

INSTRUCTIONS FOR SMALL SUNBEAM BOWL

Before starting, have your molds ready. A thin coating of GM Foam Mold Release should be brushed onto the interior mold surfaces of both positive and negative, and allowed to dry thoroughly. Excess release can be whisked away with a dry brush. We use an O'Haus triple beam balance for gram weights.

1. SHAKE THE BOTTLES OF COMPONENTS BEFORE YOU USE THEM, ESPECIALLY THE BASE.

2. Into the small Mixmaster bowl, add together: 150 gms FOAM LATEX BASE
 30 gms FOAMING AGENT
 15 gms CURING AGENT.

3. Into a small cup, weigh 14 gms GELLING AGENT. Set aside.

4. Begin the foaming process, according to one of the schedules below.

5. When the processing is completed, pour or inject the foam into cool molds. Work quickly.

6. Any remaining foam can be poured onto a smooth surface, where it should set to a solid mass in 5 to 20 minutes.. When you can press it with a finger and a permanent indentation is formed, the foam has gelled, Place molds in oven, and cure at 185' F for approximately three hours. Small thin molds may take as little as two hours, and large thick molds can take five or six hours at 170-175"F. **WARNING. Do not use your household oven for curing foam. Vapors given off during curing are TOXIC for food use.**

7. Let the molds cool in the oven for half an hour after the oven is turned off, then slightly open the oven door to let them cool more. Removing very hot molds from the oven will crack them.

8. Demold foam pieces from warm molds. DO NOT LET MOLDS COOL TO ROOM TEMPERATURE BEFORE DEMOLDING. If they do cool, you can still remove the pieces, but it will be much more difficult, and can crack the molds.

COLD ROOM SCHEDULE (66-68 F) 17-1/2 minutes Total Time

speed # 1 for	1 -minute (mixing)	(1 -minute elapsed), then
speed # 7 for	6-minutes (whipping)	(7-minutes elapsed), then
speed # 4 for	4-minutes (medium refine)	(11 -minutes elapsed), then
speed # 1 for	5-minutes (ultra-refining)	(16-minutes elapsed). Get ready to add

gel.

speed # 1 for	30-seconds: add GELLING AGENT, then
speed #1 for	30-seconds: Tum bowl backwards by hand to mix gel, then
speed #1 for	30 seconds: Let mixer run until 17-1/2 minutes have elapsed. OFF NOW,

NORMAL ROOM SCHEDULE (69-74 F) 14-1/2 minutes Total Time

speed # 1 for	1-minute (mixing)	(1-minute elapsed), then
speed # 7 for	6-minutes (whipping)	(7-minutes elapsed), then
speed # 4 for	3-minutes (medium refine)	(10-minutes elapsed), then
speed # 1 for	3-minutes (ultra-refining)	(13-minutes elapsed). Get ready to add

gel,

speed # 1 for	30-seconds: add GELLING AGENT, then
speed #1 for	30-seconds: Tum bowl backwards by hand to mix gel, then
speed #1 for	30 seconds: Let mixer run until 14-1/2 minutes have elapsed, OFF NOW.

WARM ROOM SCHEDULE (75-80 F) 12-1/2 minutes Total Time

speed # 1 for	1-minute (mixing)	(1 -minute elapsed), then
speed # 7 for	6-minutes (whipping)	(7-minutes elapsed), then
speed # 4 for	2-minutes (medium refine)	(9-minutes elapsed), then
speed # 1 for	2-minutes (ultra-refining)	(11 -minutes elapsed). Get ready to add

gel.

speed # 1 for	30-seconds: add GELLING AGENT, then
speed #1 for	30-seconds: Tum bowl backwards by hand to mix gel, then
speed # 1 for	30 seconds: Let mixer run until 12-1/2 minutes have elapsed. OFF NOW.

If your foam **gels too fast** cut a minute or two off your ultra-refining time, or use a little less gelling agent (11 or 12 gms). If your foam **gels too slowly**, add a minute or two to your ultra-refining time. LARGER BATCHES USE DIFFERENT SCHEDULES. Undercured foam will spring back too slowly. **The latex base needs to be shaken once a week, to keep the „serum layer" from settling on the bottom.**

Using foam latex is a skill, and it can be tricky. Please call for information, schedules or technical support.

NON-WARRANTY All materials are sold in good faith „AS IS" and without any warranty, express or implied.

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INSTRUCTIONS FOR LARGE SUNBEAM BOWL_{EC}

Before starting, have your molds ready. A thin coating of GM Foam Mold Release should be brushed onto the interior surfaces of both positive and negative, and allowed to dry thoroughly. Whisk away excess when dry.

