

LiquaFast ICE Liquid Molding Rubber

Instructional Datasheet

Please read and observe the following instructions carefully. Read Safety Data Sheet before using.

1. Components **MUST BE WEIGHED CAREFULLY AND NOT ESTIMATED**. Use an accurate scale. **DO NOT MEASURE BY VOLUME. DO NOT ESTIMATE. DO NOT GUESS!** Make sure both parts are at room temperature.

2. Stir individual components before use. Pour the equal amounts of parts A & B into a mixing container, preferably one with a rounded bottom. Do not use a rubber mixing bowl as the rubber may inhibit the cure (See "incompatible materials", below). Mix ratio is 1:1 by weight.

3. Always pour rubber (part B) into catalyst (part A).

4. Mix thoroughly by hand or machine for 1 to 2 minutes until a uniform color is achieved. Take care to scrape the sides of the mixing bowl into the center several times during mixing.

5. Make sure the bowl is big enough to allow for temporary expansion of the rubber of 300% to 400% during vacuuming without overflowing. Wide mouth containers allow more air to escape during vacuuming than narrow mouth containers.

6. Vacuum the liquid rubber for 3 to 4 minutes, making sure that it boils and bubbles vigorously. Vacuuming is complete once the rubber rises and collapses.

No Vacuum? No Problem!

Use your wax injector instead! See page 2

7. Do not over-vacuum. Make sure to allow extra room at the top of the frame for the rubber to expand during vacuuming.

8. Working time before cure begins is approximately 10 minutes at room temperature.

9. Put the mold aside to cure at room temperature (77 F°/ 25 C°) for 60 to 90 minutes, depending on temperature. Always remember that longer cure times will improve the mold and will not hurt it, while shorter cure times will result in soft and deformed molds. Avoid curing in areas where the temperature is below 65o F /18 o C.

Avoid moving the mold during the curing process.

Cure at the same temperature that all your materials were when they were mixed. Temperatures below 65°F/ 18°C will lengthen the time required for proper curing and may spoil the mold.

NOTE: Rubber received during extremely cold winter months may require warming before use regardless of the temperature of your work room because long exposure to cold will keep the rubber cold for extended periods. If necessary, warm part A & part B separately to 100°-130°F/ 37°– 54°C for several hours. Check rubber temperature with a thermometer and allow to cool before using. Remember that slight increases in cure temperature will create low levels of shrinkage 10. If you need the mold to be finished faster, it can be cured for 30 minutes by warming it to 120°F /50°C as it cures. Typical devices for this warming process include the tops of vulcanizers, food warming trays, slow cookers, rice cookers, radiators, empty wax injectors, etc. Immersion in warm water works well. Avoid higher temperatures, which might damage the mold..

Typical Mold Sizes, Mixing Proportions & Volume

The following is only a guide — the mass of your model will increase or decrease the amount of rubber needed. Sizes given are for typical 1 7/8 inch x 2 7/8 inch (4.8 cm x 7.3 cm) molds.

| Mold Size | Approximate Total Weight Needed |
|---------------|---------------------------------|
| 0.75" / 19 mm | 2.6 oz. / 75 grams |
| 1.00" / 25 mm | 3.8 oz. / 110 grams |
| 1.25" / 32 mm | 4.6 oz. / 130 grams |
| 1.50" / 38 mm | 5.3 oz. / 150 grams |

No Vacuum Pump??

You can cure the mold inside your empty and unheated air-pressure type wax injector, using the pressure to collapse air bubbles rather than a vacuum to remove them.

Simply place the mold frame with the uncured liquid rubber inside an unheated wax injector pot with the heat turned off, pressurize it as high as it will go, and let it cure under pressure.

If your wax injector is empty you can heat the pot to 120°F /

50°C and cure the mold in as little as 30 minutes.

If you don't have either a vacuum pump or a wax injector, you can brush the uncured liquid rubber on the model with an artists' paint brush and examine the model for air bubbles. Pop any bubbles that you see with a pin, knife point or similar object.

