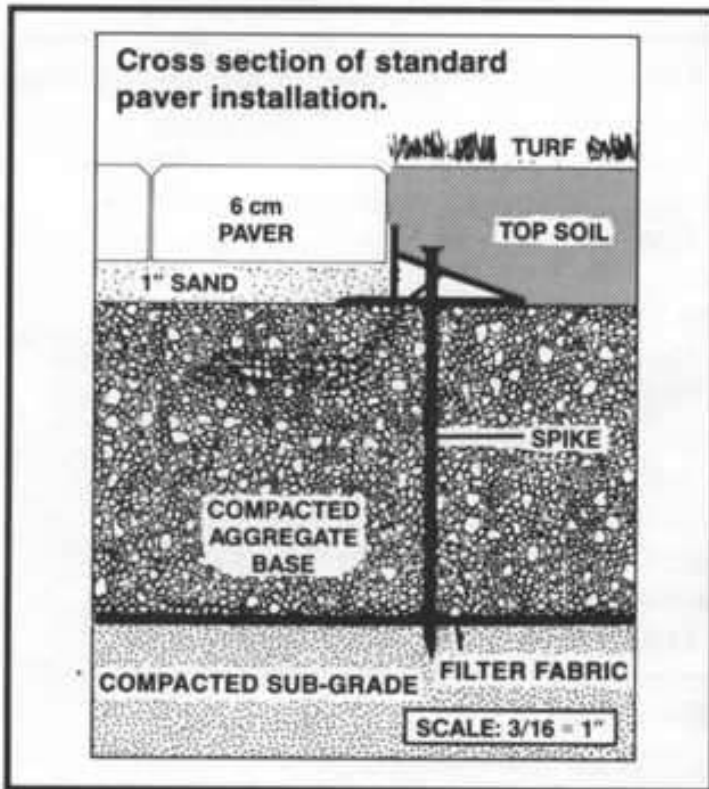


TYPICAL PAVER CROSS SECTION



Unilock presents...

“Be Paver Wise”



“Be Paver Wise” is provided as a courtesy of Unilock.

We sincerely hope this informational guide will assist you in selecting the professional contractor and highest quality products for your specific project. If you have any questions, comments, or require additional information, please contact us.

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WHAT YOU NEED TO
KNOW BEFORE YOU
HAVE CONCRETE
PAVERS INSTALLED

Glossary of Terms

■ **ASTM C936 Standards:** American society for Testing and Material Standard Specification for solid interlocking concrete pavers, that defines dimensions, strengths, and characteristics.

■ **Compressive Strength:** The measured maximum resistance of a concrete paver to loading; expressed as force per unit cross-sectional area.

■ **Specification:** Detailed and exact statement prescribing materials, dimensions, and workmanship for something to be built, installed, or manufactured.

■ **Absorption:** Weight of water incorporated by a concrete paver unit during immersion under prescribed conditions expressed as a percentage in relation to the dry weight of the unit.

■ **Calcium Hydroxide:** A soft, white powder residue used in making cement.

■ **Bedding Course:** Composition of natural sand aggregate which is screeded smoothly in a thickness not greater than 1.5" into which the pavers are set.

■ **Jointing Sand:** Small angular sand aggregate used in finish filling the joints between pavers. Recommended sweeping a dried sand into the joints.

■ **Polymeric Jointing Sand:** Jointing sand that is applied dry and when lightly wetted down will harden in the joints to reduce weed growth, resist insects, and withstand washout of the sand.

■ **Compaction:** Process of applying energy to loose soil and/or base material to consolidate it and remove any voids (air pockets), thereby increasing the density and consequently its load bearing capacity.

■ **Edge Restraint:** A curb, edging, building, or other stationary object that contains the sand and pavers so they do not spread and lose interlock.

■ **Filter Stabilization Fabric:** A layer of fabric typically placed between the subgrade and the base course which will reinforce, separate, and filter.

■ **Subgrade Solid:** The layer of natural soil which will support placement of the base course.

■ **Rutting:** Permanent sunken or grooved area of the paver surface caused from repetitive traffic loading.

■ **Density:** Degree or a measure of the degree to which solid and base particles are compacted (crowded closely together) to eliminate air pockets.

■ **Load Bearing:** The overall force to which a structure is subjected in supporting a weight or mass.

■ **Base Course:** A material of designed thickness placed on the subgrade soil to support a paved surface. The base course is compacted natural stone aggregate with particles ranging in size from 3/4" to stone dust.

■ **Aggregate:** A granular material of mineral composition such as sand, gravel, or crushed stone used in base material.

■ **Heaving:** Raising of a surface due to the accumulation of ice in the underlying subgrade solid and/or granular base course.

■ **Screed:** A guide used for the even application of bedding sand at a desired thickness.

■ **Lock-Up:** Action created by the sand from the bedding course jetting-up into the joints of the pavers.

■ **Jet-Up:** To propel the sand from the bedding course up into the joints between the pavers when compacted.

■ **Creeping:** Slow lateral movement of pavers.

