Mortar Mixing Tips

Mortar is a mixture that consists of sand and cement used for brick work or block work, It is usually placed between bricks if it is being used to lay a wall.

Field Mix Mortar - 1 batch is typically, 25 shovels full of sand, 1- 94lb bag of cement, and 40lbs or 1/2 bag of lime. Many mixing recommendations use this mix design, which is known in the industry as a 1 bag mix. We estimate a shovel of sand to weigh roughly 10lbs so the total dry weight of this mix is 384lbs.

Silo Mortar - This is a dried and pre blended mortar that already contains sand, lime, and, cement. It is bagged in either 80lb individual bags or in 3000lbs bulk bags. If it is used in the large bulk bags then it is delivered by the large metal delivery silos that sit directly above the mixer.

Drypack Mortar -Is used as a base layer before installing marble or granite.

Made up of sand, 30% Portland Cement and utilizes a minimal amount of water.

What is the Difference between A Mortar Mixer and Concrete Mixer?

Today many barrels/drum mixers can do both, due to the shape of the paddles. An horizontal shaft mixer can't mix concrete, the paddles would get stuck with the aggregates against the barrel.

To construct a concrete-block wall, you will need concrete blocks and the basic ingredients for mortar (cement, lime, sand, and water). Other ingredients that speed up or slow down the curing time of mortar are called admixtures. Keep concrete blocks dry until they are built into the wall. Do not wet concrete blocks/bricks to control suction before application of mortar. Use lime where weather conditions are hot and dry, lime retains water therefore slows down the evaporation of moisture in mortar. Clean, sharp sand produces excellent mortar.1. Add a little water in drum; this prevents the mixture from caking on the machine paddles.2. Add one-third of the sand. 3. Add all of the lime and the cement. 4. Start the machine and mix for approximately one minute before adding water. 5. Add the remaining sand and water to obtain the desired consistency. 6. Continue mixing for at least three minutes after all ingredients are in the machine.

Ingredients of mortar:

Lime. Cement provides the strength of mortar while lime acts as a plasticizing agent providing smoothness and workability. Lime also increases the water-holding capacity of mortar without-it, the mixture would be stiff and unworkable.

Sand. Sand used in mortar must be clean and free of organic materials; individual particles should be well-graded as to size. In a good mortar, all sand particles are completely coated with material (paste). This permits the separate ingredients, or aggregates (sand and stone or gravel), to roll over each other and produce a plastic, workable mortar.

Water. Water used in mortar should be clean and free of acids, alkalies, salts, and organic matter. As a general rule, drinking water is suitable for making mortar.

Admixtures. Besides the four basic ingredients (Figure 1-1), any other materials added to the mortar are called admixtures. The most common admixtures are accelerants and retardants.

Accelerants. Agent that speeds up the curing time of mortar. For example calcium chloride, since calcium chloride corrodes metal, its use is discouraged by most building codes. Instead, heating devices and Type III cement are recommended.

Retardants. Admixtures that slow down the curing time of mortar. These may be specified when conditions are very hot and dry, causing the mortar to set too rapidly and never attain its strength.

Type I is a general purpose cement and the most commonly used. It is generally used in mortar. Types II is used in concrete.

Type II is a high early-strength cement. Although Type III takes as long as Type I to set, it will achieve its full strength much sooner. It is sometimes specified for cold weather because it requires shorter protection time.

Type III is generally used in mortar types IV and V, used in concrete mixtures.

Type IV Portland cement is generally known for its low heat of hydration.

Type V is used where sulfate resistance is important