

HIGH PERFORMANCE LAMINATING RESIN

Description:

High Performance Laminating Resin is a high quality, low viscosity liquid resin which is popular for lamination with fiberglass, carbon fiber, Kevlar or other types of reinforcement. The product consistency is designed to generate fast wet-out and provide easy application of any reinforcement application. We recommend choosing the hardener system based on application temperature, curing thickness, desired working time and desired drying times. The High Performance Laminating Resin will produce a low viscosity, semi-clear, low odor epoxy that is not only ideal for layup use, but also as a sealer of porous substrates such as wood because of its excellent penetrating power.

This Resin can be used with our SLOW 3:1 hardener (B-10063), MEDIUM 3:1 Hardener (B-10064) or FAST 3:1 Hardener (B-10065) depending on the cure speed and working time desired.

Product

Advantages:

- LOW VISCOSITY AND GOOD COLOR
- EXCELLENT TOUGHNESS
- EXCELLENT FLEXIBILITY

Handling

Properties:

	SLOW HDR A-10060/B-10063	MEDIUM HDR A-10060/B-10064	FAST HDR A-10060/B-10065
RESIN VISCOSITY, cP (ASTM D 2196)	3,400	3,400	3,400
RESIN DENSITY, WPG (ASTM D 792)	9.66	9.66	9.66
RESIN COLOR	CLEAR	CLEAR	CLEAR
HARDENER VISCOSITY, cP (ASTM D 2196)	55	67	87
HARDENER DENSITY, WPG (ASTM D 792)	7.86	7.94	7.95
HARDENER COLOR	LIGHT STRAW	LIGHT STRAW	LIGHT STRAW
MIX RATIO BY VOLUME	3:1	3:1	3:1
MIX RATIO BY WEIGHT	3.65:1	3.65:1	3.65:1
MIXED VISCOSITY, cP (ASTM D 2196)	720	910	975
MIXED WPG (ASTM D 792)	9.21	9.23	9.23
GEL TIME (100g), min (ASTM D 2471)	160	74	35
SET TIME (10 MILS) @70F	11 HR	8 HR	4.5 HR

Physical

Properties:

HARDNESS, Shore D (@RT) (ASTM D 2240)	88	88	89
COMPRESSIVE STRENGTH, psi (ASTM D 695)	15,800	16,500	16,600
COMPRESSIVE MODULUS, psi (ASTM D 695)	319,000	338,000	316,000
TENSILE STRENGTH, psi (ASTM D 638)	11,400	10,900	11,700
TENSILE MODULUS, psi (ASTM D 638)	160,000	211,000	126,000
ELONGATION @ BREAK, % (ASTM D 638)	3.50	2.27	2.23
FLEXURAL STRENGTH, psi (ASTM D 790)	21,400	19,300	20,800
FLEXURAL MODULUS, psi (ASTM D 790)	493,000	510,000	502,000

Thermal Properties:

	SLOW HDR A-10060/B-10063	MEDIUM HDR A-10060/B-10064	FAST HDR A-10060/B-10065
Tg DSC Ultimate, °F (°C) (ASTM E 1356) ¹	234 (112)	222 (105)	240 (116)
Tg DMA Onset Storage Modulus °F (°C) (ASTM E 1640) ^{1,2}	214 (101)	206 (97)	225 (107)

1. Cure Cycle: 16-24 hours at room temp, 8 hours @ 180°F
2. 1 HZ, 2°C per minute

Mixing:

The storage temperature of High Performance Laminating Resin will greatly affect the ease of mixing, application and curing time. For best results, High Performance Laminating Resin should be stored at **(70-80°F or 21-27°C)**. High performance epoxy resins may crystallize with repeated exposure to low temperatures or thermal cycling during storage. If this occurs, warm the resin to 140-160°F and stir to dissolve any crystals or solidified material. Mix resin with hardener for 3 minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment. When adding part B to part A, be sure to scrape the sides of the hardener (part B) container in order to remove all of the hardener. This is essential to maintain proper mix ratio. DO NOT mix more material than can be used within the stated working time. REMEMBER - you will have less working time at higher temperatures.

SAFETY PRECAUTIONS

Mix and pour in a well-ventilated area. Avoid contact with skin and eyes. If contact does occur, wash skin with soap and water and seek medical help. Read and understand all CAUTIONS on container labels and safety data sheets before using this material.

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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