MAS TRADITIONAL 5:1 MARINE RESIN
510 FAST & 520 SLOW HARDENERS

WOOD LAMINATING SYSTEM

TECHNICAL DATA BULLETIN

SYSTEM BENEFITS:

MAS Traditional 5:1 Marine Resin with MAS 510 Fast, 520 Slow Hardeners is a low viscosity epoxy resin system suitable for a wide range of boat building and repair projects. 100% compatible with all leading traditional marine 5:1 epoxy systems. It is a clear resin that bonds with fiberglass, reinforcing fabrics, wood and metals. When combined with any additional fillers, MAS Traditional 5:1 Marine Resin creates an excellent adhesive, filleting, and fairing compound. MAS 5:1 cures to a high strength, clear plastic solid with excellent moisture resistance. Once cured, it can be sanded and shaped. Designed to easily wet-out and bond with fiberglass or other fabrics. It has excellent thin-film characteristics to easily flow out and self-level, making any laminating job easy.

- Familiar 5:1 mix ratios
- Cost effective laminating system for a variety of parts including wood laminating

HANDLING PROPERTIES	510 FAST	520 SLOW	Test Method
Resin Density at 25°C, lbs/gal	9.5	9.5	ASTM D1475
Hardener Density at 25°C, lbs/gal	8.8	8.5	ASTM D1475
Resin Viscosity at 25°C, cP	1,000	1,000	ASTM D2196
Hardener Viscosity at 25°C, cP	800	130	ASTM D2196
Mix Ratio by Weight	100A : 19B	100A : 18B	Calculated
Mix Ratio by Volume	5A : 1B	5A : 1B	Calculated
Initial Mixed Viscosity 25°C, cP	1,000	700	ASTM D2196
Gel Time at 25°C, 150g mass, min.	13	24	ASTM D2471
Set Time at 75°F, hrs.	6	10	Thin Film
Cure Time at 75°F, days	1-4	1-4	Thin Film
Minimum Recommended Temp, °F	55	55	

PHYSICAL PROPERTIES	510 FAST	520 SLOW	Test Method
Color	Clear	Clear	Visual
Tensile Strength, psi	10,900	9,300	ASTM D638
Tensile Elongation, %	6.7	5.7	ASTM D638
HDT, Room Temp Cure, °F	141	129	ASTM D648
HDT, Post Cure, °F	173	154	ASTM D648
Compressive Strength, psi	14,600	14,300	ASTM D695
Flexural Strength, psi	18,200	17,700	ASTM D790
Flexural Modulus, psi	494,000	491,000	ASTM D790
Cured Density, g/cm^3 (lbs/in^3)	1.18 (0.043)	1.18 (0.043)	ASTM D792
Volumetric Yield, in^3/lb	23.4	23.5	ADM D792
Volumetric Shrinkage, %	4.7	5.0	ASTM D792/2196
Hardness, Shore D	86	86	ASTM D2240

SYSTEM POST CURE OPTIONS:

Select one of the following cure schedules depending on the available time, the physical properties of the mold and the desired physical properties of the final part. Post cure the part to obtain maximum physical and thermal properties of the system. The recommended post cure temperature ramp rate between stages is up 5°F per minute for heating and down 1-2°F per minute for cooling. Heating and cooling ramp rates can vary based on size and thickness of the part. For larger thicker parts use a more conservative ramp. If you need to deviate from the recommended post cure schedule, please contact our technical service department.

CURE INCREMENTS:

510 Fast & 520 Slow	24 Hours at 77°F (25°C)	4 Hours at 150°F (66°C)
Post Cure	Supported	Unsupported
Room Temp Cure	Supported	

INSTRUCTIONS FOR USE:

Combine the resin and the hardener at the specified mix ratio. Using the recommended mix ratio is VERY important when using epoxy. DO NOT deviate to attempt to speed up or slow down the gel time. Mix 1-2 minutes while scraping sides and bottom of container occasionally until fully blended with no streaks or striations. Always use clean dry tools for mixing and applying. Material temperatures should not be below 60°F when mixing.

STORAGE AND CRYSTALLIZATION:

Store between 60-90°F in a dry place. After use, tightly reseal all containers and store products on a raised surface during cold weather and avoid storing near outside walls or doors. If available, purge with dry nitrogen to preserve color and minimize moisture contamination. Do not allow to freeze during winter storage. Do not use material with any signs of crystallization such as solid chunks, grainy texture or white color. Crystallization can be reversed by heating the material to 125-140°F, and stirring occasionally, until all crystals dissolve.

SAFETY HANDLING:

Wear protective gloves, clothing, and eye/face protection. Use only outdoors or in a well-ventilated area. Avoid contact to the skin and eyes. Avoid breathing dust, fumes, gas mist, vapors and spray. Wash hands thoroughly after handling. Take off contaminated clothing and wash before reuse. These products may cause skin and respiratory allergic reactions. Consult product Safety Data Sheets for complete precautions for use of this product.

Polytek Development Corp has experience only in the compounding of resins and hardeners and not in the actual manufacture of tools or parts. Each piece is different. The user should run tests to assure the suitability of the system for use in a particular application. The test data and results set forth herein are based on laboratory work and do not necessarily indicate the results that the buyer or user will attain.

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