Product Datasheet

Epoxiseal™ PRO ART

CLEAR, TOUGH, UV RESISTANT COATING AND SEALANT

Epoxiseal™ ART PRO is a 100% solids high performance epoxy system that provides a tough, transparent coating, sealant or adhesive when cured. It is ideally suited for epoxy art pieces, lacing, table tops, dirty pours, and small potting & optical castings. It cures to a clear, glass like finish that resists scratching and yellowing. The system demonstrates exceptional anti-blushing properties and improved UV stability compared to other epoxy systems, it is also designed not to warp or distort with age.

Custom colored or tinted version of this system and non-running/non-sagging versions of this product are available on request. Faster setting versions are also available. Please contact us to discuss your application if a modified version might be of interest.

TYPICAL APPLICATIONS

- Bonding of optical components
- Potting & Casting of small water clear parts
- Coating and sealing wood, metals and other materials with an epoxy clear coat.

HANDLING PROPERTIES	VALUE	TEST METHOD
Epoxiseal PRO ART Part A		
Density, g/cm³	1.17	ASTM E-201
Viscosity at 25ºC, cps	9,000	ASTM D-2393
Epoxiseal PRO ART Part B		
Density, g/cm³	0.99	ASTM E-201
Viscosity at 25ºC, cps	1,700	ASTM D-2393
Mixed Properties		
Mix Ratio By Weight	100A:84B	Calculated
Mix Ratio By Volume	100A:100B	Calculated
Mixed Viscosity @ 25ºC, cps	3,200	ASTM D-2393
Gel Time at 25ºC, 150g mass	60 minutes	ASTM D-2471
Gel Time at 25ºC, 1/16" thick film	7682 minutes	ASTM D-2471
Time to achieve Handling Strength	minutes	
Lap Shear Strength Development @ 25C		ASTM D-1002

Cure time	Shear Strength@ 25C
30 minutes	800 psi
60 minutes	1270 psi
4 hours	1840 psi
8 hours	2120 psi
16 hours	2420 psi
24 hours	2540 psi

Recommended Cure Schedule: Functional cures are achieved in as little as 60 minutes and full strength is developed within 24 hours @ 25ºC. Optimum Properties are developed with a 24 hour room temperature cure followed by a 30 minute cure at 80C (176F)

PHYSICAL PROPERTIES	VALUE	TEST METHOD
Color	Clear	Visual
Shore D Hardness	82	ASTM D-2240
Cured Density	1.11 g/ml	ASTM D-792
Volumetric Shrinkage	3.1%	ASTM D-792/ASTM D-1475
Izod Impact, Notched, ft-lb./in	0.71	ASTM D-256
Tensile Strength, psi	5,400	ASTM D-638
Tensile Elongation at break	5.8%	ASTM D-638
Compressive Strength, psi	8,100	ASTM D-695
Flexural Strength, psi	8,350	ASTM D-790
Flexural Modulus, psi	242,000	ASTM D-790
Heat Deflection Temp. (HDT)	110ºF (43.3ºC)	ASTM D-648
Glass Transition Temp. (Tg)	118ºF (47.8ºC)	ASTM D-648

NOTE : Typical Properties determined using Epoxiseal™ ART PRO cured for 7 days at 25ºC. All testing is run at 25ºC unless otherwise noted. Values based on laboratory or average production results – not for specification purposes.

SUGGESTED PROCESSING GUIDELINES

For best results maintain the workspace at 70ºF – 85ºF. Epoxies are temperature sensitive materials. When cool they become thicker and set slower and when warm they become thinner and set quicker. Temperatures below 70ºF may make it more difficult to for the Epoxiseal™ ART PRO to flow, release air bubbles, and self-level. Temperature above 85ºF, especially if combined with larger mixed masses bay cause the epoxy to set too quickly or too become too hot which could cause it to yellow, distort or even crack.

Weigh or measure out volumetrically the Part A and Part B in the recommended ratios as accurately as possible into a clean mixing container. Always use weighing equipment or volumetric ratio equipment having accuracy in proportion to the amounts being weighted. Blend by using a spatula or stirring stick for 1-2 minutes using a kneading motion. Scrape the bottom and sides of the mixing container carefully and frequently to produce a uniform mixture. For best results transfer to a second container and mix again for 1-2 minutes, this double cup method helps to eliminate incompletely mix material on the bottom and sides of the container. After mixing allow the mixture to sit for 1-2 minutes to allow the air bubbles to rise to the surface, then use immediately. If the mixture starts to get warm, the reaction is starting, and it needs to be poured on the surface to be coated or into the parts immediately.

