

Building Your Interlocking Concrete Pavement to Last a Lifetime



A Guide for Consumers

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Building Your Interlocking Concrete Pavement to Last a Lifetime

Concrete pavers offer a variety of patterns and colors that add character to any home. They provide value as a durable yet low-maintenance surface for patios, walkways, entryways and driveways that can last a minimum of 30 years when installed correctly.

Of course, your concrete paver project is just like any other home improvement. You want to do your homework—so you can reap the rewards for years to come.



What Does Installation Involve?

While ICPI offers online information for do-it-yourselfers (www.icpi.org), this brochure assumes you'll have a contractor handle installation of your pavement. The following overview will help you understand the installation basics of a good interlocking concrete pavement system.

Site layout and excavation: The layout of interlocking concrete pavement is where the drawing is translated into reality. In addition to knowing the size of the interlocking concrete pavement and excavated area, the layout tells the contractor the sequence of job functions and crew involvement. Considering all factors in advance such as material storage and paving direction helps ensure a smooth operation.



Preparing the soil subgrade: As with layout and excavation, proper preparation of the pavement foundation is one of the most important elements of the job. Soil subgrade and base preparation should involve up to 70% of the labor. This time should result in a well prepared soil subgrade and base.

Soil type: A properly prepared soil subgrade will support the base above it and allow the base to perform its role of distributing the loads and stresses from above. The soil type should have been identified before starting the job, during the bid proposal. It can affect the estimate on labor hours and the type of equipment required for the job.

Soil compaction: Once the soil type is identified, the contractor will need to compact it. Compaction achieves four main purposes: it increases the soil's load-bearing strength; prevents pavement settlement/rutting; reduces seasonal movement; helps ensure that any movement is uniform. When compacted properly, the aggregate base density will minimize deformation and/or heaving of the paved surface during freezing or thawing.



Soil grading: For proper drainage, the contractor will slope the paved area away from the house at a minimum of 2%.

Geotextiles (optional): Geotextiles (special fabrics) are recommended over clays or silts. They are also a good choice over soils saturated for a large portion of the year. The fabric separates fines in soils from the base and prevents them from migrating upward into the base.

Base thickness: ICPI recommends minimum base thickness for different applications. For pedestrian areas, including patios and walkways, for example,

a minimum 4 in. (100 mm) thickness is recommended. Your contractor should know the technical requirements for base thickness that apply to your particular installation.

Edge restraints: Edge restraints around the perimeter of the pavers are essential for eliminating horizontal creeping of the pavers and loss of bedding sand. They hold the pavers in place for the life of the pavement.

Bedding sand: Sand is installed over the base to a consistent thickness—between $\frac{3}{4}$ inch (20 mm) and $1\frac{1}{2}$ inch (40 mm) according to ICPI guidelines.

Proper paver types and sizes: It is important to choose the right pavers for the application. As a rule of thumb, for example, pedestrian areas and residential driveways will achieve interlock with $2\frac{3}{8}$ inch (60 mm) thick pavers. (Ask your contractor whether the pavers they are using are the recommended size for the application.) The contractor will assure an even color mix by taking pavers from several bundles or pallets at a time.



Cutting pavers: All jobs with concrete pavers will involve cutting. Professional contractors should take care to control the dust from cutting pavers, but you should expect that there will be dust—and noise—during this process.

Paver compaction: Pavers are first compacted without joint sand to create initial interlock. After this is complete, dry joint sand is spread and swept and the pavers compacted again until the joints are completely full. Following compaction, you and the contractor should inspect the pavement together to ensure satisfaction.

Paver sealing (optional): While pavers are extremely durable, sealing may enhance the colors and can prevent staining. Allow a minimum of 60-90 days after completion of the installation before sealing. Consult your supplier/contractor for recommendations on cleaning and sealing.



Choosing Your Contractor

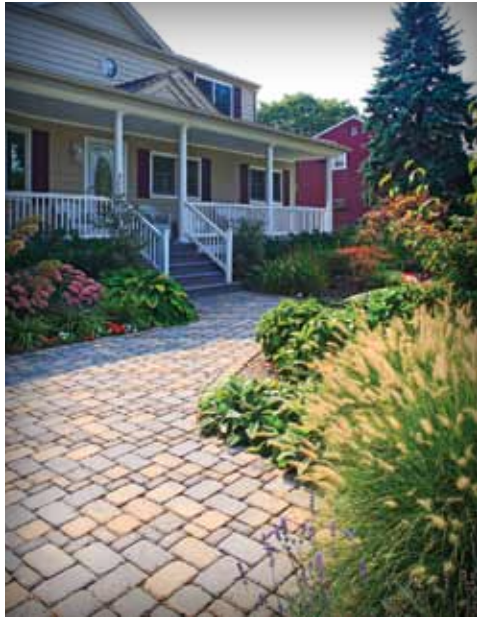
As with any significant investment, you want to be a smart consumer. You want to make sure the contractor you select is qualified and experienced for your particular type of job. How? Insist on ICPI certification—and ask prospective installers plenty of questions.



ICPI Certified Paver Installers

Formed in 1993, the Interlocking Concrete Pavement Institute (ICPI) is the authority on interlocking concrete pavements in North America. Membership consists of manufacturers, suppliers, distributors and contractors. ICPI sets installation guidelines for the industry.

ICPI certification helps contractors meet those guidelines. You can be sure that a company with a certified installer on the site is dedicated to quality installation guidelines and on-going education. An installer can verify certification by presenting a valid certificate or card from ICPI. To find an ICPI certified paver installer, visit www.icpi.org.



