand in your container of toluene. It will melt off excess acrylic buildup on the tip and you will be ready to go when you're filled.
3. After 2 coats have been applied, barricade the pavement to keep all vehicle traffic off for 24 hours. Foot traffic is usually allowed after about 4-8 hours.

**Note:** For the do-it-yourselfers, purchase a good quality sprayer to complete your project that is approved for use with solvents. Be aware that the solvent in *PAVERGUARD* may still damage the seals and tip. So after clean-up, the sprayer may not be usable again. A garden sprayer will not work. Do not use the same sprayer for sealers and acids. If you are planning to clean and save the sprayer, you will need toluene (toluol) or xylene solvent for cleaning your sealer spraying equipment (see clean-up instructions). Purchase at least 1 gallon of either and have on site **before** starting application of *PAVERGUARD*.

**Note:** For the professional, purchase a high quality steel sprayer with Viton Seals. If cleaned properly after use, these should last for some time. Also, make sure the hose, wand and tip are approved for use with

solvents such as toluene. Do not use the same sprayer for sealers and acids. You will need toluene (toluol) or xylene solvent for cleaning your sealer spraying equipment (see clean-up instructions). Purchase at least 1 gallon of either and have on site **before** starting application of *PAVERGUARD*.

#### Application (Roller):

1. If using a paint roller to apply *PAVERGUARD*, purchase new, high quality medium nap rollers. Place a sheet of plywood on the pavers and put your metal paint tray on top. The plywood will prevent excessive *PAVERGUARD* from spilling on the pavers when filling the tray or when dipping the roller.
2. **Joints must be dry.** Start at the HIGHEST elevation of the pavement. Roll on the *PAVERGUARD* working side to side toward the bottom of the pavement. Be sure to overlap each pass and apply the 1<sup>st</sup> coat liberally to previously unsealed pavers. When working next to a building or retaining wall, hold up a piece of cardboard or other material to protect from the roller. Be careful not to over-roll the pavement to avoid raising the sealer and leaving a surface texture. Apply the sealer and move on.
3. The 2<sup>nd</sup> coat should be applied after the 1<sup>st</sup> coat is dry enough to walk on (30-60 minutes). Return to the highest elevation and apply the 2<sup>nd</sup> lighter coat in the same pattern. Roll on enough *PAVERGUARD* to fully wet the surface, but no joint run off. Again, don't forget to protect buildings and walls.
4. After 2 coats have been applied, barricade the pavement to keep all vehicle traffic off for 24 hours. Foot traffic is usually allowed after about 4-8 hours. There may be some browning of the grass along the edge of the pavement, but it will come back after 1-3 weeks.

#### Clean-Up:

1. If a roller was used to apply *PAVERGUARD*, allow the used rollers to dry completely (outdoors). Once dry, they are safe to dispose of in the garbage.
2. If a sprayer was used, spray any unused sealer back into a *PAVERGUARD* container.
3. Pour approximately 1 pint of toluene or xylene into the sprayer tank and put the plunger back on. Shake the tank to rinse off all the sealer inside the tank.
4. Pump up the sprayer and discharge the toluene back into the original toluene container. It can be reused again and again for cleaning equipment.
5. Remove the plunger again, then hold the sprayer wand up vertically and open the valve (trigger) to drain wand and hose back into the tank. Pour any remaining toluene back into toluene container (use a funnel if necessary).
6. Use a cloth rag and some toluene to wipe down the top and outside of the tank, plunger, hose, wand and seals. Disassemble the tip from the wand and soak it in toluene.
7. After all the equipment has been cleaned with toluene, pour approximately 1 pint of water in the sprayer tank. Shake it around to wash off the toluene inside, then pump up the sprayer and discharge the water into a metal container. Also, drain the hose and wand back into the tank as done with the toluene earlier and dump that water into the same metal container.  
This will need to be properly disposed, as the water is now considered hazardous waste. The other option is to leave the container open to allow the small amount of toluene to evaporate and flush water down the drain.
8. Rinse off the outside of the tank, plunger, seals and the tip with water. Allow the tank and all sprayer components to dry (lay the tank on its side for faster drying). Then put the tip back on the wand and put the plunger back on the tank to keep dirt out.
9. All empty containers of *PAVERGUARD* should be left open and allowed to dry in a well ventilated area (do not allow rain to enter containers). When dry, they are no longer hazardous and can be disposed.
10. Make sure that the lids are securely fastened on any unused containers of *PAVERGUARD* before transporting or storage.

#### TROUBLE SHOOTING:

**Problem** - After the sealer has dried, there is a slight haze or "glazed-donut effect" on the surface of some pavers or around some joints.

**Cause** - Moisture was still present when the sealer was applied. This moisture is now trapped under the sealer preventing the *PAVERGUARD* from bonding to the surface or has caused the sealer to lift.