

Super Foam 320, 610 Foam, & Alumifoam Rigid Urethane Foams

Product Description:

Alumilite's Rigid Foams are easy to use and provide users with a variety of hardnesses and densities. The Super Foam 320 is the lightest rigid foam Alumilite manufactures. It is a 3 lb density foam that expands approximately 20 times the original liquid volume. It is excellent for filling large spaces and castings. The 610 Foam is a 6 lb density foam that expands approximately 10 times the original liquid volume. The 610 is light weight, strong, and incredibly tough. It is great for structural reinforcement of hollow pieces. The AlumiFoam is a structural foam. It has a density of approximately 20 lbs and expands 3-5 times the original liquid volume. It can be used as a standalone cast piece or as a structural reinforcement. It is extremely durable and tough and can take incredible impact forces. All of Alumilite Foams act as good insulators. All of the foams have a 1:1 mix ratio and are easy to measure, mix, and pour. Simply mix equal amounts of the two components together and then pour. The 2 parts will chemically react and begin to expand before curing into beautiful cured foam. Alumilite Foams also give you the ability to "pack" the foam to increase the density of the foam of your choice. Simply over pour the cavity, close it, and allow the foam to rise and air to release out of a few small bleeder holes. The majority of the foam will pack itself into a higher density foam while expanding and curing.

Physical Properties:

Color	Tan
Mixed Viscosity (cps)	300 cps
Density/Expansion:	
SuperFoam 320	3 lb /20 times original liquid volume
610 Foam	6 lb/10 times original liquid volume
AlumiFoam	20 lb/3-5 times original liquid volume
Specific Gravity	1.05

General Properties:

Color	"A" Side	Cloudy
	"B" Side	Pale Yellow
Mix Ratio		1:1 by wt. or vol.
Shelf Life		1 year
Open Time at 75 Degrees F (100g mass)		45 seconds
Rise Time at 75 Degrees F (100g mass)		75-90 seconds
Demold Time at 75 Degrees F (100g mass)		30 minutes
Full Cure Schedule		72 hours

Packaging: 16 oz 32oz 2 Gallon 10 Gallon Drum Kit

Safety: Read complete labels, SDS, and technical data sheet including instructions before using.

Instructions

Keep Alumilite out of the reach of children, do not take internally, and do not use in any way other than it's intended use.

Before Starting

Make sure your work area is appropriate for measuring, mixing, and pouring casting resins that can and will stain any porous materials such as carpet and clothing. Also make sure to use and store materials in an area where children cannot reach or access.

1. Mold Preparation

Before mixing and pouring the resin into your mold to achieve a cast resin piece there are a few things you can do to prepare your mold that will greatly enhance the physical properties and curing of your cast resin piece.

The first thing you can do is to preheat your mold. Warm the mold in a conventional oven at 120-150 degrees F for 15 minutes or warm your mold in a microwave for 1 minute/lb of rubber on high. This will only warm your mold and will not affect the microwave or your mold adversely. It will however help the thin sections of your casting cure more evenly with larger sections and reduce your demold time. It will also help the resin set up uniformly to give you a consistent fully cured cast piece

Note: Do not microwave when there is resin in the mold, if you have painted your mold, or if you have already coated the mold with the Metallic Powders.

2. Mixing

Shake both the A & B side. Alumilite Rigid Foams are 1:1 by weight or volume, therefore measure equal amounts by weight or volume. Mix thoroughly being sure to scrape both the sides and bottom well to ensure a complete mix. Once mixed thoroughly, pour the material down the sides of the mold, wetting out as much of it as possible. The foams will start to rise around the 60 second point. If you are going to "pack" the foam, mold release a piece of non porous plastic or metal and lay it over the back of the mold leaving only one small corner of the mold open as a breather hole to allow the pressure to release. Allow to cure for a minimum of 30 minutes to ensure the skin has cured enough to safely remove it from your mold. Mold release is required for any non silicone molds used. Mold release is also recommended but not required when using silicone rubber molds.

3. Pouring

To produce the best skin possible, mix long into the open time and pour as late as possible to fill the entire cavity without trapping voids. This late pour technique allows for a tighter surface quality. If the part is too detailed and you cannot pour late into the mix time, be sure to tilt, rotate and coat the entire mold surface with mixed foams prior to it expanding. This will also improve the surface quality of the foam pieces.

