

## ***Technical Information***

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### **GENERAL GUIDELINES – CASTING RESCO LOW-CEMENT AND ULTRA-LOW CEMENT CASTABLES**

#### **A. STORAGE:**

1. Resco Low and Ultra-Low Cement 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.
3. Use only clean water suitable for drinking.
4. A paddle-type mechanical mixer is preferred.
5. For best results, material and ambient temperatures should be 60-85°F (16-29°C) during mixing, placing, and curing. For Sureflow Castables, material temperature should be less than 75°F (24°C).

#### **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. For the initial batch, determine the minimum recommended water level for the product being mixed and then quickly add the amount of specified water to the mixer while mixing.
4. Mix the dry material and the water addition for 5 to 6 minutes. If mix appears too dry after the 5 to 6 minutes of mixing, water can be added in 0.1% increments, making sure to stay within the recommended water range for the specific product. Allow 1 to 2 minutes of additional mixing time between water additions. Once an acceptable water level is reached, use that amount as the starting point for the next batch.



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### **D. PLACING:**

1. When using external vibration, use sufficient air pressure 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. Cover all exposed surfaces with a polyethylene film, or spray with a commercial curing compound. This will prevent water evaporation required for proper hydration and maximum properties.
2. Do not disturb casting during the first 24-hour period after installation.

### **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.

#### 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.