2-1/2 BATCH MIX Soft mix: 6 to 6-1/2 volumes Temp 68-70 F, humidity about 45-55%

1. SHAKE THE BOTTLES OF COMPONENTS BEFORE YOU USE THEM, ESPECIALLY THE BASE.

2. Into the **large** Mixmaster bowl, add the following:

LATEX BASE	375 gms
FOAMING AGENT	85 gms
CURING AGENT	40 gms.

3. Into a small cup, weigh 35 gms GELLING AGENT. Set aside.

4. Process the foam according to the following schedule:

speed minutes elapsed

1	1	1	Mix ingredients.
12	7	8	Whip. Height less than 1" from rim of bowl, Can backbowl for more volume, if needed.
8	2	10	Continue rising slightly. Height about 3/4" from rim of bowl.
4	3	13	Occasionally backbowl to break up bubbles in center.
<u>2</u>	<u>3</u>	<u>16</u>	<u>Finish refining. Prepare to add gel.</u>
2	1/2	16-1/2	Take 30-seconds to pour the gel.
2	1/2	17	Backbowl (slowly turn the bowl backwards by hand).
1	1/2	17-1/2	Continue mixing until 17-1/2 minutes, when the mixer is turned off.

5. **NOW FOLLOW STEPS 5 THROUGH 8 ON THE SMALL BOWL SCHEDULE FOR FILLING, CURING, AND DEMOLDING** (on the reverse of this page).

Backbawling (turning the bowl backwards by hand) is the most effective way to disperse the GELLING AGENT. Do it slowly, so air won't be mixed in. Variations in the above schedule are to be expected, since weather conditions are so different. Temperature and humidity variations affect the working time of the foam. The main principles to remember are:

**HIGHER TEMPERATURES MAKE THE FOAM GEL FASTER, and
HIGHER HUMIDITY MAKES THE FOAM GEL FASTER.**

To correct for these conditions use these tips: In hot and/or muggy conditions, cut the GELLING AGENT DOWN TO 30 GRAMS, AND CUT A MINUTE OR TWO OFF THE REFINING TIME. In other words, pour less GELLING AGENT into the mix, and pour it sooner. For example, in an 80 F room, you may have to pour at 13 or 14 minutes elapsed time, instead of 16, as the schedule shows. Another way to extend the working time is to add extra Foaming Agent. This protects the latex from gelling as fast. A large Sunbeam Bowl could take 90 to 95 grams of Foaming Agent, and work properly in a very hot room of 85-90 F. We also have a product called **GM Foam Stabilizer**, which extends working time when used at the rate of 2 to 5 grams per large bowl.

In colder and drier conditions, the reverse is true. To prevent a very slow gel you can use more GELLING AGENT (for example, 40 gms), and ADD A MINUTE OR MORE TO THE REFINING TIME.

Where very soft batches are desired, we recommend using 5-10 grams GM Flow Increaser per large batch, added to the bowl before whipping. The Flow Increaser has a frothing effect on foam, if added at the beginning of the mix. The resulting batch can be whipped close to the top of the bowl, if desired, or any height less than that. Backbawling during the high speed whipping cycle will add greater height to any mix. Remember that the higher you whip the foam, the softer it will be but it becomes more difficult to pour, and tends to trap more air, since it is thicker at high volumes.. The Flow Increaser helps the pourability but even it can't correct overwhipped batches.

Using foam latex is a skill, and it can be tricky. Please call for information, schedules, or technical support.

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5-QT KITCHEN AID MIXER

150 GRAM BATCH-Normal room conditions of 69-72' F, and 45-55 % humidity

150 gms	Latex Base
30 gms	Foaming Agent
<u>15 gms</u>	<u>Curing Agent</u>
14 gms	Gelling Agent

Weigh the first three components and add to the 5-qt. bowl. Weigh the Gelling Agent into a small cup, and set aside. While holding the whisk inside the bowl, carefully place the bowl onto its holding pins and snap it in place, then attach the whisk to its shaft on the mixer. Using the handle on the right side of the machine, raise the bowl to its mixing position. You are now ready to use the following schedule:

<u>speed</u>	<u>minutes</u>	<u>elapsed time</u>	
1	1	1	Mix ingredients
10	4	5	Whip
4	1	6	Break the largest bubbles
1	4	10	Refine foam to a fine-celled consistency. Prepare to add gel.
1	2	12 OFF	At 10 minutes, add gel, then continue mixing until 12 minutes.

