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TECHNICAL BULLETIN

LOW VISCOSITY LAMINATING RESIN

Description:

Low Viscosity 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 Low Viscosity 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 2:1 hardener (B-210), MEDIUM 3:1 Hardener (B-209) or FAST 4:1 Hardener (B-208) depending on the cure speed and working time desired.

Product Advantages:

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

Handling Properties:

	SLOW 2:1 HDR (A-011/B-210)	MEDIUM 3:1 HDR (A-011/B-209)	FAST 4:1 HDR (A-011/B-208)
RESIN VISCOSITY, cP (ASTM D 2196)	670	670	670
RESIN DENSITY, WPG (ASTM D 792)	9.20	9.20	9.20
RESIN COLOR	CLEAR	CLEAR	CLEAR
HARDENER VISCOSITY, cP (ASTM D 2196)	260	1820	5,300
HARDENER DENSITY, WPG (ASTM D 792)	8.16	8.66	9.04
HARDENER COLOR	LIGHT STRAW	STRAW	LIGHT AMBER
MIX RATIO BY VOLUME	2:1	3:1	4:1
MIX RATIO BY WEIGHT	2.22:1	3.13:1	4:1
MIXED VISCOSITY, cP (ASTM D 2196)	580	960	1,210
MIXED WPG (ASTM D 792)	8.85	9.06	9.17
GEL TIME (100g), min (ASTM D 2471)	105	30	20
SET TIME (10 MILS) @ 75°F	14 HR	8 HR.	4 HR.

Physical Properties:

HARDNESS, Shore D (@RT) (ASTM D 2240)	85	86	86
COMPRESSIVE STRENGTH, psi (ASTM D 695)	11,000	12,700	13,000
TENSILE STRENGTH, psi (ASTM D 638)	7,700	9,000	9,800
TENSILE MODULUS, psi (ASTM D 638)	266,000	293,000	329,000
ELONGATION @ BREAK, % (ASTM D 638)	5.6	4.2	3.9
Tg DSC Ultimate, °F (°C) (ASTM E 1356)[1]	117 (47)	129 (54)	140 (60)
Tg DMA Onset Storage Modulus, °F (°C) (ASTM E 1640)[1,2]	99 (37)	114 (46)	123 (51)

1. Cure Cycle: 16-24 hours at room temp, 3 hours @ 275°F
2. 1 HZ, 3°C per minute

Mixing:

The storage temperature of Low Viscosity Laminating Resin will greatly affect the ease of mixing, application and curing time. For best results, Low Viscosity Laminating Resin should be stored at **(60-80 °F or 16-27 °C)** for at least 24 hours before use. 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

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.**

FOR INDUSTRIAL USE ONLY

WARRANTY AND DISCLAIMER

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