



## Peak Performance from Concrete Pavers

Quality concrete pavers create a surface that can last for generations when placed on a well-prepared base. They need practically no maintenance when installed to ICPI guidelines. This guide will help you get the most value from your concrete paver installation.

### Joint Sand

During the course of normal use, the sand-filled joints receive dust from traffic on the pavement. This dust settles into the top of the joints, helping to hold the sand in place. Installations exposed to driving winds or runoff, however, may lose some joint sand that can be simply replenished with dry sand. Stabilized sand can be used instead of mason sand to reduce joint sand loss. Sealers can also help hold the sand in the joints. These are applied over the entire paver surface as a liquid and allowed to soak and cure in the joints. Ask your concrete paver manufacturer or distributor about these products and their application.



### Preventing Weeds and Ants

Weeds can germinate between pavers from windblown seeds lodged in the joints. They don't grow from the bedding sand, base or soil. Weeds can be removed by hand or with herbicides. Take care in using herbicides to not damage adjacent vegetated areas. Use biodegradable products that won't damage other vegetation or pollute water supplies when washed from the pavement surface. Besides stabilizing the joint sand, sealers can prevent seeds from germinating and discourage ants from entering.



### Snow and Ice Removal

Concrete pavers offer outstanding freeze-thaw resistance. They can resist damage from de-icing salts better than most pavement surfaces. Snow and ice are removed with shovels or plows like any other pavement. Electric or liquid snow-melting systems work well under concrete pavers, eliminating plowing and reducing slip hazards.



## Efflorescence



Pavers with efflorescence



Pavers after cleaning

Efflorescence is a white haze that may appear on the surface of pavers sometime after installation. It forms as a result of a natural chemical reaction that occurs when the lime or water soluble calcium oxide, produced by the cement contained in the pavers, reacts with water.

When the water enters the microscopic capillaries in the pavers, calcium hydroxide is formed. The calcium hydroxide rises to the surface of the paver, reacts with the carbon dioxide in the air, and forms a white haze of calcium carbonate when the moisture evaporates from the surface. The appearance of efflorescence stops when there isn't any more calcium hydroxide available to move to the surface. This process sometimes can take several months.

Efflorescence does not damage pavers. However, it can be unappealing. The white haze may give the impression that the paver color is fading but this is not the case. Efflorescence may occur randomly or be concentrated in certain areas. Dark colored pavers show efflorescence more than lighter-colored ones. If efflorescence does occur, it can be removed with cleaners specially made for concrete pavers. Careless or improper cleaning can result in damage and discoloration to the concrete paver surfaces. Contact your paver supplier for further information on efflorescence cleaners.



## Color and Wear

Color in concrete pavers is achieved by adding pigment to the concrete mix during production.

The cement in the concrete mix holds the pigments in place. They are very stable, showing little change in their properties over time. As the paver wears from traffic or weather, the cement and pigment particles gradually erode causing a color change over time. Like all pavements, concrete pavers receive dirt from foot or tire traffic which also changes the surface color. One way to moderate the rate of color change is by cleaning and sealing the surface of the concrete pavers. Besides enhancing their color, sealers can prevent dirt from lodging in the surface.



Sealed Unsealed

## Settlement and Utility Repairs

Settlement is often caused by inadequate soil or base compaction. Other factors can be water in the base or soil, too thick a layer of bedding sand, or washed out bedding and joint sand. Loose or inadequate edge restraints cause pavers to move apart and can also contribute to settlement. If the base or soil has settled and is stable, remove the pavers and bedding sand, place and compact additional base material to the correct level, then add bedding sand. The removed pavers can then be reinstated with no wasted paving materials or unsightly patches. Concrete pavers can be removed for access to underground utilities, and reinstated after repairs. When utility repairs are complete, fill the trench with base material and compact it. Remove about 18 in. (0.5 m) of pavers on either side of the opening, level the bedding sand and replenish as necessary. Reinstall the pavers, compact, fill the joints with sand and compact the surface again, filling joints as needed.



## Removing Oil Stains

Concrete pavers aren't damaged by oil leaking from cars, but the stains can be difficult to remove. Stains should be treated as soon as possible since the longer they remain on the surface, the deeper they penetrate making removal harder. Wipe excess oil from the surface as soon as possible and apply liquid detergent. Allow it to soak for several minutes. Then scrub and wash the pavers with hot water. Several treatments may be necessary for particularly stubborn stains. Cleaners specially made for removing oil stains from concrete pavers are available and yield good results. In some cases, it may be simpler to replace the stained pavers with new ones. Cleaning and sealing concrete pavers early in their life can make removing stains easier since sealers prevent stains from soaking into the surface.

