

Synthetic Resin and Aquariums

1. The Material and Its Advantages

Would you like to design your own background or scenery for your aquarium?

With epoxy resin, you can waterproof objects made of wood, Styrofoam, metal, filler, or plastic. It can also be used to bond glass panes.

Once cured, epoxy resin no longer releases any chemical substances and does not harm the animals or contaminate the water.



Epoxy resins can also be colored (see the application tip “How to Color Epoxy Resin Properly”) or cure to a crystal-clear finish. The surface becomes smooth and completely hard.

2. Our Recommendation

Our Epox4307 epoxy resin with Hardener 313 is a universal system for coatings, adhesives, and fillers; it is also ideal for impregnating glass, aramid, and carbon fibers. It exhibits excellent adhesion to wood, metal, concrete, polystyrene, and fiberglass-reinforced plastic (FRP). This epoxy resin has low viscosity and is free of solvents and fillers. It is characterized by good impregnation properties and excellent chemical resistance. Another advantage of our Epox4307/Hardener313 epoxy resin is its good light stability; it cures to a tack-free, clear finish. This resin-hardener combination exhibits very low yellowing and chalking.



3. The Preparations

The surface must be dry, clean, and free of grease! We therefore recommend sanding the surface and degreasing it with acetone.

Always let parts treated with acetone air dry for 2–3 hours.

For epoxy resins, the application temperature should be between 20 and 30°C, and should not be below 10°C. The relative humidity should not exceed 70%.

4. Notes

We recommend that you conduct preliminary tests to ensure suitability for your project!

Mix only small amounts of resin so as not to exceed the working time.

For Epox 4305 epoxy resin with hardener 313, the working time (at 20°C) is approximately 40 minutes.

Before submerging your component in water, it must be fully cured. Only then is it non-toxic.

For Epox 4307 epoxy resin with hardener 313, the curing time (at 20°C) is approximately 24–36 hours. To further improve its properties, you can heat-treat your component (tempering: 1 hour at room temperature, then 5 hours at 50°C, and finally 5 hours at 70°C). Be sure to check the temperature resistance of your base material before doing so.

5. Processing

The mixing ratio (100 parts resin to 50 parts hardener) must be strictly adhered to and can only be achieved by weighing the ingredients precisely.

When mixing, you can only achieve a homogeneous, bubble-free mixture by decanting (slowly pouring the mixture into a second container) and stirring vigorously but slowly and gently (Important: scrape the mixture off the sides of the mixing container).

Sie können Epoxidharz mit einem Pinsel oder einer Laminierwalze auftragen.

If you want to apply multiple coats, you should apply them while the previous coat is still tacky to avoid having to sand it down after curing. Spraying is also an option. Please note the working time of approximately 40 minutes.

The component must now cure for 24–36 hours before it can be used. (See 4. Notes)



6. Occupational Safety

When working with synthetic resins, you should always wear protective gloves, safety goggles, and a respirator. Follow the safety and hazard instructions in the safety data sheets.



**If you have any questions,
please don't hesitate to contact us.
Our team will be happy to assist you.
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Stand 06/2026