At 10 minutes, add the Gelling Agent. Slowly drip it into the mix. After all the Gelling Agent is added, use the handle on the right side of the mixer to drop the bowl while the mixer is turning. This allows the 'dead spot' of unblended material inside the whisk to drain out and be mixed into the rest of the batch. Raise the bowl to its normal position after two or three revolutions of the whisk. Use this lowering procedure two or three times in the final minutes of your schedule. At 12 minutes, turn the mixer off. Detach the whisk before trying to remove the bowl. Your foam is now ready to fill molds.

450 GRAM BATCH-Normal room conditions of 69-71 " F, and 45-55% humidity.

450 gms	Latex Base
90 gms	Foaming Agent
<u>45 gms</u>	<u>Curing Agent</u>
42 gms	Gelling Agent

Weigh the first three ingredients, and add to the bowl. Weigh the Gelling Agent into a small cup, and set aside. Assemble the bowl and whisk, and use the following schedule:

<u>speed</u>	<u>minutes</u>	<u>elapsed time</u>	
1	1	1	Mix ingredients
10	4	5	Whip to approx. 1-1/4" from rim of bowl
4	10	15	Gain about 1/8" height
1	9	25	Refine. <u>Drop bowl periodically while refining.</u>
1	2	27 OFF	At 25 minutes, slowly drip in the Gelling Agent. Drop the bowl at least two to three times in the last two minutes.

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TIPS FOR USING GM FOAM

MOLD PREPARATION FOR ULTRACAL 30 AND OTHER STONES

1. New damp molds should be sealed with wax before applying GM Foam Mold Release. Failure to do so usually results in pocked surfaces on the finished foam, and loose skin. An effective wax sealer can be made by thinning Johnson s Paste Wax (or any other commercial carnauba paste wax) with 99% alcohol. This thin wax sealer is painted into the mold, then dried. It is also useful to bake the empty molds at 150 F for at least an hour. Thick molds can take many hours to dry properly. A second coat of wax sealer can now be applied, dried, and brushed out with a dry brush. A sheen usually develops on the mold surface
2. On the sealed, buffed mold surfaces, paint a thin layer of GM Mold Release and allow to dry. Whisk any excess dried release away with a dry brush. Molds are now ready to be used.

FOAM TIPS

1. Please READ THE INSTRUCTIONS prior to starting your foam job. Your supplier can also provide you with Materials Safety Data Sheets for the foam components which you should also read.
2. **If your foam GELS TOO FAST**, cut your refining time by a minute or two. This means you will be pouring your Gelling Agent a minute or two sooner. In extreme cases of heat and humidity you may need to cut down the time and use less Gelling Agent. You can use as little as 10 or 11 gms Gelling Agent per 150 gms Latex Base.
3. **If your foam GELS TOO SLOWLY**, add a minute or more to your refining time. In extreme cases of coldness and low humidity, you may need to add minutes to your refining time, and also add more Gelling Agent, up to 20 gms Gelling Agent per 150 gms Latex Base.
4. **SLUGGISH OR UNDERCURED FOAM** can be remedied by curing for a longer time. If your oven is tightly packed with molds, you will need to allow extra time for heating, and you'll need to leave enough space between molds to allow even heating. **Overcured foam** loses tear strength and stretch. Cure for less time in such cases.
5. **PIGMENTATION** is best achieved by using GM Foam Water Base Pigments. These are specially formulated to be colorfast in the foam, and will not overplasticize the foam the way Universal Tints will.

DEMOLDING

1. Demolding is easiest when the molds have cooled to 120-130° F. This is warm to the touch. You can demold at higher temperatures, but it is hard on the molds, and causes cracking. It helps to have a thin wooden stick to insert between the mold halves as they are opening. This wooden stick can be used to carefully pull the foam away from one side of the mold, leaving it intact on the other side. The foam is then powdered with baby powder and removed from the second half of the mold.
2. **IT IS VERY IMPORTANT TO WASH FOAM PIECES.** They should be placed in a container of warm water with a few drops of liquid dish washing soap or baby shampoo added. **Do not use too much soap.** Gently squeeze the water into and through the pieces. Rinse in clear water until no trace of soap or residue is left. Press the water out of the pieces on cloth or paper towels. Do not wring. Dry pieces flat, or on forms that match their natural curvature, so wrinkles won't set in. **IT IS IMPERATIVE TO DRY THE PIECES BEFORE STORING.** Wet pieces stored in airtight baggies will develop a sulfur smell. When dry, pieces may be powdered and stored in baggies or other appropriate containers.
3. When molds are used repeatedly, a brown residue builds up on the mold surfaces. This buildup can be scrubbed out with 99 % alcohol and a short bristled brush. Only use enough pressure to lift the residue; excessive scrubbing can remove precious mold detail.

