



Virginia Ready-Mixed Concrete Association

Concrete Basic Facts

What is concrete?

Concrete is a precisely measured mixture of cement, limestone, natural sand, water and chemical additives that are combined and mixed thoroughly to create a product that can be molded or shaped for various applications for all forms of construction.

Where would I use concrete?

The uses for concrete are unlimited. Until recently, concrete use in new home construction was limited to basement floors, driveways and patios. However, today's architects and engineers are utilizing concrete as a major structural building material and in some cases are replacing standard block walls and wood frame construction with concrete. These walls are created by filling insulated forms made of polystyrene with concrete. This type of construction benefits the homeowner in a number of ways, including stronger overall construction, fire protection, higher "R" insulation value and a decrease in the homeowner's exposure to exterior noise.

What type of seasonal maintenance is required?

Most people are under the assumption that concrete, once installed, does not require any maintenance. This is incorrect. Exterior concrete, i.e., driveways, walkways and patios, does require some minor maintenance. This minor maintenance is two-fold.

The first part of a good concrete maintenance program involves sealing your driveway, walkway or patio with a deep penetrating concrete sealer. A concrete sealer helps to protect your concrete from exposure to de-icing agents and freeze-thaw cycles. It is imperative to apply this sealing agent during the first year after your concrete has been installed and certainly before the first winter. Contact your local ready-mix producer for the best available sealer for your particular application.

The second part of a good concrete maintenance program concerns the areas known as expansion joints. An expansion joint is a fibrous material that is placed in certain areas of your driveway, walkway or patio. These expansion joints are necessary in order to isolate slabs from each other, thus allowing for movement or to keep a concrete slab from adhering to the sides of fixed objects, such as homes, garages, or basement floors. Because the fibrous materials breakdown over time and exposure to the elements, you will be required to do some repair and/or maintenance to these areas. The best way to repair these areas is to caulk or fill the joints with a joint sealing agent. These products are readily available at most hardware and "Do-It-Yourself" centers. For best results, always follow the manufacturer's instructions when applying sealers or joint fillers.

Can I install my own concrete?

The answer to this is YES! Of course simple projects such as a small patio or sidewalk are easier to complete than a large one. All you need are the proper tools, plenty of help and some assistance and guidance on the proper procedures for placement and finishing. Most tool rental establishments will rent you all the tools necessary to do a professional job. ***Be aware however, that concrete does have a shelf life. This means that you have a limited working time to install and finish your newly placed concrete.*** Most ready-mix concrete producers carry products that will extend the shelf life of concrete so that you can gain additional time for your installation. If the project you are thinking of undertaking seems too large for you to handle, we would suggest contacting a local ready-mix producer in your area for a list of reputable residential contractors.

What products do ready-mix concrete producers offer to make installation easier?

There are many products that are readily available from your local ready-mix concrete producer to make the placement and finishing of concrete easier. Listed below are the names of these products and the benefits of each:

1. **Superplasticizer** - This product will allow you to place concrete easier without sacrificing strength and durability. This product can be used year round and will improve the overall strength of the concrete material.
2. **Retarder** - This product will increase the working time (shelf life) window for placement and finishing. It does this by delaying the "initial setting time" of the concrete mix.
3. **Synthetic Fiber Reinforcement** - This product is comprised of a polypropylene or other synthetic material and can be used in substitution of wire mesh. Characteristics of synthetic fiber reinforcement are identical to wire mesh. Benefits to using this product include zero waste and reinforcement throughout the entire concrete slab. Its use also provides for a denser concrete surface.
4. **Surface moisture-retarding evaporant (curing compound)**- This product is sprayed onto the concrete surface on windy days after the concrete as been initially placed and immediately after the bullfloating process. Its use prevents the concrete surface from drying out before final finishing.

How do I choose a good residential contractor?

Many people are somewhat apprehensive when it becomes necessary to hire a contractor for any type of home remodeling. Many times, work is given to contractors based upon "word of mouth" referrals or simply by price. By no means are these bad ways of hiring a contractor but by the same token, they do not guarantee the work will be performed in a professional and workmanlike manner. First, when it is time to hire a good residential contractor, it is our suggestion that you contact your local ready-mix concrete producer. Most producers will be able to provide you with the names and phone numbers of at least three reputable contractors in your area. Ready-mix concrete producers will only refer you to those contractors that do quality work. Secondly, we suggest contacting the Better Business Bureau to inquire if these

contractors are in good-standing. These methods will greatly improve your chances of hiring the best contractor for your money. Lastly, always insist on a written estimate/contract and never pay the total up front.