



Polycraft ECR 80 (Bio)

Low Viscosity, UV Resistant Slow Curing Clear Epoxy

100:42 Resin:Hardener	21.5 Hours	48-72 Hrs	Clear	D80	 15-20°C	1.13kg by weight equals approx. 1 litre in volume
Mix Ratio By Weight	Pot Life (500g @20°C)	Cure Time (200g@ 25°C)	Cured Colour	Hardness	Working Temperature	Density

Technical Overview

Property	Component	Value
Material	Resin Hardener	Epoxy Polyamine
Colour	A B	Clear Clear
Viscosity (mPas) @20°C	Resin Hardener Mixed	850 ± 170 125 ± 20 360
Density @ 20°C g/cm3	Resin Hardener Mixed	1.17 0.97 1.13
Mix Ratio	By Weight	100: Resin 42: Hardener
Mix Ratio	By Volume	100: Resin 50: Hardener
Pot Life (200g at 20°C)	Hours	21.5
Cure Temp Range (Resin Mass / Casting Depth Dependant)	Celsius	15 - 20
Recommended Casting Depth	mm	5 - 80

Property	Unit	Value
Hardness	Shore D	80 ± 5
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 / Shelf-life

Polycraft ECR 80 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. Please see page 2 for further information regarding crystallisation

Product Overview

Polycraft ECR 80 is a colourless bio based epoxy resin designed for a variety of uses such as Decorative Objects, Jewellery, River Tables, Wood/Resin hybrid castings for wood turning, Prototyping etc. Polycraft ECR 80 is hard wearing with excellent impact and thermal shock resistance, Good UV resistance and an easy to use mix ratio. Polycraft ECR 80 generates low heat during cure which allows for deep castings while curing at room temperatures. Polycraft ECR 80 takes advantage of the latest in bio chemistry owing 40% of its molecular structure to organic plant based origins.

Important information regarding usage for bar tops, counter tops

While this resin has been manufactured to resist scratching and resistance to marking from heat sources we must stress this resin will still mark if sharp items are moved across the surface or hot items are placed on the surface. It is essential that place mats are used for any hot items that are being placed on the surface. Over time it is inevitable that scratches will appear on the surface and while small marks may be removed using polishing compounds, deep scratches will be difficult to repair. We are aware that many of our customers use this resin for creating kitchen worktops however we advise caution when using for this purpose due to the range of hot and sharp items that will be placed on the surface

Important information on Resin Mass / Casting Depth

Where mould or casting is insulating, casting thickness will likely need to be reduced as insulative properties may lead to overheating of the resin system, For large pours its vital your working environment is between 15°C and 20°C with consideration for ways to provide additional cooling as large masses of resin can easily overheat and fracture, this can be particularly apparent when casting into insulative materials such are wood. We therefore advise testing and we stress that customers perform initial tests to ensure suitability for their project and requirements prior to up-scaling to full project.

Instructions for Use

Preparation

- Both components should be in the correct temperature range (18-20°C) for the best results. Substrate or mould should be within this range also.
- Ensure surface or mould is clean and free of any contaminants

Mix/Pour


- With care measure and combine quantities required. Measuring quantities with accurate calibrated mixing containers
- Ensure to thoroughly mix contents, material will initially become hazy when both parts are combined, clarity will return quickly with mixing. Mixing well and scraping the sides of the mixing container until no visible streaks are showing and then transfer material into a fresh mixing container and mix again, this will greatly reduce the chances of unmixed streaks in the work piece.
- Once thoroughly mixed the material can be used for your particular application.

Technical Advice provided by MB Fibreglass - Either verbal, in writing or by way of trials - is given in good faith but without warranty, where proprietary rights of third parties are involved this applies also. This does not release you from the obligation to test the products supplied by us to ascertain their suitability for the intended processes and uses. The application, use, handling and processing of the products are outside of our control and therefore entirely your own responsibility.

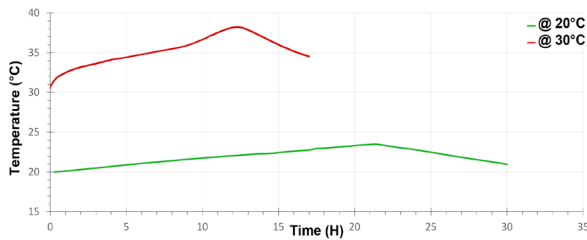


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Potlife Analysis



Health and 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.

Potlife Analysis (continued)

Polycraft ECR 80 is designed for use at room temperature, lower temperatures will ultimately result in a slower cure. The material should ideally be used at temperatures between 20°C to 25°C when possible for best results. As per graph to the left, results showing the reactivity based on a 500g sample at 20°C and 30°C

Crystallisation

Crystallisation occurs due to a phase change from liquid or solid (like water turning to ice), When this does happen the epoxy will appear milky, and can look slushy or become a solid in extreme cases. This can be easily reversed by warming the epoxy component to 60°C. Ensure any crystals are completely removed as remaining crystals can act as a seed causing the crystals to form again quite quickly. To help prevent crystallisation it is recommended to store the resin system at a room temperature where possible, ensure to clean the lids with each use, cleaning the bottle necks of the container with isopropyl alcohol / acetone allowing the solvent to evaporate before replacing the lid. Please note this can occur during transport especially when it's cold so it's worth inspecting during opening. High purity, low viscosities epoxies can be quite sensitive to crystallisation, whilst it doesn't always occur it isn't totally uncommon. It is not advised to use the system in a semi crystallised state as this will show in the cured product.

Information on Potlife and Curing Time's

Warning: The potlife and other properties provided on this datasheet are based on common bench test parameters. Mixing larger masses of product than stated on the datasheet will likely lead to a reduced potlife. Variables such as environment, room, material temperatures and direct sunlight will affect the potlife and cure time. Where mould or casting is insulating, casting thickness will likely need to be reduced as insulative properties may also lead to overheating of the resin system. For large pours its vital your working environment is between 15°C and 20°C with consideration to providing additional cooling as large masses of resin can easily overheat and fracture, this can be particularly apparent when casting into insulative materials such are wood. We advise testing and stress that customers perform initial tests to ensure suitability for their project and requirements prior to up-scaling to full project.