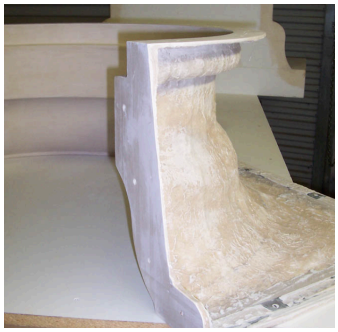

AQUA•RESIN®

AQUA-RESIN Frequently Asked Questions

Is Aqua-Resin clear?
No, it is opaque, except in thin layers, where it is translucent like a piece of paper.

Can I use Aqua-Resin in a silicone mold?
Yes, Aqua-Resin is ideal for use in silicone molds.

How long does Aqua-Resin take to cure?
The working time for a normal Aqua-Resin mix is approximately 40 minutes, the set time is around 50 minutes and de-mold time from a soft rubber mold around 90 minutes.

What is the difference between L/S3 and Putty W?
L/S3 is pourable, which makes it ideal for terrazzo and marbleizing. It is also brushable, which is recommended for coating foam and wetting out fiberglass. It is off-white in color.

Putty W is a replacement for polyester auto body filler. It is thicker than L/S3, tan in color, and is applied with a putty knife, for projects such as filling holes, repairing wood, and direct sculpting.

The average set time for L/S3 is about 50 minutes.

The average set time for Putty W is 5-10 minutes

Can Aqua-Resin be colored?
Yes, we have a line of color dispersions, Aqua-Color™, available in red, yellow, blue, black and white. Various other materials may be added to alter color and appearance including mineral aggregates, dry pigments, colored flock, metal powders, etc., but please make sure any of the powders are safe and non toxic before using. The use of acrylic paint and paint tinting colors for coloring Aqua-Resin is not recommended. Cured Aqua-Resin, can of course, also be painted; it accepts virtually all paints with no problems.

How can I figure out how much Aqua-Resin I will need for my project?
The generally recommended mix ratio for Aqua-Resin is 1 part L liquid to 2 parts S3 powder by volume, or 1 part L liquid to 3 parts S3 powder by weight. To calculate the total volume of your mixture using these proportions, simply double the volume of your L liquid. So, for example, combining 8.8lbs of L liquid (1 gallon) with 26.4lbs of S3 powder (2 gallons) would yield approximately 2 gallons of mixture. For more detailed notes on coverage, please see our **coverage sheet**.

Do I need to seal Aqua-Resin? What should I use?
Aqua-Resin does not need to be sealed, but there are times when we recommend it:
• when you want to eliminate the porosity of Aqua-Resin
• when you require a finish that a sealer can provide
• when your project will be in frequent contact with water
• when you require a safe finish for food contact (please see information on food safety below)

How can I make Aqua-Resin food safe?
While Aqua-Resin has not been specifically tested by the FDA for food contact safety, the followings coatings are compatible with Aqua-Resin:

1. Shellac
2. Pure Tung Oil
3. Food Grade Beeswax

4. Carnauba Wax
5. Food Grade Mineral Oil
6. Walnut Oil
7. Raw Linseed Oil
8. Paraffin Wax

Also, according to FDA regulations, the **typical clear wood finishes that dry to a hard film are considered food safe**. Wait to use the surface until the finish is completely dried, and clean it before allowing food contact.

Is Aqua-Resin safe to use in candle vessels?
Yes, Aqua-Resin is heat resistant and safe to use in the making of conventional candle vessels. The L/S3 combination has been tested for flame spread and received a Class A rating according to the National Fire Protection Association. Aqua-Resin can withstand the temperature of hot wax but, as with most materials, may burn with sustained, direct contact with a flame.

Do I need to wear gloves or a mask while using Aqua-Resin?
You need a mask only if there is excessive dusting; there are no harmful fumes. Gloves are suggested because Aqua-Resin is difficult to remove from skin. (Cured Aqua-Resin can be scrubbed off the skin with soap and water.) Aqua-Resin does contain a preservative which some people can become allergic to. It is the same preservative used in dish soap or shampoo, and in the same proportions.

Is Aqua-Resin suitable for exterior use?
Yes, but certain precautions and procedures must be adhered to. Please see our sheet on **exterior use**.

When solid casting Aqua-Resin, there are bubbles on the surface. How do I get rid of them?
Depending on application methods, brushing Aqua-Resin® generally produces no surface bubbles since the brushing action breaks any bubbles as they appear. But, solid casting into a mold can produce a significant

amount of bubbles. Generally, these bubbles are not desirable. Here are a few ways to eliminate them in casting. In all cases, pour your mix in just one spot to avoid catching air.

1) Mixing, by weight, to yield a slightly thicker mix: 1 part L to 3-1/2 parts S3 will provide a mix with significantly less bubbles.
2) Waiting 5 to 10 mins before pouring also produces a thicker mix with less bubbling.
3) Vibrating the mix will cause bubbles to rise to the surface and break. Vibration can be achieved by the use of a vibrating table or simply hitting the mixed container or the mold with a hard-surfaced tool or even with the side of your hand. Vibrating tables, or the instructions to make one, can be found on YouTube.
4) Using a surfactant, or a home-made debubblizer solution is perhaps one of the most effective ways of eliminating surface bubbles. However, surfactants can often cause some discoloration of the cast surface. If the piece can be painted this will not be an issue. Two brands of surfactant made for treating molds are Almore Debubblizer and Russman Debubblizer. Other products that can be adapted for this use are Kodak Photo-Flo and Windex Spray. A very effective debubblizer can be made by putting a few drops of liquid dish soap in 4 ounces of water. This needs to be sprayed on your molds lightly and immediately before pouring using a fine mist sprayer.

