

PELCO 24-Hour Epoxy Mount Kit Product No. 813-510

DESCRIPTION: 3:1 SLOW CURING SYSTEM

Low viscosity water clear epoxy with an aliphatic polyamine hardener blend. Slow curing system designed for long pot life, excellent penetration, optical clarity, hardness and impact resistance. Easy to use 3:1 mix ratio by volume. No VOC's, 100% solids.

USES:

This 3:1 two-part epoxy system is designed for embedment of samples for metallographic, ceramographic, and geological specimen preparation. It is a long pot life, very low viscosity, low exotherm and low shrinkage system that is ideal for embedment of printed circuit boards, rough or porous samples and other samples where flow into small features is required. It can be used in conjunction with vacuum impregnation to assure complete penetration. The cured resin is extremely hard, optically clear, and has high bond strength. These combine to make for excellent polish and edge retention of the sample. The long pot life makes this material highly suitable for embedding of larger amounts of samples.

PHYSICAL PROPERTIES OF 813-501-502 RESIN/813-514-515 HARDENER (neat):

Mixed Viscosity @ 77° F, cps	380-400
Weight per Active H(813-504-505)	94
Color (Gardener)	1
Mix Ratio, Parts Per 100 of Resin	29 by weight (3:1 by volume)
Pot Life	60-65 minutes
Thin Film Set Time, Hours	3

CURED PROPERTIES:

Cure schedule:

Pot Life 60-65 minutes @ 77°F
Initial Thin Film Cure Time: 24 hours @ 77°F

HDT (ASTM D648 - 264) ° F	125
Shore D Hardness	80
Bond Strength, psi	1,700
Impact Resistance, inch/lb	>150
Tensile Strength, psi	7,500-8000
Tensile Modulus, psi	-
Elongation %	7.5

MEASURING

Use 3:1 by volume or 100:29 parts by weight of resin to hardener.

Filling a standard 1-1/4" diameter mold 3/4" deep requires approximately 0.5 fluid ounces. Since some of the epoxy will stay on the mixing container a good rule of thumb is to prepare 1.5 fluid ounces of epoxy for two embedments.

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TED PELLA, INC.

Tools for Science and Industry

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PELCO® EPOXY PUMP SET:

Two one fluid ounce per stroke pumps screw directly onto gallon, half gallon and quart resin and hardener containers to allow for quick and clean dispensing of the mixture. Inserts that limit the stroke to 1/4 or 1/2 oz. volumes are included to allow for the correct ratio of epoxy to hardener to be dispensed. For example, one pump would be set at full stroke for one ounce of resin and one at half stroke for 1/2 oz of hardener. If four ounces were required three strokes of resin and two strokes of hardener would deliver this amount in the proper ratio.

MIXING

Accurate measuring and proper mixing are essential for complete uniform curing of an epoxy system. Once the resin and hardener are dispensed into the Tri-Stir® beaker, cant the beaker at a 45-degree angle and stir with a mixing stick in a circular motion to gently mix the components together as though you were gently scrambling an egg. Scrape the wall of the beaker with the edge of the stick and the base of the beaker with the tip of the stick and lift the stick through the epoxy as you mix to assure complete mixing. Continue stirring for 3-5 minutes using 60 -120 beats per minute for quantities up to 4 ounces. For larger quantities more mixing is required. Some testing may be necessary to determine the best method for your specimen and laboratory conditions.

EMBEDDING

Slow curing epoxies have a long working time and will not gel for over 60 minutes. Place specimen into a mold and cover with the mixed epoxy. The total thickness should not exceed one inch. The low viscosity resin mixture will flow into small crevices and also allows bubbles to escape. It may be used in conjunction with vacuum impregnation to assure complete embedment. Evacuate until the majority of the bubbles have risen to the surface and release the vacuum one to two times. To avoid overheating of specimens it is recommended to keep the thickness of the embedment under one inch. Allow 2-3 hours set time prior to disturbing the sample.

CURING

Cure the epoxy at room temperature for 24 hours minimum to reach 95% strength. As with all room temperature curing epoxies it will continue to gain strength and hardness over a 7 day period. Using a conventional oven at up to 100°C for up to 24 hours can accelerate curing.

ORDERING INFORMATION

Product Description	Product Number
PELCO® Slow Cure Epoxy Mount Kit	813-510
Contains: 1ea, 813-501, 813-514, 813-503, 128-4, 12904-20, & 12906-20	
PELCO® Epoxy Resin, 1 gallon (3785 ml)	813-501
PELCO® Epoxy Resin, 1/2 gallon (1892 ml)	813-502
PELCO® Slow Cure Hardener 1/3 gal. (1262 ml), in 1/2 gal. container	813-514
PELCO® Slow Curing Hardener 1/6 gal. (631 ml), in 1 quart container	813-515
PELCO® Epoxy Pump Set, 1 oz (29.6 ml) stroke, Set/2	813-503
Mixing Sticks, 5/8"W x 5-1/2"L (16 x 140mm), Pkg/ 100	128-4
Tri-Stir® Disposable Beakers, 3.0 oz 100 ml, Pkg/ 20	12904-20
Tri-Stir® Disposable Beakers, 8.0 oz 250 ml, Pkg/ 20	12906-20

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