

## **Concrete FAQs**

### **☐What is concrete? Is it the same thing as cement?**

Although often used interchangeably – even by some construction professionals – cement is not concrete nor is concrete cement. Cement is one of the basic ingredients used to make concrete. It is basically a powdery substance made by burning clay and lime. When cement is mixed with other basic ingredients—sand, gravel or stone, and water—the cement and water react to form a paste that glues the remaining ingredients into a rock-like mass which is known as concrete.

Within this process lies the key to a remarkable trait of concrete: it's "plastic" and can be molded or formed into any shape when newly mixed, yet it is strong and durable when hardened. These qualities explain why one material, concrete, can build skyscrapers, bridges, sidewalks, superhighways, houses and dams.

### **☐Are there different kinds of concrete?**

Yes. Concrete can be made to order in terms of strength, workability, and durability. There is even a form of environmentally friendly concrete that allows water to pass through. This pervious concrete easily drains storm water into the subsoil keeping it from running off into sewers, rivers and streams.

**The key to achieving a strong, durable concrete rests on the careful proportioning and mixing of the ingredients.** A concrete mixture that does not have enough paste to fill all the gaps between the rocks will be difficult to place and will produce rough, honeycombed surfaces and porous concrete. A mixture with an excess of cement paste will be easy to place and will produce a smooth surface; however, the resulting concrete will be more likely to crack.

### **☐Does concrete have to be grey?**

Not at all. There is an almost limitless palette of special finishes for concrete pavements and slabs. With the addition of color and a skilled decorative concrete contractor, concrete can take on almost any shape, pattern, color, or texture, in both exterior and interior applications.

### **☐Do I need a concrete contractor?**

Most likely. Placing and finishing concrete requires knowledge about concrete and the fundamentals of good concreting practices well beyond the capabilities of most do-it-yourselfers. It requires skill with both basic tools –hammers, tape measures, chalk lines, saws, etc – and specialized concrete tools. Site excavation, subgrade preparation, and building and setting concrete forms are difficult tasks. Concrete is heavy – about 150 pounds per cubic foot – and difficult to place, consolidate, strike off, level, and finish.

Timing of many finishing operations is crucial and best learned through experience. Fresh concrete is a perishable product, having a relatively short time frame between when the water is added to the mix and delivery on the jobsite before hardening. Mistakes in timing can prove fatal. And knowing what allowances to make for weather conditions is equally challenging. Unless you have a friend or family member in the business, you would be better off hiring a construction professional for your concrete project.

[☐Will Superior Materials place the concrete for me?](#)

No. Placing the concrete for your project is your concrete contractor's responsibility. Our role is to produce, deliver, and discharge a superior quality concrete mix that is specified for your project, in a safe and timely manner.

[☐What is proper curing and why is it important for quality concrete?](#)

Prior to applying a protective sealer, your driveway must be cured to attain the strength and durability potential of the concrete. The potential for concrete shrinkage, cracking, and dusting increases significantly when concrete is not cured properly. Generally, the surface needs to stay moist for at least 7 days to provide good curing. Curing maintains the concrete at satisfactory moisture and temperature conditions to allow hydration to continue. Any one of the following methods can be used:

- Spray on curing compound (according ASTM C309).
- Polyethylene cover.
- Seven day continuous water cure.
- Saturated burlap with polyethylene cover.

Of the methods mentioned, the spray on curing compound provides the most cost effective approach towards curing particularly during summer concrete construction.

[☐How long must my concrete driveway cure before I can drive on it?](#)

For our market area, the American Concrete Institute and the American Concrete Pavement Association recommend a minimum of seven days following concrete placement before using a concrete driveway.

[☐What is concrete sealer and how often must it be applied?](#)

Once your driveway is cured and given an opportunity to air dry (30 days), it is now ready to be sealed. A protective sealer minimizes moisture and deicing salt penetration into the surface of the concrete and to limit surface deterioration due to cycles of freezing and thawing.. Michigan is classified as a severe weathering region. Therefore, a sealer must be applied approximately 30 days following placement provided that the surface is dry and ambient temperatures are above 55°F, and certainly before the onset of winter. After the initial application, it should be done every 2 – 3 years depending on the sealer used. Follow the manufacturer's directions for application rates and intervals. ***We can deliver the perfect concrete sealer at the same time we deliver your concrete.*** Just let our customer service person know what you'd like when you place your order.

[☐Is the process of installing concrete affected by weather?](#)

Yes. The rate at which concrete hardens is very much affected by temperature, moisture and wind. Wind can cause the surface to crack. Rain will significantly weaken the surface. Placing concrete in cold weather often involves heating some of the concrete ingredients, protecting the freshly-placed concrete from freezing, and closely monitoring the strength gain of the concrete. Placing concrete in hot weather might mean cooling materials or placing concrete at nighttime to avoid daytime extremes. That's why it's important to work with the right concrete mix for your application.

[☐Will concrete crack?](#)

Concrete will often crack especially in freeze/thaw climates. To minimize and control cracking, control joints or “cuts” are placed in the concrete so that the concrete cracks where those control joints are placed. You can also add concrete products that contain millions of fibers mixed throughout the concrete to help to control cracking even more.

***Ask us when you place your order about adding fibers to your concrete.***

[☐Do cracks indicate a structural problem?](#)

In most instances, the answer is no. Very narrow "hairline" cracks are superficial and do not indicate any structural problem. Cracks that have movement where one side of the crack moves relative to the opposite side should be evaluated by a professional engineer.

[☐Why should I choose concrete over asphalt for my driveway when asphalt is less expensive?](#)

The difference in initial price is more than made up over the lifetime of the driveway. A good quality concrete driveway will last more than 30 years with little maintenance. Asphalt driveways need regular periodic sealing coats to retard age-related cracking. Even properly constructed residential asphalt driveways will deteriorate more quickly due to environmental factors than vehicle traffic. When you factor in the cost of surface and crack sealers and the shorter life-span of the asphalt, concrete will cost much less over the life of the structure.

[☐Is there a recommended on-going maintenance program for my concrete driveway?](#)

In addition to sealing concrete every 2-3 years,

- Do not allow rusting metals to set on the concrete.
- Frequent sweeping and occasional hosing will be enough to keep your concrete looking good. Wet leaves on a driveway have a tendency to stain, so be prepared to clean your driveway often in fall.
- Do not drive on the “new” concrete for at least 7 days.
- Do not allow water to drain beneath the slab .... settlement cracks may develop.
- Do not allow snow and ice to accumulate the first winter ..... keep the driveway shoveled off.
- Do not apply deicing chemicals for snow and ice removal the first winter. As an alternative, sand can be used for traction.
- **WARNING:** Never use deicers containing ammonium sulfate or ammonium nitrate (i.e. fertilizers). Such products are known to aggressively attack concrete.

Visit us at <http://www.superiormaterialsllc.com> or contact us at...

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