Ceramic Slip Casting

This playbook describes the method of slip casting, a technique used to create hollow ceramic items. It covers the essential steps from preparing the mold to the tips for casting, ensuring the creation of smooth, high-quality ceramics.

Step 1: **Mold Prep**

Begin by thoroughly cleaning and assembling your plaster mold. Make sure all parts fit tightly together and secure them if necessary. Apply a mold release agent if your mold requires it to ensure an easy separation after casting.

Step 2: **Mixing Slip**

Prepare the slip (liquid clay) by mixing it until it reaches a homogenous, creamy consistency without lumps. You can use a hand mixer or a drill with a mixing attachment to ensure a smooth mixture.

Step 3: **Filling Mold**

Carefully pour the slip into the mold, ensuring there are no air bubbles. Fill the mold to the top and observe it for a few minutes to ensure it doesn't leak.

Step 4: **Dwell Time**

Allow the mold to sit still, filled with slip, for a period of time. This dwell time lets the plaster mold absorb water from the slip, forming a clay body of the desired thickness along the mold's inner surface.

Step 5: **Draining Excess**

After the appropriate dwell time has passed, tip the mold to drain out the excess slip. The remaining slip within the mold walls is what will eventually harden into your ceramic object.

Step 6: **Setting Time**

Leave the mold undisturbed for a while to let the clay set. The duration may vary, often taking a few hours, but it's essential to let it solidify to the point where it can hold its shape.

Step 7: **Unmolding**

When the clay has hardened, gently open the mold. Be careful during this step to avoid damaging the soft clay piece. It should release easily if the mold was properly prepared.

Step 8: **Drying**

Place the cast piece in a safe area to dry completely. This may take several days. Ensure that the piece dries evenly to prevent warping or cracking.

Step 9: **Finishing Touches**

Once dry, you can perform any cleaning or smoothing of the surface as needed. At this stage, you can also add additional decorative elements or attachments to your piece before the final firing.

Step 10: **Firing**

Place the completely dry ceramic in a kiln and fire it according to the clay body's specifications. Firing will vitrify the clay, making it hard and durable.

General Notes

Slip Consistency

Ensure that the slip is neither too thick nor too thin; its consistency should be similar to heavy cream. The specific consistency may vary based on the type of clay and the detailed design of the piece.

Mold Release

Some molds do not require a release agent, particularly if they are new or well-cared-for. Test your mold beforehand to determine if a release agent is necessary.

Environment

The setting and drying times can be affected by the environment, such as humidity and temperature. Adjust the times accordingly and try to work in a stable environment for best results.

Dwell Time Variance

The dwell time varies depending on the thickness of the ceramic piece you're aiming for. Thicker walls will require longer dwell times, while thinner walls will need shorter ones.