



PT2254 Epoxy Laminating System

DESCRIPTION

PT2254 is a general purpose unfilled laminating system for use in fabricating tooling or structures that will operate at room temperature in service. This system has a low mixed viscosity which allows it to penetrate even the thickest reinforcing fabric easily, and provides dense, void-free laminates. The two hardeners designed for use with this resin have working times long enough to enable the user to fabricate structures of all sizes with ease. PT2254 Part B has a pot life of 45 to 50 minutes, and the Part B1 has a pot life of 100 to 120 minutes. Tooling and parts made with PT2254 are tough, stable and provide dependable long term service in demanding applications.

PRODUCT SPECIFICATIONS

	PT2254 Part A	PT2254 Part B	PT2254 Part B1	ASTM Method
Color	Light Amber	Amber	Amber	Visual
Viscosity, @77°F, centipoise	1800 cps	1200 cps	200 cps	D2392
Specific Gravity, gms./cc	1.10	1.04	1.05	D1475
Mix Ratio, By Weight		100 : 18	100 : 19	PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		45-50 min.	110-120 min.	D2471

HANDLING and CURING

The PT2254 system will cure completely at normal ambient temperatures with either of the Part B hardeners. In warmer summer temperatures, when shop temperatures can get very high, the working time of these systems is still long enough to allow time to complete a project. In colder environments, make sure that the ambient shop temperature does not drop below 65°F to insure proper curing of the material. If the temperature is too low, the epoxy will remain in a partially cured condition, and the tool or structure might distort or be overly susceptible to damage. At the proper ambient temperature, PT2254 with Part B will cure sufficient for handling in 12 to 16 hours, and full cure is achieved in 24 hours. When using the Part B1, handling time will increase to 18 to 20 hours, and full cure can take slightly over 24 hours in cooler weather. As with most epoxies, this full cure can be accelerated with the addition of heat after the material has gelled at room temperature. If a heat cure is desired, make sure that the epoxy has gelled hard before placing in an oven, to prevent stress buildup or distortion due to rapid gelling under heat. A typical oven cure cycle would be 3 to 4 hours in an oven at 140°F to 165°F.

TYPICAL MECHANICAL PROPERTIES

	PT2254 A/B	PT2254 A/B1	ASTM Method
Mix Ratio, By Weight	100 : 18	100 : 19	PTM&W
Color	Translucent	Translucent	Visual
Mixed Viscosity, @77°F, centipoise	1300-1500 cps	900 - 1000 cps	D2393
Pot Life, 4 fl. Oz. Mass, @77°F	45 - 50 min.	110 - 120 min.	D2471
Cured Hardness, Shore D	81 Shore D	82 Shore D	D2240
Specific Gravity, grams, cc	1.090	1.092	D1475
Density, lb./cu. Inch lb. / gallon	.0394 9.1	.0394 9.11	D792
Specific Volume, cu. in./lb.	25.39	25.36	
Tensile Strength, psi, Cast Sample 1/8" Laminate w/ Style 7500 Cloth	7,380 psi 31,994 psi	7,070 psi 31,030 psi	D638
Elongation at Break, % Cast Sample 1/8" Laminate w/ Style 7500 Cloth	1.79 % 1.54 %	1.80 % 1.50 %	
Tensile modulus, psi Cast Sample 1/8" Laminate w/ Style 7500 Cloth	369,442 psi 2,020,394 psi	339,350 psi 1,967,900 psi	
Flexural Strength, psi Cast Sample 1/8" Laminate w/ Style 7500 Cloth	13,737 psi 36,616 psi	13,715 psi 36,048 psi	D790
Flexural Modulus, psi Cast Sample 1/8" Laminate w/ Style 7500 Cloth	400,972 psi 2,029,684 psi	391,806 psi 1,941,597 psi	
Compressive Strength, psi	11,697 psi	10,750 psi	D695
Glass Transition Temperature, DSC: Tg	180°F	178°F	D3418

PACKAGING WEIGHTS

	Pail Kit	Drum Kit
PT2254 Part A	44 lb.	445 lb.
PT2254 Part B	8 lb.	2 @ 40 lb. ea.
PT2254 Part B1	8.5 lb.	2 @ 43 lb. ea.

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.

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