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TDS
TECHNICAL DATA SHEET

SnowWhite

DESCRIPTION

SnowWhite is a highly pigmented, vivid white, two-component epoxy system developed for large casting applications, such as river tables or large furniture pieces. The high opacity, pure white color beautifully contrasts wood grain in live edge projects and allows the reclaimed wood to shine.

SnowWhite consists of fillers and extra-white pigments suspended in epoxy resin allowing for a uniform and incredibly vivid white finish. It has been specially formulated to have excellent air release, and a low exothermic heat buildup to allow for easy casting while preventing stress cracking. Compatibility of the cured system with a variety of finishing methods and products ensures that desired custom finishes can be achieved.

EcoPoxy is committed to creating 100% solids epoxy systems made with high bio-based carbon content materials that deliver exceptional results.

KEY FEATURES

- Significant bio-based carbon content
- Ready to use
- Cures to a high opacity vibrant white
- Excellent air release
- Easy to mix and pour
- Resists warping and cracking
- Compatible with most finishing methods and substrates
- Low odor
- Resists crystallization

PRODUCT TECHNICAL DATA

PHYSICAL PROPERTIES

The table below summarizes physical properties of liquid SnowWhite such as appearance, bio-based carbon content, and specific gravity.

PHYSICAL PROPERTIES (LIQUID)		
Appearance: Part A	Visual observation	Opaque solid white liquid
Appearance: Part B	Visual observation	Clear and colorless liquid
System Bio-based Carbon Content	ASTM D6866	18%
Specific Gravity: Part A at 22°C	ASTM D1475	1.505
Specific Gravity: Part B at 22°C	ASTM D1475	0.978

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MIXING

SnowWhite is formulated to have a 2:1 resin to hardener mix ratio by volume. Deviation from the mix ratio can result in lower mechanical properties or incomplete cure.

MIXING	
Mix ratio by volume	2:1
Mix ratio by mass	3.1:1
Recommended Casting Thickness	0.5” to 1.5”

VISCOSITY

Viscosity indicates the material’s resistance to flow. Viscosity measurements of resin systems vary during the curing process, first decreasing as the mixture heats up, then increasing as the mixture approaches gelation. Reported initial mixed viscosity can be dependent on the temperature of the resin components, the temperature of the environment, and the ability of the mold to release heat.

VISCOSITY		
Viscosity: Part A at 22°C	ASTM D2196	10,700 cP
Viscosity: Part B at 22°C	ASTM D2196	110 cP
Initial Mixed Viscosity at 22°C	ASTM D2196	1,100 cP

REACTIVITY

SnowWhite is a thermosetting resin and will generate heat as it cures. **Reactivity level** is a qualitative indicator of the rate of reaction and temperature of the resin system’s cure. **Peak exotherm** is the maximum temperature observed during cure. This can be affected by factors such as casting volume and geometry, the temperature of resin and hardener, ambient conditions, and the ability of the mold to release heat

REACTIVITY	
Reactivity Level	Low - Moderate
Peak Exotherm Temperature (1.5 kg casting)	99°C (211°F)

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PROCESSING CHARACTERISTICS

Working time is the time during which the resin has been poured but is not yet gelled. It can still be worked with and will produce a good quality casting. In practice, this means that the resin can still be manipulated and will quickly self level.

Tacky to touch is the period where a second pour can be done without the need to abrade the surface of the first layer for adhesion. During this period, the project will need to be protected from contaminants that can adhere to the surface. To determine tacky to touch, wear gloves and lightly touch the surface of the casting. No resin will stick to the glove's surface, but tackiness between the glove and surface will be apparent. The onset of tacky to touch has not been reached if the surface significantly deforms in this process.

Set to touch is the point in time immediately after the tacky to touch period, where the surface of the casting is tack-free. Determine if set to touch has been reached using the same method as tacky to touch. There is no observable tackiness between the glove and the surface.

Demolding time is the point in time at which the casting has cured sufficiently such that it can be carefully removed from the mold without causing damage to the epoxy. Castings can be demolded when a wedge can be inserted under one corner of the casting with no observable deformation or bending. Although the casting is solid, it is not fully cured, and it may sag under its own weight. The casting should be supported until it reaches a fully cured state.

Full cure is the point in time when the casting achieves full mechanical properties.

