URC | UNITED REFRACTORIES CO.

INSTALLATION GUIDELINES

Instructions For Mixing URC Low Cement Castables/Pumpables

1) Storage ..... A dry, cool location between 50-85˚F *(10-30˚C)* on dry flooring is optimal

2) Mixing

Mixer: .....
- Shearing type mixer is mandatory
- High torque shearing mixer is preferred
- Tumbling concrete mixer is not satisfactory
- Mixer must be clean to avoid contaminants

Dry Mix: ..... Dry mix for approximately 15-30 seconds.

WATER

Typical Water Content: ... The amount of water to achieve appropriate properties and most workabilities.

Final Water Content: ..... Every install can vary...contact your URC rep with questions.

Initial Water Amounts: .... Different installs require different water contents: *(dry equipment will require higher amounts of water initially)*
- **Pump UNI-PUMPS:** Start at typical water content or 0.2% below.
- **Vibcast UNI-CASTS:** Start at typical water content or 0.2% below.
- **Vibcast UNI-PUMPS:** Start at approx. 0.5% below typical water content.

Temperature: ..... Target mix temperature is 70°F *(20°C)*, with optimum ambient air temperature between 60-80°F *(15-27°C)*.

Mix Time: ..... To activate wetting agents, mixing time must be ***4-5 minutes!***

More Water: ..... After a 4-5 minute mix, if mix looks dry relative to flowability need, add 0.1 to 0.2% more water and mix for another 1-2 minutes to achieve the proper consistency for install, keeping water at a minimum.

Final Water Content: ..... Every install can vary:
- As a rule, excess water has a negative effect on properties.
- Contact your URC rep with questions.

Total Mixing: ..... Do not exceed 10 minutes and empty the entire mixer completely when mixing is complete.

Set-time Adjustments: .... Low cement set times are changed periodically with the seasons. If adjustments are needed, call your URC representative, as accelerators and retarders are available for jobsite use.

3) Vibration

Purpose: ..... Vibrators should be used to move the material and/or fill cavities.

Type: ..... External air vibrators are preferred. Handheld portable vibrators can cause cavities and should be used with caution.

Excessive Vibration: ..... Too much vibration will segregate the fines and water with negative effects.

Insufficient Flow: ..... If the material does not flow to a level condition, there is either too little water or not enough vibration.

4) Curing*

Time: ..... First 24 hours after installation are critical for strength development.

Temperature: ..... Temperature of the lining and ambient air should be 60°F *(15°C)* minimum, preferably 70-95°F *(20-35°C)*, during this 24-hour period.

Covering: ..... Sprayed curing compound or plastic sheeting should be used during this time to prevent premature drying.

Low Temperatures: ..... Air curing temperatures below 60°F *(15°C)* can result in phase formations that can negatively affect dryout success and strengths.

** UNI-GO Products: Contact URC regarding product advantages*

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