Apply only to clean, dry surfaces that are free of dust and contamination such as oils, sap, lint, moisture, etc. For best adhesion, abrade the surface with a wire brush, scouring pad, steel wool or coarse sand paper. After abrasion, clean the surface of any loose material and degrease with an oil free solvent such as denatured alcohol or with detergent to remove any contaminants. Ensure any paints to fully dry before overcoating with epoxy and do small scale compatibility testing if unsure about compatibility of the paint and the Epoxiseal. Once the surface is clean and full dry, the Epoxiseal may then be applied with any suitable application method include direct pours, brushes, spatulas, trowels, rollers, etc.

For bonding applications and sealing applications, the optimal bond strengths are typically achieved with an adhesive bond-line thickness of 2-3 mils, but larger gaps and thicker bond-lines are possible with the Epoxiseal without major loss of mechanical strength.

CAUTION EXOTHERMIC REACTION:
Mixed epoxies generate heat, and the more material that is mixed, the hotter it can become, especially if kept in a compact mass. The mixed material should be used quickly after mixing and immediately if it starts to get warm. In generally, only mix what you are ready to use. NEVER leave mixed epoxy in your mixing bucket unattended as this could become very hot and pose a danger. The longer the mixed epoxy sits in your mixing container, the sooner it will begin to generate excess heat, set up, and may begin to smoke and then cure quickly inside the bucket.

COATING COVERAGE: Coverage can depend on any number of factors, most notably coating thickness, porosity of the surface and waste, but a 1-gallon kit (½ gallon resin and ½ gallon hardener) should cover about 12 square feet in 1/8" thick coat, or 24 square feet at 1/16" thick. One thin seal coat followed by one flood coat is typical for application on bare wood. One ounce of mixed material should cover about 54 square inches in a 1/32" thick application. In general, do not apply Epoxiseal PRO ART thicker than 1/8" - 1/4" per coat for large area coating.

SEALING WOOD & OTHER POROUS MATERIALS:
When working with wood and other porous surfaces like foams it is highly recommended to apply a thin seal coat before applying a thicker finish coat. Start with a prepped surface that is clean, dry and free of contamination. Next, apply a thin coat of mixed Epoxiseal. Knots or indentations may take more material to seal. Take care to cover and seal any voids or cracks present. Allow the seal coat to cure to a hard solid and sand with 80-120 grit paper, paying special attention to imperfections such as air bubbles. When done sanding, wipe clean with denatured alcohol and a clean cotton rag. The purpose of a seal coat is to minimize the effects of off-gassing from the surface and drainage into the pores by creating a thin air-tight barrier between a porous surface and thicker Epoxiseal finish coats. This helps to ensure that air bubbles won't percolate up through the curing epoxy creating defects.

PACKAGING AVAILABLE

This product is available in a wide range of kits including pints, quarts, and gallons. It can also be supplied in 50ml, 200ml, and 400ml dual syringe cartridges that eliminate the need for hand mixing.

Please call use with any special packaging requests, or for information on custom kitting.

STORAGE GUIDELINES

Store this material in a clean, cool and dry environment in its tightly closed original containers. Store at 59ºF - 95ºF (15ºC - 35ºC) and tightly re-seal after use. If the recommended storage conditions are observed the products will have a minimum shelf-life of 24 months from the date of shipment. If exposed to cold the resin or hardener may crystallize becoming cloudy and grainy or even semi-solid. If this occurs heat the entire container to 140ºF - 150ºF for 2-4

hours. Allow to cool to room temperature and stir or shake the container to ensure it is thoroughly mixed prior to use. This will ensure it is returned to its originally condition.

HANDLING PRECAUTIONS

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

FIRST AID

In case of contact:
Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.
Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.
Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.
Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential or indirect damages for alleged negligence, breach of warranty, strict liability, tort or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

Specialty Polymers & Services, Inc. (SP&S)
27822 Fremont Court **Tel: 661-294-1790**
Valencia, CA 91355 **Fax: 661-294-0640**
www.spolymers.com **info@spolymers.com**