



# PT2620 HIGH TEMPERATURE EPOXY LAMINATING RESIN

## DESCRIPTION

PT2620 is a gray, filled intermediate high temperature laminating resin intended for use in fabricating tools and fixtures for a variety of industrial applications. PT2620 is filled to provide lower cured shrinkage and to allow easy laminating with minimum drain or runoff on contoured or vertical surfaces. PT2620 handles very easily. The slightly thicker mixed viscosity penetrates the reinforcing fabric quite well and holds it in place as subsequent layers are applied. Tools made with PT2620 are tough, with high tensile and flexural strength, and excellent heat resistance.

Three high temperature hardeners that provide similar cured properties are available for use with PT2620 resin. These hardeners differ in the pot life/gel time that they provide, enabling the user to fabricate small to large tools with adequate working time by choosing between the three. All three of the Part B hardeners will gel hard at room temperature for subsequent oven post curing off the pattern. The ability to perform an unsupported post cure off the pattern has significant advantages. With this capability, it is possible to use low temperature pattern materials such as wood or plaster, since they will not have to be put into the oven for post cure. The PT2620 systems have found good acceptance in such applications as vacuum form tools, foam molds, layup molds, and a variety of other uses where repetitive heating and cooling cycles are involved. There are no restricted or regulated raw materials used in these high temperature products. PT2620 Part A does not contain vinylcyclohexane diepoxide (VCHD), or other hazardous or potentially restricted diluents. The PT2620 Part B hardeners do not contain methylene dianiline (MDA) or other potentially harmful aniline derivatives. They are non-staining, and will not crystallize in normal shipping and storage conditions.

## PRODUCT SPECIFICATIONS

	PT2620 Part A	PT2620 Part B	PT2620 Part B1	PT2620 Part B2	ASTM Method
Color	Gray	Amber	Amber	Amber	Visual
Viscosity, @77°F, centipoise	5400 cps	1700 cps	1300 cps	1000 cps	D2392
Specific Gravity, gms./cc	1.35	1.08	1.10	1.0	D1475
Mix Ratio, By Weight		100 : 13.5	100 : 11	100 : 15	PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		40-50 min.	75-90 min.	2.5-3 hours	D2471

## HANDLING and CURING

When using PT2620 Part B or Part B1, the system will gel hard in 18 to 24 hours at 77°F. In lower temperature service, non-critical applications, the system can usually achieve its full cure in service. However, for maximum stability, an oven post cure is recommended, and is mandatory in applications where continuous service temperature is over 250°F.

When using the Part B2 hardener, under normal conditions the system will gel to a hard demoldable state in 24 to 36 hours. In colder shop environments, or unusual conditions, the user should check closely to insure that the resin has fully gelled before the tool is post cured. In very cold environments, it may be necessary to give the tool a slight amount of heat cure before it is removed from the pattern to avoid distortion due to insufficient cure. A few hours at 100°F to 150°F, depending upon what temperature the pattern material can withstand, will harden the tool to the point where it can be given an unsupported post cure. The lower the curing temperature that is used, the longer the curing time should be.

SUGGESTED POST CURE CYCLES		
HARDENER	Initial RT Cure Cycle	Post Cure Cycle
Part B or B1	Gel 18-24 hrs. @ 77°F	Post Cure for 3 hours ea. @: 150°F, 250°F and 300°F
Part B2	Gel at least 24 hrs. @ 77°F	Post Cure for 3 hours ea. @: 150°F, 200°F, 275°F and 325°F

**NOTE:** If the expected service temperature is to be higher than the final cure temperature listed, then an additional 2 to 3 hours at 25°F above the expected service temperature is recommended.

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Inasmuch as PTM&W Industries, Inc. has no control over the use to which others may put the material, it does not guarantee that the same results as those described herein will be obtained. The above data was obtained under laboratory conditions, and to the best of our knowledge is accurate. The information is presented in good faith to assist the user in determining whether our products are suitable for his application. No warranty or representation, however is intended or made, nor is protection from any law or patent to be inferred, and all patent rights are reserved. Before using, user shall determine the suitability of the product for his intended use, and user assumes all risk and liability whatsoever in connection therewith. In no event will PTM&W Industries, Inc. be liable for incidental or consequential damages. Buyer's sole and exclusive remedy in such instances shall be limited to replacement of the purchase price.

**TYPICAL MECHANICAL PROPERTIES**

	PT2620 A w/ Part B or B1	PT2620 A w/ Part B2	ASTM Method
Color	Gray	Gray	Visual
Mixed Viscosity, @77°F, centipoise	4000 - 4500 cps	4100 cps	D2393
Cured Hardness, Shore D	89 Shore D	90 Shore D	D2240
Specific Gravity, grams, cc	1.29	1.27	D1475
Density, lb./cu. Inch lb. / gallon	.0465 10.77	.0459 10.6	D792
Specific Volume, cu. in./lb.	21.5	21.8	
Tensile Strength, psi *	29,250 psi	28,890 psi	D638
Elongation at Break * %	1.37 %	1.55 %	
Tensile modulus, psi *	2.44 x 10 <sup>6</sup> psi	2.15 x 10 <sup>6</sup> psi	
Flexural Strength, psi *	45,333 psi	41,992 psi	D790
Flexural Modulus, psi *	3.27 x 10 <sup>6</sup> psi	3.09 x 10 <sup>6</sup> psi	
Compressive Strength, psi	15,450 psi	16,050 psi	D695
Glass Transition Temperature, Tg, TMA	270°F	285°F	D3386
Coefficient of Thermal Expansion, Range 50°C to 100°C	3.42 x 10 <sup>-5</sup> in./in./ °F	3.53 x 10 <sup>-5</sup> in./in./ °F	D696

\*\*Note: Tensile and Flexural Properties were determined with a 1/8 inch laminate, Style 7500 glass cloth, resin content of 40% - 45 %.

**PACKAGING WEIGHTS**

	Quart Kit	Gallon Kit	Pail Kit	Drum Kit
PT2620 Part A	2.25 lb.	9 lb.	45 lb.	470 lb.
PT2620 Part B		1.2 lb.	6 lb.	64 lb.
PT2620 Part B1		1 lb.	5 lb.	52 lb.
PT2620 Part B2	.34 lb.	1.35 lb.	6.75 lb.	72 lb.

**SAFETY and HANDLING**

PTM&W epoxy products are made from raw materials carefully chosen to minimize or even eliminate toxic chemicals, and therefore offer the user high performance products with minimum hazard potential when properly used. Generally, the PTM&W epoxy resins and hardeners will present no handling problems if users exercise care to protect the skin and eyes, and if good ventilation is provided in the work areas. However, breathing of mist or vapors may cause allergenic respiratory reaction, especially in highly sensitive individuals. As such, avoid contact with eyes and skin, and avoid breathing vapors. Wear protective rubber apron, clothing, nitrile rubber gloves, face shield or other items as required to prevent contact with the skin. In case of skin contact, immediately wash with soap and water, followed by a rinse of the area with vinegar, and then a further wash with soap and water. The vinegar will neutralize the hardener and lessen the chances of long term effects. Use goggles, a face shield, safety glasses or other items as required to prevent contact with the eyes. If material gets into the eyes, immediately flush with water for at least 15 minutes and call a physician. Generally, keep the work area as uncluttered and clean as possible, and clean up any minor spills immediately to prevent accidental skin contact at a later time. Keep tools clean and properly stored. Dispose of trash and empty containers properly. Do not use any of these types of products until Material Safety Data Sheets have been read and understood.

PT2620 Bulletin / InDesign / 121310-C1



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