



MT. SAVAGE SPECIALTY REFRACTORIES COMPANY

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INSTRUCTIONS FOR INSTALLING GUNNING MIXES

DESIGN

Mt. Savage Specialty Gunning Mixes are designed specifically to be placed through a pneumatic gunite machine. All gunite mixes have an additive that aids in this process. The additive makes them difficult to place by casting and properties may be compromised. Make sure to order the gunning version of conventional and ULTRA-TEK Castables when they are to be applied in this way.

PRE-DAMPENING

Gunning Mixes are gunned best when pre-dampened. To do this, use a castable mixer or screw pre-dampener of some type. The ideal pre-dampening amount is dependent on the specific gunning material. For dense gunning mixes, this will range from 3 to 8%. For lightweight mixes the range is much wider, from 20 to 80% of water by weight. To determine when the mix is properly pre-dampened, run the balled fist test. Take a handful of pre-dampened and mixed material, squeeze it in your fist, and it should form a compact ball. If the material does not form a ball, add more water. Then break the ball with your thumb. When properly pre-dampened, the gunning material will break completely apart. If too much water is added, the material will tend to hold together or only break into a few pieces. ULTRA-TEK Gunning Mixes can be gunned without predampening under the proper circumstances.

EQUIPMENT

Mt. Savage Specialty Gunning Mixes are designed to be gunned in continuous feed guns such as Reed, Blascrete, or Allentown guns. A dedicated compressor is recommended with a minimum output of 350 CFM. For installations that take extended sections of hose, larger compressors will be needed. Actual air pressure used will depend on the length of hose and the type of gunning mix. Lightweights should be applied with minimum air pressure to avoid densification.

WATER

Water pressure is a critical factor for the successful installation by gunning. Mt. Savage recommends a minimum of 40 psi water pressure at the nozzle with 60 to 100 psi being preferable. Good water pressure reduces dust and rebounds at the nozzle. If plant water does not meet these requirements, the addition of a water booster pump is recommended.

INSTRUCTIONS FOR INSTALLING GUNNING MIXES (Continued)

INSTALLATION

It is generally recommended that the nozzle man apply enough water to start to see a sheen on the castable, but it should not look muddy. Mt. Savage Gunning Mixes are designed to have a wide water range. However, too much water may lead to slumping while insufficient water will lead to high rebounds. A circular nozzle motion, attempting to keep the stream of material perpendicular to the applied surface is recommended.

CURING AND DRYING

Curing and drying of gunite material is the same as with conventional castables. Often an oil based curing compound is applied to keep moisture in the gun mix. For thicker installations, venting on 12 inch centers with a welding rod may aide in dry out. Curing and dry out schedules used for conventional castables apply to gunning mixes.

ULTRA-TEK GUNNING MIXES

Mostly because of the relatively low water demand of ULTRA-TEK Gunning Mixes, it is possible to gun these mixes in certain circumstances without pre-dampening. Again, high water pressure is required and these feed much better through a rotary (Reed or Blascrete) type gun compared to a pressure bi-chamber gun (Allentown). Dust at the gun and at the nozzle, however, will be reduced when these mixes are pre-dampened. Please note that ULTRA-TEK Castables cannot be gunned with any degree of success.