

## Grancrete PCW Mixing and Application Instructions

Grancrete PCWB has unique characteristics and properties that require special handling and blending methods and techniques. In order to obtain the full benefits of its strength, water-proofing and durability properties, one must follow the mixing instructions very closely. Whether mixing small amounts or large batches, the ratio of water weight to the Grancrete PCW mix should be the same. For troweling, the Grancrete mix should be on the thicker mix side for workability.

If Grancrete PCW is mixed with an aggregate (e.g., sand, 20 to 50 mesh only) the recommended mix ratio is two parts Grancrete PCW and one part aggregate. In some cases one part Grancrete PCW and one part sand can be used but the strength characteristics will be moderately diminished. In these cases the weight ratio is based on the total weight of the blended materials. It is also recommended to pre-mix the Grancrete PCW and Sand before adding water.

The optimum ratio of water to Grancrete PCW alone is 19% to 20% for both strength and workability. For the same parameters, the best water ratio for using Grancrete PCW + sand (2:1) is 13% by weight. Therefore for 50 pounds of Grancrete PCW alone you would want to add 9.5 or 10 pounds of water (one gallon of water = 8.3 lbs). When mixing Grancrete PCW with sand (2:1) or 50 lbs. of Grancrete PCW and 25 lbs. of sand you will add 9.8 lbs. of water. Using 14% (10.5 pounds) or 15% (11.3 pounds) in this situation will still give you a good workable material but the strength will be slightly reduced.

Whether mixing in a mixer or a bucket you should always add about ½ of the water to the receptacle prior to adding the Grancrete PCW (+/- aggregate). This way the Grancrete PCW will be easier to get the mixing started. Once the physical mixing begins add the additional water steadily. It will start out looking very dry and will “wet up” fairly quickly. Once the material has “sheen” to it, the reaction has started. The physical mixing should always be for three to four minutes and the mixing should be as aggressive as possible. A high rpm drill should be used for bucket mixes. It is highly recommended that cold water (<50 deg F) be used in order to allow for more mixing time.

The setting time for Grancrete PCW will depend on the ambient temperature, temperature of the water and the temperature of the substrate to be applied. Under normal dry conditions (60<sup>0</sup>F to 80<sup>0</sup>F) Grancrete PCW will generally begin to set (harden) between 12 minutes to 18 minutes after mixing depending on the water temperature. In conditions of high ambient temperature and hot water it will set between 8 minutes to 12 minutes after mixing. For low temperatures 50<sup>0</sup>F and below it could begin setting as long as 45 minutes (<10<sup>0</sup>F).

**Caution:** Once Grancrete PCW mix begins to set it will undergo an exothermic reaction where its temperature will increase rapidly as it initially cures.

Once Grancrete PCW is mixed and ready it should be applied or trowelled on the surface expeditiously. Normal or standard cement troweling techniques will work well with Grancrete PCW. Typically, Grancrete PCW can be trowelled on about ¼” thick per application. Once it hardens and goes through its exothermic reaction (heating up), a second application can be applied. The exothermic reaction usually lasts for about 30-40 minutes depending on the thickness applied.