Instructions

Omni-Cast™ investment

Properties*

Water:Powder Ratio	Working Time
40:100	9–10 minutes

**These results are based on the testing methods, frequency and procedures of Ransom & Randolph or its approved suppliers. The levels referenced herein are only for general guidance and do not constitute a firm specification.*

Mixing & Investing

Use flask calculator for accurate measurement

1. Measure water.
2. Add investments to water.
3. Vacuum investment in the mixing bowl.

Conventional

4. Hand spatulate for 30 seconds then mechanically mix for 2 minutes.
5. Vacuum 20 seconds after boil.
6. Pour into the flask, avoid pouring directly onto the pattern. Apply vibration if possible. Do not fill the flask all the way; just enough to cover the pattern
7. Vacuum up to 90 seconds.
8. Top off the flask with vibration, if possible.

Vacuum Mixer

4. Mix 2 minutes. Turn on the vacuum after 1 minute of mixing.
5. Apply vibration and fill the flask, avoiding pouring directly onto the pattern.

Oven Loading & Burnout Cycle

1. Remove sprue base.
2. Load into furnace.
3. Follow the appropriate burnout cycle,
   * Proceed to page 2.

Note: Adjustments may be required for various furnace types, flask sizes, and oven loading.

Tips

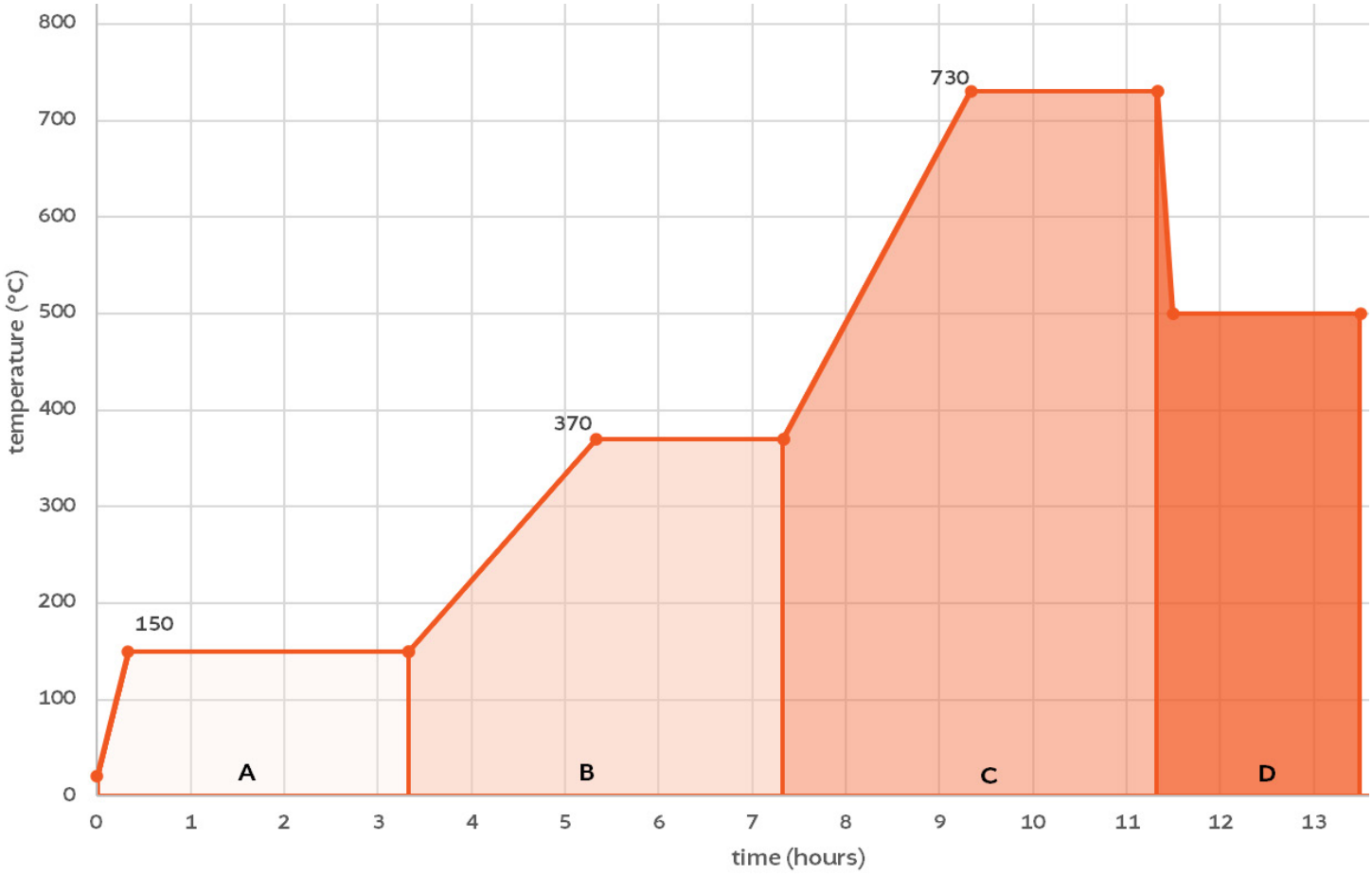
- Use demineralized water at 72–75°F (22–24°C)
- Working time is defined as the time from when the powder is added to the water until the investment becomes thick.
- Keep equipment clean of any set investment.
- Maintain a minimum pattern clearance of 1/4 inch (.05 cm) at the sides and 1 inch (2.54 cm) at the top and bottom of the flask.
- To check a vacuum system for leaks, place water in a glass or ceramic container in the vacuum chamber. It should boil vigorously in 20 seconds.
- It is extremely important to leave flasks undisturbed while curing.
- If bench cure time exceeds 6 hours, maintain moisture by covering with a wet cloth and sealing in a plastic bag.
- While loading the oven, do not place flasks too close to the heat source.
- Flasks should be elevated at least 1 inch (2.54 cm) above the oven floor to allow for proper air circulation.

Calculate with Confidence

Scan to access R&R Flask Calculators

Ransom-Randolph.com/flask-calculators

Oven Loading & Burnout Cycle



Burnout Schedule		Phase	Time (hours)	Schedule °C	Schedule °F
A	Dry	Ramp	As Fast As Possible		
		Hold	3	150	300
B	Thermal Transition	Ramp	2	1.8°C/min	3.3°F/min
		Hold	2	370	700
C	Pattern Removal	Ramp	2	3°C/min	5.4°F/min
		Hold	2	730	1350
D	Casting	Ramp	As Fast As Possible		
		Hold	2	Alloy Manufactuer's Recommendations	

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Storage

Keep container tightly closed when not in use. Store investment in a dry area at room temperature. Shelf life is 2 years from the date of manufacture found in the first six digits of the lot number on the label in MMDDYY format.

Safety

Danger. Contains crystalline silica. Causes damage to lungs through prolonged or repeated exposure by inhalation. Avoid skin or eye contact. Avoid breathing dust. Wear protective equipment when handling. Wash hands thoroughly after handling. See SDS for more information.

North America: May cause cancer by inhalation.

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