

Polycraft

ECR80



Low Viscosity, UV Resistance Slow Curing Clear Epoxy Resin

Revision Date: 18/11/24

100 : 50	21.5 Hrs	48-72 Hrs	Water Clear	80D	 15-20°C	1.13kg in weight equals approx. 1 litre in volume
Mix Ratio By Volume	Pot Life (500g @ 20°C)	Demould Time	Cured Colour	Hardness	Working Temperature	Density

Overview

Polycraft ECR 80 is a colourless, bio-based epoxy resin designed for a variety of applications, including decorative objects, jewellery, river tables, resin/wood hybrid castings for woodturning, and prototyping. This resin is known for its durability, providing excellent resistance to impact and thermal shock, as well as decent UV resistance. It also features an easy-to-use mixing ratio. One key advantage of Polycraft ECR 80 is that it generates a low exotherm when curing, making it suitable for deep castings while curing at room temperature. This resin has a 37% bio based origin, derived from organic plant-based materials. Manufactured to resist scratching and resistance to marking from heat sources, this resin may still mark if sharp items are moved across the surface or hot items are placed on the surface. As with all casting products, we stress that customers should perform initial tests to ensure suitability for their project and requirements.

Mixing

All mixing and curing should ideally be done at room temperature. Ensure that you weigh the correct amounts of resin and hardener into a mixing container and mix the contents thoroughly. Initially, the mixture will appear hazy, but clarity will return quickly with mixing. Mix well and scrape the sides of the container until no visible streaks remain. Then, transfer the material into a fresh mixing container and mix again. This step will greatly reduce the chances of encountering unmixed streaks in the casting.

Potlife / Casting Depth

****Warning:**** The potlife and other properties in this datasheet are based on standard testing conditions. Mixing larger amounts of the product than specified may shorten the potlife. Conditions like temperature, room environment, and direct sunlight can affect the potlife and curing time. When casting into insulating materials, you may need to reduce the thickness, as insulation can cause the resin to overheat. ****** For large pours, keep your working environment between 15°C and 20°C, and consider using additional cooling. Large amounts of resin can easily overheat and crack, especially when pouring into materials like wood ******. We recommend doing initial tests to make sure the product fits your project needs before moving on to full production.

Crystallisation

Crystallisation occurs when there is a phase change from liquid to solid, such as when water freezes into ice. When this happens with epoxy resin, it can appear cloudy and may look slushy or become solid in extreme cases. This crystallisation can easily be reversed by warming the epoxy component to 60°C. Be sure to completely remove any crystals, as remaining crystals can act as seeds, causing the formation of new crystals to happen quickly. To help prevent crystallisation, it is recommended to store the resin system at room temperature whenever possible. Additionally, clean the lids after each use and wipe the necks of the containers with isopropyl alcohol or acetone, allowing the solvent to evaporate before replacing the lids.

Material	Resin Hardener	Epoxy Polyamine
Colour	Resin Hardener	Clear Clear
Viscosity	Resin Hardener Mixed	850 ± 170 125 ± 20 360 ± 10
Density @25°C (g/cm ³)	Resin Hardener Mixed	1.17 ± 0.05 0.97 ± 0.05 1.13 ± 0.05
Mix Ratio	By Weight	100: Resin 42: Hardener
Mix Ratio	By Volume	100: Resin 50: Hardener
Potlife (200g @25°C)	Hours	21.5
Recommended Casting Dept**	mm	5 - 80

Hardness	Shore D	80
Tensile Strength	MPa	11.5
Elongation at break	%	50
Tensile Modulus	MPa	620
Flexural Strength	MPa	20
Flexural Modulus	MPa	780
Glass Transition Temp (Tg)	Celsius	45

Storage / Shelflife

Polycraft ECR80 should be kept in dark storage between 18°C and 25°C. Under these conditions, shelf-life in the original unopened containers is six months from the date of purchase. If stored at lower temperatures for prolonged periods the epoxy component may crystallise.

Health & Safety

Before use please read product labels, technical sheets and safety data sheets and ensure you have adequate understanding of the safety precautions and directions before using the materials.