STORAGE OF PIECES

When foam pieces have been washed, dried and powdered, they are best stored in airtight containers away from light. It is convenient to use either zip-lock plastic bags, or plastic refrigerator containers that have airtight lids. These baggies or plastic containers are then stored in a cardboard box or any other opaque container that can keep the light. If stored in this way, pieces can be stored for years without any deterioration.

SAFETY INFORMATION

1. Read the instructions before starting.
2. Have adequate ventilation to remove ammonia fumes.
3. Wear safety goggles and gloves when working with foam.
4. Do not let foam components come into contact with skin. If this accidentally happens, wash with soap and water as soon as possible. Clean up spills.
5. Wash your hands after working with foam. Never eat, drink, or smoke without washing first.

WARNING: Never use a household oven for curing foam.

Fumes given off by curing foam are toxic for food use.

* * * * * Keep chemicals away from children. * * * * *

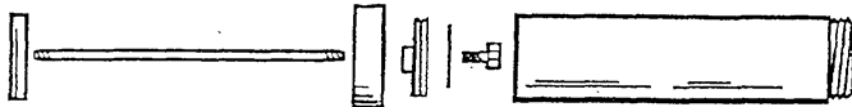
INSTRUCTIONAL VIDEO IS AVAILABLE FOR THOSE WHO WANT TO SEE HOW IT WORKS.

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GM FOAM

INJECTOR GUN INSTRUCTIONS



ASSEMBLY AND CARE

Before assembly, please coat all threads with castor oil, to prevent locking of parts.

1. Screw the handle onto the end of the threaded aluminum rod. Do not overtighten! Gentle hand tightening is sufficient.
2. Slide the back end cap onto the threaded rod. The open side faces away from the handle.
3. Screw the piston head onto the threaded rod. The flat side faces away from the handle. The threaded rod should not extend all the way through the piston head. Once again, do not overtighten. This could seriously damage the plastic parts.
4. Place the clear washer against the flat side of the piston head, and attach with hex bolt. The bolt will tighten against the end of the rod, not the flat side of the piston head. When assembled, the washer will hang loosely on the bolt. Set this assembly aside.
5. Screw the aluminum nozzle onto the front cone.

Before final assembly, your injector gun needs to be lubricated with castor oil to function properly.

6. Squeeze a thin bead of castor oil around the inside of the unthreaded back end of the clear tube.
7. Press piston head and back end cap onto the clear tube.
8. Work the piston in and out of the tube to distribute the oil.
9. Pull the piston/rod assembly out of the tube and wipe excess oil off the piston head. Make sure that the clear washer is not stuck to the piston head, and hangs loosely. Set aside.
10. Wipe any excess oil from the ends of the clear tube.
11. Squeeze a bead of castor oil onto the threads of the clear tube, and screw on the front cone assembly. Please do not overtighten.

Now you're ready to use your injector gun.

INSTRUCTIONS FOR USE

1. Make sure the piston/rod assembly is removed from tube and is sitting nearby. The cone assembly should be left attached to the clear tube.
2. Run your foam batch.
3. When foam is ready, Hold your injection tube with the nozzle facing downward. Pour the foam into the back (unthreaded) side of the tube, You can avoid trapping air if the tube is held at a slight angle away from vertical. By doing this, the foam can gently run down the inside of the tube as it fills.
4. When the foam has been poured into the tube, hold vertically, and press the piston/rod assembly firmly onto the back of the clear tube. Make sure the back end cap seats evenly. Now, with a finger plugging the tip of the nozzle, press the piston down onto the foam. As the piston moves downward, air can escape through holes in the piston head. When the washer contacts the foam, it will clap shut onto the piston head, and create a pressure seal.
5. Now you can inject foam. The stroke should not be forced. Press at a slow even speed.
6. When finished, it is convenient to let the foam gel for ease of cleanup. However it is a good idea to unscrew the cone, to prevent locking of the parts.

TO CLEAN YOU MAY USE ALCOHOL, BUT **NO OTHER SOLVENTS.**

CAUTION!! NEVER USE PETROLEUM OILS OR GREASES TO LUBRICATE YOUR INJECTOR. THEY ATTACK FOAM LATEX AND SHORTEN THE LIFE OF THE O-RING.

Good luck. Call any time with questions.

