



Fast Stone[®] Cement System

Mixing Tips and FAQ's

Mixing Tips

The following are important tips to successful mixing of any of the Fast Stone[®] Cement formulations.

- To mix one full bag of any Fast Stone[®] Cement formula, you will need a bucket larger than the standard 5 gallon pail. We have had good success with the 10 gallon Rubbermaid Brute recycle bucket from Uline (800-295-5510, www.uline.com), model# H-1853). It has a flat bottom and molded in handles for easy lifting. Smaller mixes (20-30 lbs of Fast Stone[®] Cement formulas) can be mixed in a standard 5 gallon pail.
- For optimum drill mixing, the following is recommended.
 - The Brutus mixer from Home Depot (tile department) and
 - A high rpm, ½" chuck drill such as the Milwaukee hammer drill, also from Home Depot.

Optional for heavy duty mixing:

- The two-handled EHR 20 R 10.5 amp/110 volt AC, variable speed from CS Unitec (www.csunitec.com), or similar (Collomix, Perles, etc).
- Mixer blade MG 140 (5.6" dia.) for High Viscosity materials that mixes from the bottom up (www.csunitec.com).
- In all cases, put the water, polymer, plasticizer, retarder and pigment in the mixing bucket first.
- If adding sand, add it next while mixing. Mix for several seconds to wet the sand and disperse the pigment.
- While continuing to mix, add the Fast Stone[®] cement.
 - Do not panic if it looks like it is not mixing and is just powder on the surface.
 - Continue to mix and bring the liquid up from the bottom of the bucket.
 - It takes several seconds for the plasticizer to react with the cement and become effective.
 - If the mix still looks stiff after 10-20 seconds of mixing, additional plasticizer can be added to loosen things up.
 - Fast Stone[®] Retarder dosage: start with 10 g to 50 lbs of cement.

FAQ's

- **If the mix looks stiff, can I add more water?** Do not exceed the amounts listed. The limits for water are listed on the Fast Stone[®] Data Sheets. If you are at those limits add additional plasticizer to reach the desired workability. The W/CM ratio for the Fast Stone[®] Cement blends must not exceed .42. Otherwise you will have a weak, poor quality mix.

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- **How much plasticizer should be added to my mix?** 16 oz to 100 lbs of cement is the maximum dosage of plasticizer. With the new plasticizer chemistries available, the addition of only one or two more ounces over our initial recommendations will prove to be very effective.
- **How long should I mix the slurry?** With the proper equipment listed above, the mixing process is very quick. It should not take over a minute to add materials and mix the slurry. Once everything is in and mixing, an additional 15 seconds should be adequate. This is the point to decide if additional plasticizer needs to be added. If so, add it and mix for about 15 to 20 seconds before adding the glass fiber.
- **How long should I mix the AR glass fiber chopped strands?** Once you have creamy slurry, sift the fibers into the vortex created by the mixer. Once you have the fibers sifted in, an additional 10 seconds is enough.
- **Is vibration or compaction recommended?** Yes. It is always recommended to densify the cast material to insure excessive air is released and the slurry wets out the glass fiber.
- **What demolding times can I expect?** The demolding times for cast products using Fast Stone[®] Cement blends are controlled by several factors.
 - **The amount of Qwix[®] in the formula.** Fast Stone[®] Cement formulas are expressed stating the type of mix and a number. Ex. Fast Stone[®] 30 W. The “30” indicates the percentage of Qwix[®] to Portland Type I in the formula. The higher the number, the faster the setting and demolding times.
 - **Water temperature:** The temperature of the mix water has a strong influence on working time, initial set time and demolding time. The colder the water, the longer the working time and the longer the demolding time.
 - **Heat of Exotherm in the casting:** Tests have shown that the sooner the material in the casting reaches 82°F and maintains that temperature for 30 minutes the faster and more thorough the initial cure and the higher the demolding strengths of the casting. The heat of exotherm is controlled by the following things:
 - **Ambient temperature:** This also influences working time and demolding time because it determines how quickly and to what degree the heat of exotherm starts in the cast material.
 - **Covering the cast parts:** Plant tests have shown that covering the freshly cast part with construction grade plastic sheeting will insure the heat of exotherm quickly reaches 82°F and maintains that temperature, thus insuring the demolding times expected with the formula being used. In certain cases it might also be necessary to remove the plastic 15 minutes prior to demolding to allow the castings to cool off and make demolding easier.
 - **Thickness of the cast part:** The cross-sectional thickness of the material also influences how quickly the heat of exotherm builds up in the material. The thicker the part, the quicker the heat of exotherm starts to build up.
 - **Addition of retarder in the mix:** The addition of the Fast Stone[®] Retarder does not affect the demolding time of the cast part when it has been covered with plastic sheeting after casting. Parts not covered will have extended demolding times.
 - **Add the retarder to the mix liquids.** (Polymer, water, plasticizer and pigment)

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