



AeroMarine Products, Inc.
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AeroMarine Cycloaliphatic “Non Blushing” Clear Epoxy #300/21

AeroMarine Products 300/21 epoxy resin is a clear, low viscosity cycloaliphatic epoxy system is primarily used for laminating and coating. It contains no VOCs and is relatively moisture insensitive.

*Epoxy is NOT UV resistant—it yellows in sunlight. **

IMPORTANT: You must use the “Double Mix and Pour Method” with our 300/21 epoxy resin before applying it. See detailed instructions below. **NEVER mix the entire quantity of resin and hardener together at once! It will cure in your mixing container.**

****IF USING THE COLORED VERSION, YOU MUST TURN THE CONTAINER UPSIDE DOWN EVERY 7 DAYS TO MAINTAIN COLOR DISPERSION. SHAKE THE COLORED RESIN VIGOROUSLY FOR 2 MINUTES BEFORE USING!****

***300/21 epoxy resin stops curing at temperatures below 50F. If you bring the temperature above 50F, it will begin curing again. ***

Seven advantages of our 300/21 epoxy resin, a cycloaliphatic epoxy vs. conventional epoxy are:

- No amine blush
- Excellent penetrating characteristic
- Bonds well, strong and durable
- Excellent gloss and clarity
- Excellent chemical resistance
- Self-leveling
- No sanding between coats

Uses include:

- Laminating boats and aircraft using fiberglass, carbon fiber, or Kevlar cloth
- Building “stitch and glue” boats
- Potting electronic assemblies
- Potting specimens for measurement
- Coating wood and concrete
- Bonding wood, metal, concrete, and most plastics
- Flooring
- Pouring countertops, tabletops and bar tops

Specifications:

| | |
|------------------------|--|
| Mix Ratio: | 2 parts Resin to 1 part Hardener by volume or weight |
| Mixed viscosity: | 600cps |
| Color: | Clear |
| Work life: | 30 minutes@70F (using at least 8 oz. resin and 4 oz. hardener) |
| Cure time: | 24 hours@70F (using at least 8 oz. resin and 4 oz. hardener) |
| Shore D Hardness | 80-85 |
| Shear strength: | 2500 psi |
| Tensile Strength | 10,500 psi |
| Flexural strength: | 17,500 psi |
| Modulus of elasticity: | 5.7 x 10 ⁶ psi |

FOR INDUSTRIAL OR PROFESSIONAL USE ONLY



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Directions for use:

Double Mix and Pour Method: Mix 2 parts AeroMarine 300 Resin to 1 part AeroMarine 21 Hardener. Mix the two components together in a plastic container for 2 minutes, then transfer the mixture to another plastic container and mix them again for another 2 minutes. The theory is that the liquids clinging to the sides and bottom of the containers don't get mixed well. By transferring the mixture to another container, you are assured that everything is well mixed.

NEVER mix less than 4 ounces of resin and 2 ounces of hardener together—it will NOT cure! Also, this smaller quantity of mixed resin and hardener may take up to 4 times as long to cure (i.e. 96 hours instead of 24 hours to cure).

To avoid excess exotherm, mix small batches until you are familiar with using this material. If laminating with cloth, it is best to apply subsequent layers within 18 hours of each other.

Best practices when using epoxy resin

Never mix less than about 4 ounces of resin and 2 ounces of hardener. When manufacturers design and test their resins, they normally write the specifications for 100 gram batches, which is about 3 ounces. There are two bad things that can happen when mixing a smaller batch. If the sample is too small, it is much more difficult to get the mix ratio correct. These mixtures are exothermic, meaning that they generate heat in order to cure. A tiny batch does not generate enough heat to cure the resin properly.

Do not mix the entire amount of resin and hardener together at once. The larger the batch, the more exotherm or heat is generated in the cure cycle. If pouring a large table top, mix smaller batches to make the process more manageable. Thickness of the pour also affects the exotherm and cure speed. 3/8" is about the maximum thickness to pour at one time for most epoxies.

