

TECHNICAL DATA SHEET

Bio Casting Epoxy Resin

Bio Casting Epoxy Resin is a solvent free, water clear, low viscosity resin system for casting, embedding and resin river table applications. This resin is optimised for clarity and air release to create crystal clear casting, in varying sizes, for hobby and art applications. The Fast Hardener is recommended for smaller, fast turnaround casting up to 20mm in thickness, whilst the Slow Hardener is suitable for larger applications up to 50mm in thickness, where a longer working time is required. **Depending on size of pour this may vary. Both systems offer excellent UV stability.**

This bio-resin is a plant based formula which utilises renewable resources and reduces the levels of volatile organic compounds (VOC's) into the atmosphere.

Mix Ratio

43 parts hardener to 100 parts resin by weight

50 part hardener to 100 part resin by volume

Note: Care should be taken when dispensing and mixing. Do not attempt to control the cure time by altering the hardener ratio. Please note that the room temperature will affect cure characteristics.

Uncured Properties	Bio Casting Epoxy: Part A	Fast Hardener: Part B	Slow Hardener: Part B
Physical State	Clear Liquid	Colourless Liquid	Colourless Liquid
Viscosity mPas @ 25°C	244	1702	80
Specific Gravity g/ml @ 25°C	1.11	1.02	0.98

Cure Characteristics	Fast Hardener: Part B	Slow Hardener: Part B
Pot Life - 100g @ 25°C (in air)	48 minutes	800 - 900 minutes
Recommended temperature*	15-30°C	15-30°C
Cured to Solid State @ 25°C	24 hours	72 hours
Cured to maximum strength @ 25°C	7 days	7 days
Mix Viscosity mPas @ 25°C	290	185
Shore 'D' Hardness @ 25°C	80	75
Glass transition temperature (24hrs @ ambient + 16hrs @ 40°C)	40°C	35°C

*At lower temperatures the resin will be thicker making it harder to mix and less able to release air bubbles during cure. The resin will also take longer to cure. In temperatures 15-20°C a heat will be necessary to remove air bubbles. Use below 15°C is not recommended.

Application

Use two clean plastic containers of equal volume to measure the correct proportion of resin and hardener. Pour the contents of both into a larger container and stir the two ingredients thoroughly, for at least 3 minutes –longer in cooler temperatures. Tip the mixed resin and hardener into a second large container and thoroughly mix again for a further 1-2 minutes. Take care to stir the material slowly, so air entrapment is kept to a minimum.

Air bubble release is greatly enhanced by the use of a small heat gun or mini gas torch. Hold the torch approximately 100 to 150mm off the surface and **keep moving the flame across the surface**. Heat can be applied as many times as needed in the 30 minute working time. Inspect and remove any lint with tweezers. Bio Casting Epoxy should be cured in a warm 25°C, dust free area.

Clean Up

Clean the equipment with Acetone or Isopropyl Alcohol, which can be purchased from Adelaide Moulding & Candle Supplies. Follow safety warnings on solvents, and provide adequate ventilation. Clean epoxy hardener residue with warm soapy water.

DO NOT dispose of resin or hardener in a liquid state. Waste resin and hardener can be mixed and cured (in small quantities) to a non-hazardous inert solid.

Storage

Bio Casting Epoxy Resin and Hardeners will keep for 2 years if kept in original containers at room temperature (15°C to 32°C) out of direct sunlight. Containers should be tightly sealed to prevent moisture absorption and add a Dry-Air Blanke for protection.

Health and Safety

Please refer to the Safety Data Sheets for Bio Casting Epoxy Resin and Hardeners. Both products have moderate sensitising potential and should be kept out of the eyes and off the skin.

- Use with good ventilation and adequate safety equipment, including impervious gloves and safety glasses.
- If skin contact occurs, remove contaminated clothing immediately, and wash the affected area thoroughly with water, avoiding the use of solvents except in the case of massive contamination.
- If eye contact occurs, immediately flush with running water for at least 15 (fifteen) minutes and seek medical advice.
- Do not eat, drink or smoke when using this product.
- If swallowed:

Resin - DO NOT induce vomiting and contact a doctor or the Poisons Information Centre.

Hardeners - DO NOT induce vomiting, give plenty of milk or water and contact a doctor or the Poisons Information Centre.

All technical data, recommendations and service are accurate to the best of our knowledge. Adelaide Moulding and Candle Supplies assumes no responsibility for the results obtained or damage incurred from use by the buyer in whole or in part since method of application and its use is beyond our control.