

Sand measuring made easy

Mixer-attached hopper is designed to measure sand quickly and consistently

By Jim Camillo

Anyone who mixes and uses mortar recognizes the importance of adding the right amount of sand. Unfortunately, traditional methods of measuring sand tend to be imprecise or strenuous. However, a new device that mounts on a stand next to the mortar mixer makes measuring sand easier and more consistent.

The standard method, counting shovelfuls, is imprecise because it's impossible to pick up shovelfuls of sand with the same volume. Veteran contractors acknowledge that workers scoop different-sized shovelfuls of sand in the morning when they're fresh than in the afternoon when they're tired.

Measuring sand by the shovelful can lead to oversanding, which makes mortar difficult to use and weakens bond, or undersanding, which makes mortar sticky and expensive. In fact, the Brick Institute of America (BIA), some building codes, and many project specifications prohibit measuring ingredients by shovel.

More-accurate measurements are obtained by shoveling sand into 1-cubic-foot wooden boxes or calibrated buckets. But then the heavy box or bucket must be lifted to pour the sand into the mortar mixer.

Mixer-mounted batcher

A sand-measuring device, introduced about 1½ years ago, reportedly offers the benefits of exact measurements, reduced batching time, and no heavy lifting. This batching machine has a hopper that measures either a



After loading the hopper with sand and pushing it forward to the end of the rails, operator pushes up on the handle—automatically opening the door at the wide end of the hopper and releasing 1 cubic foot of sand into the mixer.

cubic foot or ½ cubic foot of dry or wet sand. Designed for use on small jobs, the device reportedly helps masons produce consistent, quality-controlled mortar and eliminates variations in color and compressive strength due to sand content. The manufacturer says the design is based on recommendations from masonry contractors.

The hopper is made of heat-treated steel to increase its durability, and the rest of the components are untreated 10-gauge steel. Total unit weight is 110

pounds; the hopper itself weighs 65 pounds. The machine costs about \$500.

Design and operation

The triangular hopper, with its attached handle, rolls on a two-rail track system. An adjustable stand, placed next to the mortar mixer, supports the rails. The stand can be set at heights of 50 to 58 inches to accommodate mixer height.

Although the stand requires no assembly, it must be anchored to the bottom beam of the mixer with four bolts. Anchoring reportedly can be done in a few minutes.

The operator fills the hopper with 5 to 7 shovelfuls of sand and levels the sand with the shovel handle. With the combined height of the stand and hopper, each shovelful of sand must be lifted at least 5 feet to be placed in the hopper. The operator then releases the lock bar attached to the base of the hopper and pushes the batcher forward to the end of the rails, directly in line with the opening of the mixing drum.

Pushing up on the batcher handle lifts the device. This opens the door at the wide end of the hopper, dumping the sand into the mixer. Pulling down on the handle returns the batcher and closes the door. The unit is then rolled back to its original position and the lock bar reapplied. The operator can now measure another cubic foot of sand by refilling the hopper. ▴

For more information on this sand-measuring device, circle 106 on the reader service card.