■ **Sealer:** A material usually applied as a liquid to coat the surface of pavers. Sealer will enhance color, ease of clean-up, and stabilize the joint sand. Once sealer is used, the paver surface is no longer maintenance free. It will require periodic reapplication.

■ **Water Based Sealant:** Sealant composed primarily of water that when applied stabilizes the sand and protects the color and surface of the pavers without deepening the color of the pavers.

■ **Efflorescence:** A natural process of evaporation which may leave a white residue on the surface of the pavers. This residue will not be permanent or harmful to the pavers.

“Be Paver Wise” About the Contractor

- How long have they been installing concrete pavers?
- What percentage of their total business is made up of the sale and installation of concrete paving stones and retaining walls?
- Are they insured? Will they provide copies of the insurance coverages?
- Have they been professionally trained in the sale and installation of paving stones by a manufacturer and/or trade association? If so, do they have any written certification of completion?
- Do they install as per manufacturer/trade association specification? If so, will they provide you with a written copy of that specification?
- Do they provide you with a written proposal outlining the scope of their work and terms of the sale?
- Do they provide a written guarantee of their installation workmanship? If so, what is the length of time and scope of coverage?
- Does the contractor provide you with detailed design assistance?
- Will they provide you with a list of references?
- Have you spoken with their references?
- Have you visually inspected their work from past years to current?
- Will they furnish you with a final waiver of lien?
- Did you inspect their work for level, accuracy of cut pieces, blending of colors, attention to pattern detail, and consideration of water movement (drainage and pitch for water runoff)?

IT IS IMPORTANT TO KNOW WHAT TO LOOK FOR WHEN INSPECTING WORK. THERE ARE DIFFERENCES AMONG CONTRACTORS, QUALITY CAN BE OBSERVED. PAVING STONE INSTALLATION IS AN AREA WHERE YOU “DEFINITELY GET WHAT YOU PAY FOR.”

“Be Paver Wise” About the Manufacturer and their Products

- How long have they been producing concrete paving stones?
- Are concrete paving stones and retaining walls the manufacturer’s primary business?
- Does the manufacturer provide you with any instructional information (i.e. videos, brochures, Do-It-Yourself seminars)?
- Have you visited their manufacturing facility?
- Will the manufacturer provide you with any design assistance?
- Are the concrete pavers produced to the industry specifications per ASTM C936? If so, can they provide you with a copy of these specifications?
- Will the manufacturer provide copies of current written reports showing the compressive strength results of their concrete pavers?
- Does the manufacturer provide concrete pavers with a water absorption rate of less than 5%? If so, will they provide current copies of test results?
- Does the manufacturer offer you a wide enough selection of paving stones, colors, and textures to satisfy your taste and the specific requirements of your particular project?
- Does the manufacturer provide a written lifetime guarantee on the product?



“Be Paver Wise” About the Installation Process

TIPS TO INSURING A QUALITY INSTALLATION:

- Compacting the excavated subgrade soil before the addition of base course material will increase the density and load bearing capacity of the soil.
- The excavated area should be a minimum of 6" greater in size than the finished paver area to insure proper drainage and proper stability of the edge restraint.
- Filter fabric should be used between the subgrade soil and granular base course to help eliminate any potential migration of base material into the subgrade soil.
- The base course should be a natural granular stone aggregate which will not absorb or hold water. This will eliminate any potential deformation and/or heaving of the paved surface during the freeze/thaw cycle.
- The base course should be a granular stone aggregate with a gradation of size from 3/4" to stone dust to enable it to be compacted to maximum density while still allowing proper water drainage.
- The base course should be installed deep enough to support the maximum load that will be placed on the paved surface. Proper base depth is crucial to eliminate deformation and/or rutting of a paved surface caused by repetitive loads.
 - Vehicular areas: 8" - 12" depth
 - Pedestrian areas: 4" - 6" depth
- The base course should be compacted in "lifts" to create proper density. Compact the base in 2" to 3" layers as opposed to compacting the entire depth at once.
- The bedding sand should be loosely screeded natural granular sand no greater than 1" to 1 1/2". The loosely placed sand provides a setting bed for the pavers to be compacted into and therefore allows sand to jet-up into the joints to form lock-up of one paver to the next.
- The edge restraint material should be used to restrain the pavers and the sand. This restraint should be made of a material that is flexible enough to move laterally with the freeze/thaw cycle without damage to the pavers or edge restraint. An edge restraint is mandatory to eliminate horizontal creeping of pavers and loss of the sand bedding course. There are plastic edge restraints made specifically for paver installation which will move with the change in climate, but return to its original position without damage to the pavers or restraints.
- A dried, small, angular-cut jointing sand should be used to fill in the joints between the pavers. The dried sand will flow freely to fill the voids in the joints to create the finished interlock of the pavers. The small angular particles will bind tightly together to eliminate washing out of joints.
- If you choose to use a sealer on the pavers, the sealer should consist of at least 20% solid content. Since the sealer will not absorb into the pavers but rather coat the surface, a sealer with a high percentage of solids will wear longer.
- The pavers should never be sealed immediately. It is recommended to wait at least 60-90 days after installation before sealing.