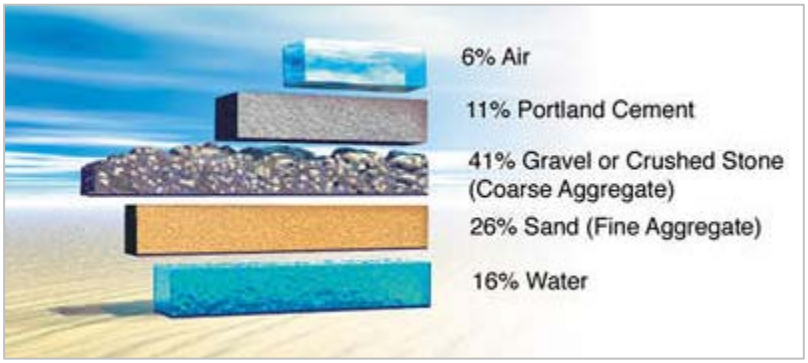
CONCRETE AND CEMENT FAQ'S

What is concrete?

Concrete is a building material made from cement, aggregates (rock and sand), water, and admixtures (chemicals that enhance or modify the properties of concrete). Concrete is one of the oldest, most widely used and versatile building products known to man.



What is cement?

Cement, or Portland cement, is a dry powder made from limestone and other materials. It is burned in a kiln and then finely ground. Cement reacts chemically with water to cause concrete to harden. There are several different types of Portland cement, designated as Type I, Type II, etc.

What is ready mix?

Ready mix, also known as ready mixed concrete, is concrete that is delivered in trucks that agitate and/or mix the concrete on the way to the job or at the job site. The concrete is delivered in a plastic or unhardened state.

What is the difference between cement and concrete?

Cement is an ingredient in concrete. It is the ingredient that forms a paste with the water, sand, and admixtures and fills the space between the coarse aggregates (rock) and binds the rocks together. The term "cement" is commonly misused to refer to concrete.

What is fly ash?

Flyash is a byproduct of coal-burning power plants. When used properly in concrete, flyash is an affordable mineral admixture that improves the quality of the mix. Concrete with flyash will typically have a higher ultimate strength, although early strength may be lower than with straight cement mixes. Sometimes users will complain about "too much flyash in the mix." That is rarely the problem. More often the problem is not enough cement in the mix.

What do you do when concrete hardens in the truck?

First of all, you do everything you can to prevent that from happening. If it happens anyway, it is necessary to get inside the mixer drum with an air hammer and break it out. It is a difficult job and ready mix employees try very hard to avoid having to "jackhammer" it out.

How much does concrete weigh?

Normal weight concrete weighs about 4000 lb. per cubic yard. Lightweight concrete weighs about 3000 lb. per cubic yard.

How much does a concrete truck weigh?

If a truck is carrying 10 cubic yards, then the weight of the concrete is approximately 40,000 lb. The truck will weigh approximately 26,000 lb. for a total of 66,000 lb.

What is finishing?

Finishing is the process used to create the surface texture of the completed concrete placement. Finishing involves several different steps. Depending on the type of surface desired, it could involve striking off, floating, edging, jointing, troweling, texturing, and curing.

When is it too cold to place concrete?

It depends. Normal concrete will not set or harden when the concrete temperature is below about 35F. Many times specifications will say something like "Concrete may not be placed when the temperature is 37F and falling." With heated water and aggregates, accelerating admixtures, and other methods, jobs can be placed below freezing, but it is more expensive. In most southern states there are so few freezing days that it is not worth it to try to place concrete when the temperature is below freezing.

When is it too hot to place concrete?

It depends. High temperatures (90F and above) cause concrete to set or harden faster. High temperatures also can reduce the ultimate strength of concrete. Strong winds and low humidity can also cause problems with plastic shrinkage and drying shrinkage potential, even at moderate temperatures. To avoid these problems, planning, timing of the finishing operations, proper use of retarding admixtures, and proper curing are necessary.

Are concrete homes more energy efficient than wood frame homes?

Yes. Concrete's mass increases energy efficiency because concrete walls respond to changes in temperature very slowly. For example, it may take 4 to 8 hours for a temperature change to migrate through a concrete wall,

yet only 1 hour through an insulated wood frame wall. Air leaks are responsible for one-third of the energy loss in homes. Due to its solid wall system, there are fewer air leaks in concrete home.

Is concrete environmentally friendly?

Yes. Concrete is chemically inert and has no components made from petroleum products or other chemicals that might have an effect on our water supply due to rainwater run-off.

How many trees are needed to build a wood-frame home?

The typical wood-frame home requires 41 trees to provide all the materials needed. Concrete products can replace many, if not all, of the wood products, including the roof.