Don't vary the mix ratio. Varying the mix ratio usually results in a mess. Too much hardener will cause the epoxy to turn to rubber. Too much resin will result in uncured sticky patches.

Do NOT add more hardener in order to speed up the cure time. More hardener ruins the mix ratio and makes the resin cure to rubber and stay that way! Use either a heat gun (NOT a blow dryer) or a floor heater to hasten the cure time.

Mix and pour everything twice. Please see Double Mix and Pour instructions above.

Mix in plastic containers.

Avoid mixing with drill motors. Drill motors don't get into every corner of the mixing container. Drills spin too fast, they can generate friction in the resin causing it to exotherm out of control resulting in premature curing. Powered mixing can generate a lot of air bubbles which will result in a lot of extra work in the end.

Applying multiple coats. You can apply multiple coats of 300/21 epoxy if you wait about 12 hours (at 70F) between coats. See Priming Wood for Bartop or Tabletop Coating for more information.



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Coating. If using 300/21 epoxy for coating, please pour the mixed epoxy into a roller pan or large dish tub in order to extend the pot life.

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Storage- Epoxy resins tend to freeze even at fairly high temperatures, 70F. If allowed to freeze, “epoxy ice” can form in the container. It usually looks like swirls of white stuff suspended in the resin. It can be reconstituted by warming at 120F for a couple of hours. Using frozen epoxy can cause areas of uncured epoxy as the “epoxy ice” will defrost in the heat generated by the exotherm.

Polishing -You can buff out the AeroMarine 300/21 epoxy once it has cured for 7 days. You have 2 options for buffing/polishing the cured epoxy. 1. Use 2000 grit sandpaper (from an auto supply shop) and wet sand the epoxy. Or 2. You can wet sand the 300/21 epoxy and then use a plastic polish to buff it out.

Spraying- Do NOT Spray! Our epoxies are not made for spray applications.

Clean-up- We use aerosol carburetor cleaner to clean up spills and messes. We suggest using acetone, toluene, xylene, and lacquer thinner. *Avoid regular paint thinner (mineral spirits).* To clean hands, use a pumice hand cleaner available in often automotive supply stores.

Thinning- *Thinning* is not recommended for most applications. There are very few exceptions. The most acceptable use of a thinner is using epoxy to penetrate wood. In this case, no more than 10% is a good amount of thinner to use. Remember, thinners are flammable, so spread the epoxy promptly after thinning to keep the exothermic heat from building up. Use the same thinners listed in the Clean-up section above.

Test- Always make a test to determine the feasibility of your process. There are many unforeseen factors that can affect the outcome of your project. Running a controlled test may be inconvenient, but it can make the “Learning Curve” of processing these products much easier.

Priming Wood for Bartop or Tabletop Coating- There are many good reasons to apply a prime coat of epoxy to your wood before the flood coat. The primary reason is to seal the wood to prevent bubbles in the flood coat. If the wood is old or distressed, has voids in the grain, is laminated like butcher block, or if the edge treatment has a seam with a paper thin gap, then the epoxy will find those openings and slowly seep into them. The result is that after you remove all the bubbles with the heat gun, new bubbles will slowly form. ***Because there are so many types of wood in so many different conditions, always apply a prime coat first.*** To apply a prime coat, mix the hardener and resin together and apply a thin coat to the raw wood with a brush or roller. If there are no large voids and you only need to seal the wood grain, then you can rub on the mixed epoxy with a cloth. The key is to apply a thin coat that does not have enough depth to create bubbles, but is thick enough to fill and seal any gaps. After this coat cures (usually overnight), you can then apply a flood coat with much higher confidence that the only bubbles you will have are bubbles that were introduced during mixing.

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particular method of application. Many factors can affect the use and performance of seller's product. Given the variety of factors that can affect the use and performance of seller's product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the seller's product to determine whether it is fit for a particular purpose and is suitable for the user's method of application.

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