What happens if the L Liquid is allowed to freeze?
Generally nothing. The L Liquid can withstand multiple freeze/thaw cycles before it becomes unusable. We guarantee a minimum of five cycles. Regarding other Aqua-Resin products, none will suffer having been frozen. However, THX-6 and Aqua-Color once thawed should be re-stirred.

Is Aqua-Resin heavy?
Cured Aqua-Resin itself is a fairly dense and therefore a heavy material. But its density contributes substantially to its strength, so that parts made with it can be quite thin, typically no more than 1/8” wall thickness. At this wall thickness, rather light weight parts are produced, so one may say that Aqua-Resin is actually a light weight material.

Do I need to use a scale to measure the correct proportions for mixing Aqua-Resin?
Not usually, for most basic casting and laminating uses measuring by volume is fine. If you need to visually duplicate gel coat color on multiple pieces or ensure consistent thermal expansion for exterior temperature extremes then weighing is recommended.

Is power mixing necessary?
No, not necessarily. If you are doing non-critical work such as a mold jacket or a rough textured surface hand mixing is adequate. If you are formulating a gel coat or working in very thin layers, or need batch to batch consistency, then power mixing is recommended. The best mixing blade we have found for Aqua-Resin so far, is a spring-bowtie mixing blade, but in most circumstances any mixing blade works well.

What is the shelf life?
The shelf life for the Lxf Liquid Component when stored at room temperature is 2 years from date of manufacture. The S3 Powder Component when kept from moisture in a sealed container has proved to be stable and fully usable after many years.

What is the ASTM D-4236 designation I see on all your labels?
By law, all art materials sold in the U.S. must bear the phrase "conforms to ASTM D-4236," confirming that they have been properly labeled for any chronic health hazards, in accordance with the federal Labeling Hazardous Art Materials Act (LHAMA). Under LHAMA, all art materials must be evaluated by an independent toxicologist to determine if any chronic health hazards do exist in the product. All our products have been evaluated; none of our products pose a chronic health risk.

Why do you need fiberglass to reinforce Aqua-Resin? Do you always need it?
Aqua-Resin is what is referred to as a “composite” material, and as such is a combination of a high compressive strength matrix (the Aqua-Resin mix) and a high tensile strength fiber (fiberglass). This combination of two material types results in an extremely strong, rigid, yet light-weight material. An exception to this is when making small, hand held objects such as

coasters, ashtrays etc. which typically are 3/8” to 5/8” in thickness. At this small aspect ratio the use of fiberglass may not be necessary and in some cases may cause interference for instance with terrazzo chips.

Isn’t fiberglass dangerous?
Not the fiberglass used in our fiberglass products. This is a relatively large diameter fiber, which even when fractured, breaks into particles considered too large to enter deeply into the lungs where it might do some harm. However, in contrast, the fiberglass used in fiberglass insulation for home construction is a very fine filament glass. This type of fiberglass has a small enough diameter to enter deeply into the lungs and is therefore considered a possible carcinogen. None of the Aqua-Resin products contain this small diameter fiberglass.

Why do you suggest only Aqua-Resin brand of fiberglass products be used?
We suggest using our three fiberglass products, Aqua-Axial 2, Aqua-Veil and Aqua-Glass because conventional fiberglass such as fiberglass cloth, chopped strand mat and chopped fiberglass strands typically have a sizing on it that is only compatible with polyester resin, but will not dissolve in Aqua-Resin. The fact that this non-compatible sizing will not dissolve prevents full surface contact of the Aqua-Resin mix to the individual fiberglass filaments and therefore can result in less than optimal strength. This being said, if you do not require optimal strength, you can use conventional chopped strand mat or chopped fiberglass strand.

Why is your Aqua-Glass Cut Glass Fiber provided in such long cut lengths?
The two longer cuts, 3 ½-1” and 4 ½”, are intended as a principal reinforcing fiber in an Aqua-Resin laminate. We find that fiber lengths over 3” provide substantially stronger laminates. Because of correct binder compatibility with Aqua-Resin mixes and their unusually long fiber lengths, they produce exceptionally stronger parts than would conventional chopped strand mat for instance. The 3 ½-1” is used for laminates with tight curves and irregular geometry, while the 4 ½” is useful for rapid building of flatter areas or gentle curves.

Why are Aqua-Resin brand fiber glass products often more expensive than conventional fiberglass. Are they worth the extra money?
Yes, especially regarding the longer fiber lengths, 3 ½-1” and 4 ½”, If you look at the total cost of a finished part you will see that they save you money. At the total recommended 8-10% fiberglass content, the extra cost of our fiberglass would admittedly add to the finished part cost. But because of the extra strength gained, you will easily find that required thickness would approximately be cut in half if you are comparing what you would need using chopped strand mat. At half the thickness, the savings in total finished cost would be in proportion. You will have a lighter stronger less expensive part. Also, you will benefit from additional saving in labor fabricating a lighter part, as well as, savings on shipping, installations, etc.