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TECHNICAL DATA SHEET
T-88® STRUCTURAL AIRCRAFT ADHESIVE

DESCRIPTION:

System Three T-88® is a 2-component, solvent-free epoxy/polyamide adhesive. T-88 meets the specification requirements of MIL-A-81236(WP) and CID A-A-3053.

RESIN PROPERTIES:

Viscosity @ 25°C(77° F)9000-11000 cps
Specific Gravity1.10-1.12
Color Clear

HARDENER PROPERTIES:

Viscosity @ 25°C(77° F)8000-10000 cps
Specific Gravity 0.95-0.97
Color Amber

MIXED SYSTEM PROPERTIES:

Mix ratio by weight resin/hardener 100/83
Mix ratio by volume resin/hardener 100/100
Working time @ 25° C 40-60 minutes
Tack-free time @ 25° C 4-6 hours
Coverage 80 ft²/gal
Maximum Service Temperature 160°F

TYPICAL CURED PROPERTIES:

Lap-Shear Strength, psi. Polyester Laminate2800* Aluminum 2000
Concrete 1100* Galvanized Steel 1800
Wood(Maple)1800* Copper1650

*Indicates substrate failure

Tensile Strength, psi. 7000
Tensile Elongation at break. 7.5%
Flexural Strength, psi 11,500
Flexural Modulus, psi 375,000
Compressive Yield Strength, psi 12,500
Heat Deflection Temperature, ° F119

Lap-Shear Strength vs. Temperature: - 67°F 2500 psi
(Aluminum Tensile Shear): 75°F 2000 psi
150°F 1300 psi
180°F 1000 psi

All tests were conducted in accordance with ASTM procedures.
Sizes available(kits): 8 oz. / 16 oz. / 32 oz. / ½-gallon / 1-gallon / 2-gallon / 10-gallon / 110-gallon

For health and safety information concerning this product, please refer to the MSDS sheets for T-88 Structural Adhesive. MSDS sheets are available on our website at www.systemthree.com.

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.

SYSTEM THREE T-88®

STRUCTURAL EPOXY ADHESIVE

INTRODUCTION

T-88® is a high performance, non-brittle, two-part epoxy adhesive designed to give superior results under adverse conditions. The adhesive may be used without modification in normally fitted joints, and will cure in any thickness without shrinkage. T-88 is clear amber and becomes virtually invisible when varnished. T-88 exhibits outstanding adhesion and permanence on a wide variety of materials, and is endorsed by leading designers, builders, and organizations.

USE AND APPLICATION

For ease of dispensing, plastic spout tops may be cut back leaving the molded ridge intact to retain the cap. T-88 A and B are mixed one-to-one by volume using a graduated measuring cup. Weight ratio is 100 parts of A to 83 parts of B. Excessive Part B will degrade, rather than expedite cure and should be avoided. Care should be taken that mixing is thorough and streaks can not be seen. Pot life of the mixed adhesive is approximately 45 minutes at 70°F. However, a coated joint may still be pulled up tight for two hours. Cap containers promptly after use. Mixing in small lots or with large surface area exposure will extend pot life.

At 70°F, T-88 will harden in 6-8 hours and will reach functional strength in 24 hours. T-88 has been specifically formulated to cure as low as 35°F without reduction in strength; this cure will require approximately one week. At 150°F T-88 will set within 30 minutes and develop maximum bond strength and impact resistance after 2 hours. If excessive flow-out occurs, allow 2-4 hours at room temperature before heat cure. Using Part B (hardener) in excess of recommended ratio will not accelerate cure and may tend to retard it.

T-88 has exceptional adhesion to most clean surfaces including wood, fiberglass, concrete, aluminum, steel and many plastics. (Recommendations for surface preparation methods are available on request). T-88 does not bond well to tin, zinc or waxy thermoplastics such as polyethylene. When fully cured, it is unaffected by water, oil, gasoline, and virtually all chemicals. It will not stain wood and is immune to fungus and rot. T-88 is unique in that it may be applied to damp wood, provided the adhesive is worked well into the surface. Glue line thickness is not critical and clamping is not necessary if the joint is undisturbed during set-up of the adhesive. However, when

bonding wood where end-grain is exposed T-88 may be thickened slightly to prevent excessive absorption. Coverage in average bond joints is 50-100 sq. ft. per gal. See special instructions below for bonding oak and teak.

BONDING OAK AND TEAK

Oak is a highly porous wood with a strong tendency to absorb resin and yield starved joints of substandard strength. Preferred practice is to apply a liberal coat of T-88 to both surfaces, and without mating allow the separate parts to stand open for 30-45 minutes. Dull spots indicate complete absorption and should be touched up with more T-88, after which the structure should be assembled and clamped with minimal pressure — just enough to ensure contact. Alternatively, oak can be presealed with a thin coat of T-88 on both mating surfaces and cured separately; then sand each surface lightly to level, apply fresh T-88 and join lightly.

Teak, being an oily wood, must be freed of surface oil to achieve optimum adhesion. With a clean cotton rag liberally moistened with lacquer thinner, vigorously wipe area to be bonded. While surface is still moist with solvent, wipe with a dry rag and allow to dry. If necessary, repeat wiping until surface dries to a whitish color indicating extraction of surface oil. Bond within eight hours of cleaning.

CLEAN-UP

Wear disposable gloves or barrier skin creams when working with epoxy resins. Never use solvents to remove epoxies from your skin. Some solvents present hazards worse than epoxies and can actually be absorbed into the body. Use a good waterless handsoap and plenty of paper towels to remove epoxy from your skin. Then apply a good medicated skin cream to replace the natural oils removed by the handsoap. If you get gummy, half-cured material on your skin, let it cure and peel it off the next day. Cured epoxy doesn't stick well to skin or hair.

STORAGE

Separate resin and hardener components will have a storage life in excess of one year if containers are kept well closed and stored below 90°F. Allow cold containers to reach room temperature before opening.