Similarly, you can merely dip the model in the liquid rubber, shake off any excess and then examine it for air bubbles as described above.

With either technique, place the model after it is coated with liquid rubber in a standard liquid rubber mold frame and fill it with more rubber. Any air bubbles in the part of the mold away from the model are not a problem.

STORAGE: Keep containers tightly closed. Store at normal room temperatures.

Part A & Part B will remain usable for at least one year from the date of shipment if stored in unopened containers. Rubber more than one year old may be made usable again by thoroughly mixing each component separately before use.

CLEANING MOLDS: Castaldo LiquaFast molds can be cleaned if they become soiled or dirty by washing them with ordinary soap and water. Use a small brush if needed.

MODEL PREPARATION: Porous surfaces such as wood, terra cotta or plaster must be sealed to prevent the rubber from penetrating the pores. Spray polyurethane, several coats of paste wax, allowed to dry and then polished, or melted paraffin, petroleum jelly and potters soap all work well for certain surfaces.

INCOMPATIBLE MATERIALS: Certain materials will inhibit the cure of Castaldo LiquaFast, leaving areas that are soft and sticky. Included are sulfur containing compounds such as latex gloves and tubing, wood, PVC, natural & organic rubber such as neoprene. Also avoid epoxy, Mystic® tape, Scotch® tape, vinyl electrical tape, acid & rosin core solder and tin-cured silicone rubbers such as Dow Corning RTVs. This is not a complete list. If in doubt, always make a test mold first.

CLEAN UP: If mixed rubber has spilled or is left on tools, simply wait for the rubber to cure and pull it off surfaces it has adhered to. There is no known acid or solvent that will remove it. If rubber has lodged in jewelry models and cannot be otherwise removed, heating with a torch to above 600° F/ 312° C will burn the rubber and allow it to be cleaned off as ordinary ash/ carbon scale. Use adequate ventilation. Uncured rubber can be wiped off with paper towels and then washed off with ordinary soap and water.

MOLD RELEASE: Mold release agents are not normally needed. Do not use silicone oil sprays.

DISCLAIMER: The information contained in this bulletin is considered accurate. However, no warranty is expressed or implied regarding the accuracy of the data, the results to be obtained by the use thereof, or that any such use will not infringe any patent. Before using, user shall determine the suitability of the product for the intended use and user assumes all risk and liability whatsoever in connection therewith.

| Problem | Cause |
|---------------------------------------|---|
| Mold won't cure - soft & sticky | <ul style="list-style-type: none"> • Improper mix ratio; not mixed properly • Too cold • Rubber contaminated with moisture from air, mixing equipment, etc. • Individual components not mixed thoroughly before use |
| Mold cures too slowly | <ul style="list-style-type: none"> • Improper mix ratio • Cure temperature too low • Individual components not mixed thoroughly before use |
| Rubber Around Model Soft & Sticky | <ul style="list-style-type: none"> • See "Model Preparation", page |
| Mold distorts after handling or use | <ul style="list-style-type: none"> • Cure temperature too low • Mold removed from frame or cut too soon |
| Streaks of soft rubber or air bubbles | <ul style="list-style-type: none"> • Rubber not mixed thoroughly. Unmixed rubber usually from the bottom or sides of mixing bowl |
| Mold hard to release | <ul style="list-style-type: none"> • Use aerosol wax spray |
| Part A becomes hard; crystals form | <ul style="list-style-type: none"> • Stored too long and/or spoiled by humidity |
| Bubbles in mold | <ul style="list-style-type: none"> • Improper mixing of individual components A & B • Insufficient vacuuming of uncured rubber • Temperature changes during curing |

PRODUCT SPECIFICATIONS

Cure type: Platinum
 Uncured Viscosity: 8,500 cps
 Hardness Shore A: 43
 Tensile Strength: 3.5 N/mm² (508 ppi)
 Elongation at break: 370%
 Tear Strength: 9 N/mm² (108 ppi)

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