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INSTRUCTIONS FOR USING AQUAPOUR™

NOTE: CONTENTS SETTLES DURING SHIPPING

MIX AQUAPOUR™ WELL BEFORE EACH USE & BEFORE BEGINNING STEP 1.

- 1) Prep mold. We recommend a Lecithin based mold release. (e.g. Eject-it #25, or Pam)
- 2) Combine Aquapour™ with water.
Recommended mixing ratio is: 55% Aquapour™ powder material to 45% water by weight.
- 3) Pour Aquapour™ into mold.
 - a. Working time is 5-10 minutes.
 - b. Vibrating the material while in wet form will help reduce bubbling. Pouring the material in a vacuum will also reduce surface bubbling greatly.
 - c. Material will set up in approximately 1 hour.
- 4) Remove mandrel from the mold.
 - a. Mandrel must be removed from mold prior to being dried.
- 5) Dry in a convection oven.
 - a. We recommend the material be dried at 135°C (275°F) at 1.5 hours per inch of mandrel thickness.
 - b. The material can also be dried at temperatures below 135°C (275°F). However, drying time will be increased. Aquapour™ is thermally stable and can withstand temperatures in excess of 200°C (392°F).
 - c. Drying times for Aquapour™ vary according to the part geometry and surface area. The more surface area that is exposed the shorter the drying time.
 - d. Drying times will increase exponentially as the part geometry increases at 135°C (275°F).
- 6) Remove mandrel from oven.
 - a. To avoid cracking, we recommend turning the oven off with the mandrel inside and letting the mandrel cool in the oven. This prevents thermal shock.
 - b. If tooling is necessary, we recommend Aquafill™ as a way to give the mandrel a smooth porcelain-like feel.
 - c. Aquafill™ can also be used to patch any defects or imperfections on mandrel.
- 7) Seal the mandrel.
 - a. We recommend Aquaseal™, a water-soluble sealer, compatible with Aquapour™.
- 8) Lay-up on mandrel to make finished part.
 - a. Prep mandrel with desired release agent prior to lay-up.
 - b. Aquapour™ is compatible with the curing temperatures of all commercial pre-preg materials and resins.
- 9) Wash away Aquapour™ from finished part.
 - a. The material can be washed away under a faucet or with a standard garden hose.
 - b. Heated water is not necessary but will drastically increase the wash out of the mandrel.
 - c. Aquapour™ is environmentally friendly so no special disposal procedures are needed.

For further questions and inquiries, please contact Advanced Ceramics Research at 520-573-6300.