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# Tech Hotline

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## Tools and Equipment for Placement and Finishing of Sto Repair Mortars

Contractors often assume that the tools they use every day to place and finish concrete can also be used to work with Sto repair mortar products. While at times this is true, there are exceptions where use of the wrong tool or use at the wrong time may adversely affect the performance or appearance of repair mortars.

Sto repair mortar products include polymer-modified cementitious and nonpolymer-modified mortars that contain specialized blends of ingredients to provide enhanced performance. Both types of products require special considerations for finishing, and the tools and techniques described below work well for Sto repair mortar products.

### Sto Repair Mortars

#### ***Sto Polymer-Modified Repair Mortars***

CR700 Sto Thin Coat Mortar  
CR701 Sto Trowel-Grade Mortar  
CR702 Sto Overhead Mortar  
CR730 Sto Flowable Mortar

#### ***Sto Cementitious Repair Mortars***

CR211 Sto Patch Repair Mortar  
CR310 Sto Rapid Repair Mortar  
CR311 Sto Full-Depth Repair Mortar

Application problems often occur with specialty repair mortars when they are finished in the same way as ready-mix concrete. Polymer-modified repair mortars do not bleed excess water in the amounts seen with ready-mix concrete, and this often leads to premature finishing operations. The use of steel trowels to place and finish polymer-modified repair mortars can lead to blistering and tearing of the surface, particularly if attempts are made to finish the mortar before initial set. Steel trowels should only be used **after** initial set has been achieved and when a tight steel trowel finish is desired. Initial set can be judged by applying firm pressure to the surface to verify that the material beneath the surface has begun to set.

Magnesium, wood and resin hand floats should be used instead of steel tools to place and finish polymer-modified repair mortars. These tools also work well for other Sto repair mortars.

There are a variety of magnesium hand floats available depending upon the need of the applicator and the project. Wood floats may also be used, however finishing with wood floats requires more precise timing. Resin floats are similar to wood but they last longer and, being denser, will provide a smoother finish. The most forgiving float is magnesium which should always be used if experience in placing repair mortars is limited. Magnesium floats come in a variety of sizes and can either be cast or extruded. Three designs that work well are:

- Beveled end cast magnesium float-lightweight broken in with rounded corners.
- Thin-line or fine-line beveled end with a broken-in blade.
- Round end magnesium float-rounded corners, broken-in and low profile.

The thin-line or fine-line float is used for tight areas, around penetrations and for small patch areas. The round end magnesium float is handy and makes floating easier for most applications. The beveled end cast magnesium float is a standard for the concrete industry. It is well balanced, has rounded edges and is the most popular magnesium float used today. Magnesium hand floats are available in lengths from 12" to 24" (305 to 610 mm) and are usually 3-1/2" (89 mm) wide. Thin line magnesium floats are generally thinner both in body depth (specifically at the ends) and in width (3-1/8" [79 mm]).

**Bull Floats and Darbies**

Bull floats and darbies are used for leveling, filling in low spots, and eliminating chatter marks or other surface marks created by a screed or straight edge. Darbies are used on narrow slabs and restricted spaces. Bull floats are used on large slabs and overlays. They are used after screeding to help consolidate and smooth a floor. They should not be used to screed a surface. Avoid using magnesium hand floats, bull floats and darbies excessively as they can create blisters. This can occur when the floating operation is done to make up for surfaces that are not level, improper screeding and inadequate consolidation. Blisters may also occur if hand floats are used on a sharp angle.

Best results are obtained by holding the float as flatly as possible. When using bull floats with long handles it is best to incorporate brackets that eliminate lifting of the float and allow the operator to change pitch with a simple turn of the handle.

**Sponge Floats**

Sponge Rubber Floats are excellent tools for finishing vertical and overhead mortars.

They enable the applicator to finish a patch into the substrate by using a rubbing motion. They may also be used for placing polymer mortars in horizontal applications when a rough texture is required. It is best to use a fine texture sponge rubber float on vertical and overhead applications and the coarse texture sponge rubber float on horizontal applications.

We have identified several manufacturers whose tools and/or equipment have been shown to work well with our repair mortars. There are many other manufacturers of tools and equipment whose products may work equally well.

**Manufacturers**

**Marshalltown  
Trowel Company**  
104 South 8th  
Avenue  
Marshalltown, IA  
50158  
Tel: (641) 753-5999

**Stanley Tools  
(Goldblatt)**  
480 Myrtle St.  
New Britain, CT  
06053  
Tel: (800) 262-2161

**Kraft Tool  
Company**  
8325 Hedge Lane  
Shawnee, KS 66227  
Tel: (913) 422-4848

**Superior  
Featherweight  
Tools**  
1325 Bixby Drive  
Industry, CA 91745  
Tel: (800) 423-1802



Beveled End Cast Magnesium Float



Thin Line or Fine Line Beveled End



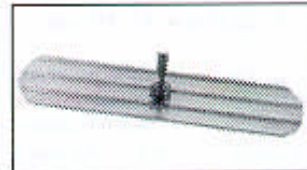
Round End Magnesium Float



Wood Float



Resin Float



Round End Magnesium Bull Float



Magnesium Bull Float



Tapered Magnesium Darby



Sponge Rubber Float