4. Open Time

Alumilite Rigid Foams have an Open Time of 45 seconds at 75 Degrees F (100g mass). Larger amounts of mixed resin will shorten your work time. Warmer ambient room temperature will also shorten work time. To increase the open time of Alumilite resins, simply chill the "A" & "B" sides of the Alumilite in the refrigerator or in a bucket of ice for approximately 30 min. before pouring. This will increase the open time of the Alumilite Foams by 30-60 seconds. When cooling your resin, we highly recommend preheating your mold to ensure a proper cure.

5. Color – Dyes & Painting

Alumilite Foams can be dyed or pigmented using a non-water base dyes. Alumilite offers a line of translucent dyes in standard colors that react/crosslink chemically with the resin to achieve beautiful colored resin cast pieces with no worry of leaching or color ever coming out of the cured piece. Alumilite also offers Fluorescent colored dyes to achieve brighter colors in your casting. Only 1-2% of dye added to side A is required to effectively color the foams. A maximum of 5% dye is recommended for making dark colors. If you wish to preload the dye into the Alumilite Foams to achieve consistent colors in every cast, add the dye to the A side and mix thoroughly. If you are looking to use a dye, pigment, or filler that you have not used before, we highly recommend making a small test sample to ensure compatibility before using or preloading into the resin.

Painting can be achieved but is best if painted immediately after demolding while the foam is still curing. Once the foam has completely cured and hardened up, paint adhesion is not as strong. Most paints will still bond but may scratch off easier if not applied while the resin is still curing. Another option is to paint your silicone rubber mold, allow the paint to dry, and then cast your resin into the mold. Alumilite resins will chemically bond to the dry paint, and once the resin cures you will demold a perfectly painted piece.

6. Mold Release

To achieve maximum parts out of your silicone molds or to ensure release out of non-silicone molds (aluminum, urethane elastomers, latex, or any other substrate), we recommend using Alumilite's Stoner Urethane Mold Release. This offers maximum release and puts an effective layer of release on non-porous surfaces to release Alumilite Casting Resins. When using the Stoner Mold Release, some release will transfer to the cast resin part after demolding and may interfere with the ability to paint or bond the cast resin piece. A mild

solvent wash and perhaps even some mild abrasion may be required to remove the Stoner from the casting.

Alumilite does offer a "Paintable" mold release called UMR. UMR can be used as a release between silicone to silicone, urethane to urethane, silicone to urethane, and much more. It is an all-purpose mold release that does not interfere with painting unless excessive amounts are used and transferred to your casting.

7. Shelf Life

The shelf life of Alumilite Foams is 1 year in an unopened container but a much longer shelf life can be expected even after being opened as long as it is sealed and stored in an area free from moisture contamination (humidity and changing of temperatures such as a garage).

8. Storage

Store in a dry location as moisture will react with the iso side and crystalize and effect the polyol side by potentially changing the densities of the cured foams.

9. Moisture Contamination

Relative humidity or moisture will react with the B side of Alumilite Foams and crystalize. You may notice crust, crystals, or chunks around the tip or cap or in the bottom of the bottle. If the B side shows signs of moisture contamination, you may need to strain the chunks or crystals with a paint filter or screen to remove them from the resin. Once strained, the B side can be used as normal. However, if the A side has been contaminated by moisture, it will not show any signs of contamination until you cast your piece in which you will notice an excess amount of bubbles or perhaps even a froth or foam on the top side of your casting. Once the polyol side (A side of Alumilite Foams) has been contaminated with moisture it is extremely difficult to restore. Vacuuming the resin for a long period of time may vaporize and pull the moisture out or a molecular sieve can be mixed in and allowed to react and settle to the bottom with some success.

The absolute best solution is to place caps and lids back onto the containers as soon as you are done measuring the material you need to pour and storing in an environmentally controlled space that contains low humidity.

10. Work Area & Clean Up

Mixed Alumilite resins & foams will absorb into porous materials and will stain! Avoid clothing, carpet, upholstery, and any other porous materials which will stain and will not come out. Resin casting is best done in a designated work area such as a basement, garage, or hobby room with adequate air movement or ventilation. Cover any surfaces including floors with plastic sheeting, cardboard, or plywood to prevent damage from spilled resin. To clean up unmixed or still liquid material, use rubbing alcohol on a rag or paper towel to quickly clean and remove. Once cured, the resin is extremely durable and chemical resistant and nearly impossible to remove. There are a couple solutions out in the market that claim to dissolve cured urethanes. If you are in need of such a material, please call us and we can refer you to some possible solutions.