

Bubbles can appear in epoxy resin due to various reasons. Here are some common causes:

- 1. Mixing:** Improper mixing can introduce air bubbles into the epoxy resin. Agitating the resin and hardener vigorously or mixing too quickly can cause air to get trapped in the mixture. To minimize bubbles, mix the resin and hardener slowly and gently, scraping the sides and bottom of the mixing container thoroughly. Stirring in a circular motion can also help reduce the introduction of air.
- 2. Pouring:** Pouring the epoxy resin too quickly or from a height can create turbulence and result in bubbles. When pouring, try to pour the resin slowly and close to the surface to minimize agitation. Pouring along the side of the container or using a pouring tool with a narrow spout can also help reduce the chance of bubble formation.
- 3. Ambient conditions:** Temperature and humidity can affect the behaviour of epoxy resin and the formation of bubbles. Higher temperatures and humidity levels can accelerate the curing process, causing the resin to trap air more easily. Try to work in a temperature-controlled environment and avoid pouring resin in high humidity conditions, as they can contribute to the formation of bubbles.
- 4. Exhaling or blowing on the surface:** When trying to remove bubbles, blowing on the resin surface or exhaling directly onto it can introduce moisture and more air into the resin. This can create additional bubbles instead of eliminating them. Instead, consider using a heat gun, a torch, or a straw to gently remove bubbles by passing heat or creating airflow over the surface.
- 5. Porous or uneven surfaces:** If you're working on a porous or uneven surface, air can become trapped within the substrate and migrate into the resin during the curing process, resulting in bubbles. To prevent this, make sure the surface is properly sealed, smooth, and free from any debris or contaminants.
- 6. Additives:** Certain additives like pigments, dyes, or glitters can contribute to bubble formation if they are not properly incorporated into the resin. To minimize bubbles caused by additives, mix them thoroughly with the resin before pouring and avoid using additives that are prone to air entrapment.
- 7. Curing under pressure:** If epoxy resin is cured under pressure, such as in a vacuum or pressure chamber, bubbles can form due to the release of dissolved gases. While these methods are often used for specific purposes, they can introduce bubbles if not done correctly.

To reduce the occurrence of bubbles, take your time during the mixing and pouring process, work in suitable environmental conditions, use proper techniques for bubble removal, and ensure the surfaces and additives are prepared appropriately. Experimentation and practice will help you develop the skills to achieve bubble-free epoxy resin projects.