77 Polyester Molding Resin

Overview: #77 is a thixotropic polyester resin recommended for laminating fiberglass pieces and molds of all kinds but also used for general repairs to fiberglass where a waxed resin may interfere with further bonds. The thixotropy of this resin allows it to be applied without run-off on vertical surfaces.#77 is fully compatible with all Polyester Gel Coats. May be used on most metals but Vinyl Ester or Epoxy will provide better adhesion. Do not use on Styrofoam. Store in a cool place. Use within one year of purchase. Once opened this resin has a very limited shelf life.

Available in gallons, five gallon pails and drums as well as resin/hardener kits.

Features & Benefits:

- High thixotropic index to prevent draining on vertical surfaces
- Low viscosity for fast wet-out
- Styrene suppressed
- This resin can be used for hand lay-up or spray-up for general fiberglass reinforced plastics applications.

Typical Cure Schedule:

Gel Time, Minutes	15-25 mins
Total Time, Minutes	28-39 mins
Peak Exotherm, ºF	300-320

Typical curing characteristics at 77ºF (25ºC), 1.25% Catalyst

Typical Product Properties:

Viscosity (Brookfield #2 Spindle @30 RPM)	475 CPS
Thixotropic Index	3
Weight per Gallon	9.1 LB
Percent Solids	56
Flash Point Range ºF	73-100

Typical Values: Based on material tested in laboratories but varies from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items. This product is not recommended for secondary lamination on a cured primary laminate without sanding and preparing the surface of the first laminate.

Coverage:

	#77
Coverage	**Square Feet Per Gallon**
Prime coat, Fir Plywood	110
Laminate, 10 oz/sq-yd fiberglass fabric	90
Laminate, 4 oz/sq-yd fiberglass fabric	170
Laminate, 3/4 oz/sq-yd fiberglass mat	45
Laminate, 1-1/2 oz/sq-yd fiberglass mat	25
Laminate, 18 oz/sq-yd woven roving	30

Typical Properties of Cured Castings at 77ºF

Tensile Strength, psi	Value	Test Method
Tensile Strength, psi	8,900	ASTM D-638
Tensile Modulus, psi x 10^5	6.45	ASTM D-638
Tensile Elongation, %	1.60	ASTM D-638
Flexural Strength, psi	15,000	ASTM D-790
Flexural Modulus, psi x 10^5	6.19	ASTM D-790
Heat Distortion Temperature ºC (ºF)	67 (152)	ASTM D-648

Mixing Directions: Shake well before using. To initiate hardening add #69 MEKP Hardener in a ratio of 1%. For easy measure use one teaspoons of hardener per pint (pound) of resin, two teaspoons per quart or 7 teaspoons per gallon. For very small quantities use 13 drops of hardener per ounce of resin. Measure the components, do not guess at them.

At a temperature of 72^0F the resin will begin to harden in about 25 minutes and be sandable in about six hours. Full cure will take about 24 hours. At cooler temperatures the mixture will take longer to harden and at warmer temperatures it will take less time. The ratio of hardener may be adjusted to compensate for temperature extremes; add up to 50% more hardener when cooler and correspondingly less when warmer.

Do not use when temperature is below 55^0F. Mix only small quantities when the temperature is above 85^0F as hardening will occur very rapidly. Never apply in direct sunlight. Mix in clean glass, paper, plastic or metal containers. Do not use foam containers. Mix no more than you can use before the resin will begin to harden, and thereafter let your experience be your guide. Do not return mixed (catalyzed) resin to container.

Surface Preparation & Laminating:
Surface Preparation: When repairing fiberglass, all surfaces must be clean and free from dirt, oil or other foreign materials. All paint should be removed by sanding with coarse (80 grit) sandpaper. Raw wood should be primed with a thin but uniform coat of resin and allowed to set for one hour to allow penetration of the wood before applying successive coats of resin or fiberglass reinforcements.

Laminating: Resins can be applied to fiberglass or synthetic reinforcements with a brush, squeegee, or short nap paint roller. A stippling or dabbing action is required when using a brush. Thick laminations can be rolled out with a grooved Saturation Roller.

A properly applied fiberglass laminate will be uniformly translucent (assuming no pigmentation of the resin) without a glossy or smooth surface. A "milky" appearance indicates insufficient resin. A glossy, smooth surface indicates too much resin. Excess resin makes the laminate heavy and brittle. When using multiple layers of reinforcement it is not necessary to wait for one layer to cure before applying the next layer.

Safety and Handling:
#77 Polyester Molding Resin contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Individuals should wash with soap and water before eating, drinking, or using toilet facilities. Individuals should observe conditions of good industrial hygiene and safe working practice. For more detailed instructions on handling please see the MSDS sheet

All containers should be properly labeled to prevent accidental ingestion or improper disposal. Individuals should reseal any partly used material back in the container. Store uder cool, dry conditions and away from open flames and high temperatures. For more detailed instructions on storage please see the MSDS sheet.