The table below shows Working Time, Tacky to Touch, Set to Touch, Demolding Time and Full Cure for a 72"x 8" casting poured to the maximum recommended depth of 1.5". Ambient temperature was 22°C, with 23% RH. This casting size (~16L) is meant to represent the typical dimensions of the epoxy portion of a river table project. Processing characteristics will vary depending on factors such as resin volume, casting geometry, ambient conditions, and mold materials.

PROCESSING CHARACTERISTICS	
Working Time Limit	7 hours
Tacky to Touch Period	15 - 22 hours
Set to Touch	22 hours
Demolding Time	2 days
Full Cure	3 days

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CURED RESIN PROPERTIES

Density is a measure of the degree of compactness of a substance. It is expressed as a mass per unit of volume.

Tensile Strength, **Tensile Modulus** and **Elongation at Break** are properties of the cured resin when subjected to a tensile or pulling force. Expressed as a force per unit area, **Tensile Modulus** is the resin's resistance to deformation (or elongation) when pulled. For a given applied force, a higher modulus material will stretch less relative to a lower modulus material. The maximum force per unit area tolerated by the cured resin is **Tensile Strength**, and the **Elongation at Break** is the percent increase in length relative to the original length at the time the test specimen fails.

Flexural Strength and **Flexural Modulus** are properties of the cured resin when subjected to a bending force. **Flexural Modulus** refers to the cured resin's resistance to bending when a force is applied. For a given applied force, a higher modulus material will bend less relative to a lower modulus material. **Flexural Strength** is the maximum force per unit area tolerated by the cured resin.

Compressive Strength is the maximum compressive force per unit area tolerated by the cured resin system.

Notched Impact Strength is the impact energy per unit area required to cleave a notched test specimen. **Notched Impact Resistance** is the impact energy per unit length required to cleave a notched test specimen of a normalized width. Parts made of resins with high impact properties show increased toughness relative to resins with lower impact properties.

Shore D Hardness is a measure of the cured resin's resistance to deformation via indentation. Resins with a higher hardness will be more resistant to scratches.

Glass Transition Temperature is the temperature at which the cured resin changes from a rigid, glassy material to a soft, non-melted material. Above the glass transition temperature, the resin may permanently deform when force is applied.

Cured resin properties were obtained for a 3mm thick cast panel, cured for 16h at 75°C. Tests were performed according to applicable ASTM standards. These are typical values and are provided for reference only.

CURED RESIN PROPERTIES		
Density g/cm^3 (lbs/in^3)	Theoretical	1.376 (0.049)
Tensile Strength MPa (ksi)	ASTM D638	TBD
Tensile Modulus GPa (ksi)	ASTM D638	TBD
Elongation at Break (%)	ASTM D638	TBD
Flexural Strength MPa (ksi)	ASTM D790	TBD
Flexural Modulus GPa (ksi)	ASTM D790	TBD
Compressive Strength MPa (ksi)	ASTM D695	TBD
Notched Impact Strength kJ/m^2 (ft-lb/in^2)	ASTM D256	TBD
Notched Impact Resistance J/m (ft-lb/in)	ASTM D256	TBD
Shore D Hardness	ASTM D2240	80
Glass Transition Temperature (Tg) by DSC °C (°F)	ASTM E1356	39 (102)

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STORAGE

Store in a cool, dry, well-ventilated location out of direct sunlight. Protect from freezing and physical damage. Do not store in a location subject to frequent temperature changes as the product may crystallize. Use product as soon as possible after opening. If storing remainder of product for another project, keep container tightly closed.

STORAGE	
Ideal working temperature	22°C (72°F)
Recommended working temperature	20 - 25°C (68 - 77°F)
Recommended storage temperature	15 - 25°C (59 - 77°F)
Shelf Life	2 years; unopened

SAFETY

Consult Safety Data Sheet (SDS) before use. Wear protective gloves, clothing and eye/face protection. Use only in well ventilated areas. Avoid contact with the skin and eyes. Take off contaminated clothing and wash before reuse. Keep containers tightly sealed when not in use. Avoid breathing dust, vapors and fumes. Wash hands thoroughly after handling. During post-finishing wear proper PPE and avoid dust. When fully cured, SnowWhite is an inert plastic.