

## Slow Structural Strengthening Epoxy – A-018/B-435

### Description:

Slow Structural Strengthening Epoxy is two-component, 100% solids, high strength, impregnating epoxy matrix material for bonding applications. The matrix material is combined with fabrics to provide a wet-layup composite system for strengthening structural members. Slow Structural Strengthening Epoxy has a very low viscosity and a long working time which makes it ideal for large part manufacturing.

### Handling Properties:

COLOR	Clear		
DENSITY, lb./gal	9.20		ASTM D 792
MIX RATIO, pbv (pbw)	2.6/1	(3.2/1)	
MIXED VISCOSITY, Cps	620		ASTM D 2196
WORKING TIME*, hours	3 - 4		

\*The working time varies according to the temperature of the air, the epoxy and the surface to which it is applied.

### Physical Properties:

TENSILE STRENGTH, psi (MPa)	10,200	(70)	ASTM D 638
TENSILE MODULUS, psi (MPa)	274,800	(1895)	ASTM D 638
ELONGATION @ BREAK, %	4.24		ASTM D 638
COMPRESSIVE STRENGTH, psi (MPa)	12,600	(87)	ASTM D 695
COMPRESSIVE MODULUS, psi (MPa)	271,800	(1874.5)	ASTM D 695
FLEXURAL STRENGTH, psi (MPa)	15,400	(106)	ASTM D 790
HARDNESS, Shore D	85D		ASTM D 2240
T <sub>g</sub> , ULTIMATE, DSC, °F (°C)*	193.5	(90)	ASTM D 3418

\*Cure Cycle: 48 hours at room temperature + 2 hours @ 150°F + 2 hours @ 250°F.

### Surface Preparation:

The surface to be coated must be free of all rust, scale, dirt, dust, grease, oil, release agents, or other contaminants. The more thorough the degree of surface preparation the better the applied epoxy will perform.

### Mixing:

Epoxy kits are supplied with the resin and hardener pre-measured in the correct mixing ratio. It is best to use a full kit at one time to insure the proper mixing ratio is maintained. If less than a full kit is required for the job, both the resin and hardener **must** be **accurately** measured out. **DO NOT ATTEMPT TO "EYEBALL" THE AMOUNT NEEDED.** Adding more or less hardener will only degrade the physical properties.

If the kit is colder than 60 °F (15.6 °C), preheat both the resin and hardener by placing the cans in a hot water bath. The water temperature should not exceed 90 °F (32.2 °C) as high heat will reduce the working time of the mix.

Add hardener content to the resin. Smaller amounts may be mixed by hand using a large spatula. Larger amounts should be mixed with a slow speed drill and mixing paddle until uniform. Generally this takes 2-3 minutes depending on the method used. Incomplete mixing will result in poor curing, loss of physical properties, and "soft spots".

**Application:**

To use as an impregnating resin for horizontal and vertical applications, apply Slow Structural Strengthening Epoxy to reinforcing fabric manually or with an automatic impregnator. Slow Structural Strengthening Epoxy can be applied as a prime coat by brush or roller.

**SAFETY PRECAUTIONS**

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. **DO NOT WELD ON, BURN OR TORCH ON OR NEAR, ANY EPOXY MATERIAL. HAZARDOUS VAPOR IS RELEASED WHEN AN EPOXY IS BURNED.**

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