



Technical Information

GENERAL INFORMATION ON FORMING, HANDLING, AND DRYING BASIC CASTABLE PREFORM SHAPES

Basic castables were designed to be cast with internal vibration using a vibrator that produces approximately 1,000 pounds of force at 12,000 VPM. However, external vibration of sufficient frequency and force will produce equivalent results.

Water requirements for basic castables are low and result in a dry appearance in the mixer relative to concrete or old style clay/alumina mixes. Excess water will result in low density, poor strengths, and premature failure.

Some basic mixes are designed for extended vibration (Permanente-98 AF and Permanente-165 AF). Extending the vibration time allowed for reduced water requirements and improved density. If the proper amount of water is used, the castable will not segregate when extensively vibrated. Care must be taken on other mixes to avoid over-vibration as this can result in segregation.

Bond systems used in basic castables are designed to hold the product together until ceramic bonding occurs at high temperatures (starting at ~1500°F). Low bond levels are used since they are either burned out (leaving porosity) or are detrimental to the product's refractoriness. This results in relatively low strengths when compared to high cement level clay-alumina castables. Basic bond systems are not hydraulic like cements, so they will not take a strong set as long as they are damp. Basic castables must be dried to achieve maximum strength.

Basic castables all contain free MgO. This can hydrate and expand, cracking the casting. This normally happens when a basic castable is either slowly heated or held at temperature just under or near the boiling point of water.

NOTES:

- A. This schedule is recommended for situations where proper heating equipment and air circulation are used, weep holes are present and unclogged, and the ambient temperature ranges from 60° to 90° F. If all of these parameters are not met, a more conservative dry out schedule is needed. Consult your Resco Products, Inc salesman, the RESCO website (www.rescoproducts.com), or call 888.283.5505.**