Suggested Questions to Ask Contractors

- How long have they been installing pavers?
- Have they been trained by a manufacturer or ICPI? Are they an ICPI certified installer?
- What percentage of their total business consists of installing concrete pavers?
- Will they provide you with three references, not only recent ones, but from past jobs?
- Can you contact their references and inspect the jobs?
- Do they have a portfolio of photos and testimonial letters?
- Is their credit in good standing?
- Do they have a current liability insurance certificate? While the contractor is on your property, they should be insured for any damage and injuries that might occur. (Be sure to check your homeowner's insurance policy for coverage of the contractor while on your property, too.)
- Can the contractor provide proof of Worker Compensation insurance covering everyone on the job?
- Do they install jobs per ICPI specifications? Can they supply a copy?
- Do they provide a written, itemized proposal outlining the scope of work and terms of payment? It should include starting and completion dates, demolition and excavation, paving and base materials, plus taxes.
- Do they guarantee their work for at least one year? Will they return in a year to inspect it?
- Are they members of the ICPI or other associations?



What to Expect

During delivery & set-up

- Your contractor should work with you to identify an accessible area for the delivered pavers, crushed stone (aggregate) and bedding sand.
- Your contractor should follow your local municipality's regulations regarding temporary street storage of pavement materials.
- Be sure your contractor contacts the local utility location service to mark underground utilities. This service will generally not locate lawn irrigation pipes. Assist the contractor by identifying sprinkler lines that others have installed.
- You should be present when materials are delivered to ensure access to your home during construction and convenient access for the contractor's equipment.



During installation



- As the crew begins work, there will be some dust, dirt and noise from the equipment that removes the old pavement and excavates and places the new base, bedding sand and pavers.
- Keep all doors and windows closed during construction.
- Keep all pets and children away from the construction area.
- Alert your neighbors so they can do the same.
- Confirm paver pattern, color(s) and anticipated cuts along the edges with the contractor prior to laying pavers. If a driveway is planned, do not leave your car in the garage. Your contractor can advise you on the best parking location for cars away from the crew and construction equipment.



Contractor Checklist

CONTRACTOR INFORMATION	
1 Company Name	
Address	
Phone #	
Contact	
2 Workmanship Warranty (yrs)	
INSTALLATION PROCEDURES	
1 Excavation	
Depth	
Width	
Final Elevation Agreed Upon	<input type="checkbox"/> Yes <input type="checkbox"/> No
2 Base Construction	
Type of Material	
Depth of Material	
-- walkway (min 4 in.)	
-- driveway (min 8 in.)	
Compaction	
-- with moisture	<input type="checkbox"/> Yes <input type="checkbox"/> No
-- maximum 4 in. layers	<input type="checkbox"/> Yes <input type="checkbox"/> No
Woven Geotextile (optional)	<input type="checkbox"/> Yes <input type="checkbox"/> No
3 Bedding Layer	
Coarse Sharp Sand, i.e., concrete sand	<input type="checkbox"/> Yes <input type="checkbox"/> No
Depth (max 1 1/2 in.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
4 Pavers	
Quantity (Sq. Ft.)	
Supplier	
Warranty	
Shape	
Color	
Laying Pattern	
5 Edge Restraints	
Type	
Quantity (Lin. Ft.)	
Base Extends beyond (min 6 in.)	<input type="checkbox"/> Yes <input type="checkbox"/> No
6 Jointing Sand	
Fine Washed Sand, i.e., masonry sand	<input type="checkbox"/> Yes <input type="checkbox"/> No
Compact in Both Directions	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sweeps into Joints	<input type="checkbox"/> Yes <input type="checkbox"/> No
TOTAL COST	
NOTES	

During daily site inspection

- At the end of each day, spend a few minutes discussing the progress with the project foreman. The foreman should briefly describe work anticipated for the next day.
- Be certain that the pattern, color blend, cuts and detail work meet your expectations.
- If you have changes, notify the contractor in writing immediately and have him provide a written change order. Change orders may require additional supplies, labor and expenses. Be clear on your expectations.
- Inspect the site once the crew has completed its daily clean-up. The crew should remove tools, loose pavers and construction debris. Notify the project foreman of any areas that need additional attention.
- Upon project completion, walk the site with the foreman for your final inspection. Communicate any details that need attention.
- Use the checklist provided in this brochure during your daily and final inspection. Ask your contractor about care and maintenance of your new pavement. When cleaning or sealing your pavers, use products formulated specifically for concrete pavers.





Permeable Driveways

Concrete Paver Ideas

Concrete pavers are used in many different home projects. Whether for a driveway, raised patio, pool deck, water feature or walkway, concrete pavers will make them beautiful. Visit www.icpi.org to get ideas for your next project.

The Best Paving System

Quality concrete pavers create a surface that can last for generations. When installed to Interlocking Concrete Pavement Institute (ICPI) guidelines and placed on a well-prepared base, pavers require very little maintenance.



Patios



Water Features



Sitting Areas



Pool Decks



For further information about concrete pavers, installation and contractors, contact your local ICPI member.

Distributed By

The ICPI wishes to thank the Ontario Pavingstone Manufacturers for the use of certain material in this brochure. This brochure is intended to be used as a general guide for the installation of interlocking concrete pavers. The materials and construction methods may vary as a result of diverse conditions in every region.

Contact ICPI for Additional Resources



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