

Doc's Casting Plaster investment

Properties*

Binder:Powder Ratio	Working Time
25:100	5–6 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.*

Pattern & Flask Preparation

Use a removable or burnaway flask for flashfire burnout.

Mixing & Investing

Use flask calculator for accurate measurement

1. Dilute Binder if desired, otherwise use at 100%.
2. Weigh investment.
3. Measure binder.
4. Add investment to binder.

Conventional

5. Mix 1 minute.
6. Vacuum for 1 minute.
7. 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.
8. Vacuum up to 90 seconds.
9. Top off the flask with vibration if possible.

Vacuum Mixer

5. Mix less 1 minute under vacuum at 350–450 RPM. Pour into the flask, avoid pouring directly onto the pattern.
6. If time remains, pull an additional vacuum on the flask.

**Leave the flask undisturbed for 15 minutes.*

Oven Loading & Burnout Cycle

1. Remove sprue base and flask.
2. 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).
- Use only with the Doc's liquid binder.
- 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.
- Keep separated from gypsum investments, and use only dedicated equipment that has not come into contact with them.
- Maintain a minimum pattern clearance of 1/4 inch (0.5 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.
- 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.

Flash Fire Burnout

Insert the flaskless mold into a preheated oven at 1400–1700°F (760–927°C). Hold at the casting temperature recommended by the alloy supplier for at least 1 hour before casting.

Ramped Burnout

Insert the flask in a cold oven. Ramp to 1400–1700°F (760–927°C) at a rate of 4–7°F/min (3–4°C/min). Hold at the casting temperature recommended by the alloy supplier for at least 1 hour before casting.

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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