

Technical Information

RESCO INSULATING CASTABLES GENERAL GUIDELINES for CASTING

A. STORAGE:

1. Resco Insulating 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. Insulating castables should be mixed for no more than two minutes after the water is added to the mix. Additional water should only be added after the two minute mixing and a visual inspection of the mix. Stay within the recommended water levels for the particular product.
5. If metal fibers are to be added, they should be slowly and uniformly distributed into the mixer during the beginning of the two minute mixing interval
6. Recommended wet mix temperature is 60-85°F.

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D. PLACING:

1. External vibrators are not recommended. Internal vibrators capable of a frequency of 10,000 vpm or greater are recommended to densify conventional castables, but vibration should be minimized for insulating castables to avoid excessive densification.
2. Be careful not to over vibrate. Stop when small bubbles no longer appear on the surface.
3. 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 based curing 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.

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.