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**TECHNICAL DATA SHEET**  
**SB-112**  
**SURF & SAILBOARD**  
**LAMINATING RESIN**

**DESCRIPTION:**

SB-112 epoxy is a clear, almost water-white high-modulus epoxy resin system especially formulated for use in building surf and sail boards over polystyrene cores. Unlike many epoxy resin systems it cures to a glossy, blush free surface. **It is unique in that polyester resins and gel coats may be bonded directly to it without using "tie coats".**

**RESIN PROPERTIES:**

Viscosity @ 77° F . . . . . 550 cps  
Density . . . . . .9.3 lb/gal  
Color . . . . . Clear

**HARDENER PROPERTIES:**

Viscosity @ 77° F . . . . . 350 cps  
Density . . . . . .8.49 lb/gal  
Color . . . . . Clear

**MIXED SYSTEM PROPERTIES:**

Mix ratio by weight resin/hardener . . . . . 100/44  
Mix ratio by volume resin/hardener . . . . . 100/50  
Working time @ 70° F . . . . . 37minutes  
Minimum use temperature . . . . . 60° F

**TYPICAL CURED PROPERTIES:**

Full cure @ 25° C . . . . . 7 days  
Hardness ,Shore D . . . . . 82  
Tensile Strength, psi . . . . . 7,800  
Tensile Elongation at break. . . . . 8%  
Flexural Strength, psi . . . . . 12,000  
Flexural Modulus, psi . . . . . 375,000  
Heat Deflection Temperature (°F). . . . . 127  
Compressive Strength, psi  
    at Yield . . . . . 13,000  
    at Failure . . . . . 26,000

For health and safety information concerning this product, please refer to the MSDS sheets for SB-112.

The information contained herein is based on the data available to us and is believed to be correct. However, System Three Resins, Inc. makes no warranty, expressed or implied, regarding the accuracy of these data or the results to be obtained from the use thereof. System Three assumes no responsibility for injury from the use of the product described herein.

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# SB-112

## *SURF & SAILBOARD LAMINATING RESIN*

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### **INTRODUCTION**

SB-112 laminating epoxy will cure to a hard sandable state in as little as 16 hours at 65°F; sooner at warmer temperatures. At that time it is ready for polyester bonding.

This epoxy system is formulated to have maximum ultra violet light resistance consistent with its other properties. However, no epoxy resin system is ultimately resistant to degradation by sunlight. We recommend that the boards built using SB-112 epoxy be protected from sunlight exposure when not in use to increase longevity. System Three products that will provide protection, in order of effectiveness, are:

- 1) Pigmented WR-LPU
- 2) Clear WR-LPU
- 3) System Three Urethane Spar Varnish.

### **USE AND APPLICATION**

SB-112 epoxy is mixed in the ratio of two parts of resin (Part A) to one part of hardener (Part B) by VOLUME (100 to 44 parts by weight). The mix ratio should never be altered. Mixing more hardener will not "hot batch" the system and will result in an inferior cure. The only way to speed cure is the addition of heat. After measuring, the system should be thoroughly mixed. Inadequate mixing will produce spotty, inconsistent cures. Because SB-112 epoxy is relatively fast only an amount that can be used within 15 minutes should be mixed at one time. It is better to make several smaller batches rather than one big batch. The only preparation required is sanding immediately prior to bonding the polyester-based resin.

Tests have shown that polyester resin bond strengths are highest when done on freshly sanded SB-112 epoxy that has cured overnight. Bond strength falls away as the epoxy cure time increases. Polyester should always be applied to freshly sanded epoxy. Samples cured for 16 hours, sanded and set aside for a week prior to polyester bonding showed bond line failure unless they were again sanded immediately prior to polyester bonding. Failure always occurred when polyester was bonded to glossy unsanded epoxy surface.

We recommend that polyester be bonded onto freshly-sanded SB-112 epoxy within 48 hours of cure. It is not necessary to sand the epoxy prior to application of second coats of the epoxy. After 48 hours of cure time the epoxy should be sanded. If an epoxy covered board has aged for several weeks, sanding the surface and recoating with SB-112 epoxy will reset the clock with respect to polyester application.

We have had good results when using polyester to fill the weave of unsanded epoxy saturated cloth. The unfilled surface aids in bonding since it is rough. It should be given a polyester fill coat after an overnight cure. Waiting longer than 48 hours decreases the chance of having a successful bond.

### **SAFETY AND HANDLING**

We urge all users of this product to read and understand the Material Safety Data Sheets for System Three products they are about to use. They are available on the website, at [www.systemthree.com](http://www.systemthree.com), or by request. The chief health hazard with epoxy resins is repeated skin contact. When working with epoxy resin avoid skin contact. Wear disposable gloves. If material does contact skin immediately remove it using soap and warm water or a good waterless hand cleaner. Using solvents to remove epoxy from the skin can permanently dry the skin, causing redness and cracking.

### **TESTING AND PRECAUTIONS**

It is not possible for us to determine the suitability of use of SB-112 with all polyester resins. Our tests used Reichhold Chemical Company's general purpose orthophthalic laminating resin (33-049) and Lilly-Ram's ISO-NPG white gel coat (W 2020). Tests using fiberglass used Hexcel 1522, 4 ounce cloth. While we believe that the results we achieved with these materials will be duplicated using similar products we have no way of knowing for sure as we have not tested them. Therefore, the user of our product is solely responsible for its success or failure in his application. We urge each user of SB-112 epoxy to thoroughly test our product in conjunction with the polyester and fiberglass he will be using to satisfy himself that the entire system works as desired.