

GENERAL INSTALLATION GUIDELINES RESCO EXTREME SERVICE CASTABLES (Including Extreme Service Sureflow Products)

A. STORAGE:

1. Resco Extreme Service Castables are packaged in moisture resistant bags; however, they should be stored in a dry place free from excess dampness. Storage on dry concrete, asphalt, or other impervious surface will prevent moisture from the ground condensing under the plastic pallet cover and wetting the bags of material, which may result in loss of strength.

B. PREPARATION:

1. Use clean tools and equipment. Contamination can affect setting and strength of castables.
2. Waterproof all forms and surfaces. Mold release agents may be used.
2. Use only clean water suitable for drinking.
3. A paddle-type mechanical mixer is preferred.
4. For best results, material and ambient temperatures should be 60°-85°F (16-29°C) during mixing, placing, and curing.

C. MIXING:

1. Mix only as much castable as can be placed immediately. Under ideal conditions, 20 minutes is the maximum placement time. Material left in pails or mortar box may develop a "false" set making it difficult to properly place.
2. Pre-dampen mixer prior to mixing first batch.
3. Add the dry material to the mixer. Then, quickly add the minimum amount of specified water to the mixer while mixing.
4. It is suggested to establish the required water addition using the first mixer batch of material. Mix the first batch for a minimum 5 minutes using the minimum recommended water addition (6 minutes for Sureflow brands). Adjust the water addition if necessary to the desired flow, using very small increments. Use a total mixing time of minimum 6 minutes for all subsequent mixer batches (7 minutes for Sureflow brands). Mixing times might be longer depending on the mixer intensity. It should be noted that an excess water addition will reduce the strength of the castable proportionately.
5. If metal fibers are to be added, they should be slowly and uniformly distributed into the mixer during the beginning of the three minute mixing interval
6. Recommended wet mix temperature is 60°-85°F.

D. PLACING:

1. When using external vibration, have sufficient air pressure available to run the vibrator at full capacity. Use a regulator on the air line to adjust the vibrator. Adjust the vibrators to produce enough vibration to place, knit, and level the mix. Do not over vibrate, this will segregate the mix. **Do not vibrate Sureflow Castables!** Vibration of Sureflow Castables can cause separation; only tap on forms to aid in consolidation.
2. Don't overwork or excessively trowel the surface. A smooth surface inhibits moisture removal during curing and drying by bringing fines to the surface. Do not burn out wood forms.

E. CURING:

1. The cast material should cure for a minimum of 24 hours before drying can commence. Use wet burlap, plastic sheet or resin base cure compound. Water spraying should be avoided.
2. The cast material should not be disturbed, allowed to freeze, or be heated above 120°F during the curing stage. The castables should have a noticeable "ring" sound when tapped with a piece of metal after this proper curing period.

F. EXTREME WEATHER PRECAUTIONS

1. Extreme Cold Weather:

- Keep the material, and installation area above 60°F (16°C) during installation and 24 hour curing period.
- Do not allow lining to freeze during 24-hour curing period. After the curing period, the lining may be subjected to freezing conditions, however, the castable should be at least 60°F (16°C) before dry out is started.
- If exposed to freezing temperatures, the full thickness of the lining should be raised to a minimum 60°F, before the start of the heating to final dryout temperature
- If refractory is installed in a unit or vessel, all openings should be covered and sealed in order to prevent water from accumulating and freezing on the refractory.

2. Extreme Hot Weather:

- Keep the material, and installation area below 85°F (29°C) during installation and 24 hour curing period. Elevated temperatures may reduce working time, and cause cracking due to surface dryout.
- Store the dry castable in a cool area prior to mixing.
- Use cold water, less than 45°F (7°C) during mixing.
- Shade or water spray the exterior surface of the unit.