



PR2032 Resin with PH3663 Hardener For The Resin Infusion Process

DESCRIPTION

PR2032 is a medium viscosity, unfilled light amber resin that is designed for structural production applications. PR2032, when used with PH3663, provides a low viscosity resin system ideal for the infusion process while expanding the quality and versatility of the high performance Aeropoxy line. This combination is less than half the mixed viscosity of the standard hardeners offered, reducing resin content, and exhibits exceptional physical properties when used with glass, carbon or aramid fibers. The 90 minute pot life allows ample time for most infusions and versatility for wet lay-up vacuum bagging of tooling or parts. It cures up well in thin section with an overnight cure at room temperature. Cured properties with the PH3663 hardener maintain the high standard set by the AEROPOXY line.

PRODUCT SPECIFICATIONS

	PR2032	PH3663	ASTM Method
Color	Amber	Light Amber	Visual
Viscosity, @ 77°F, centipoise	1,650 cps	35 cps	D2392
Specific Gravity, gms./cc	1.15	0.97	D1475
Mix Ratio	100 : 25 By Weight		PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F	90 minutes		D2471

HANDLING and CURING

PR2032 and PH3663 are typically used to fabricate high performance composite parts by contact layup, vacuum bagging or the infusion process. In processing the assembled layup, plan to allow the laminate to cure at least 24 hours, at a minimum of 72°F, before moving the structure. This can be accelerated by applying heat after the resin has gelled. Be careful using heat guns and lamps, as they tend to concentrate heat, producing localized hot spots which can damage the epoxy. This system can be cured at ambient temperatures, or given an elevated temperature cure. The higher the curing temperature, the higher the resulting service temperature. With a higher temperature cure, a safe service temperature over 200°F can be obtained.

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit	Drum Kit
PR2032 Resin	7.5 lb.	48 lb.	500 lb.
PH3663 Hardener	1.9 lb.	12 lb.	126 lb.
Kit	9.4 lb.	60 lb.	626 lb.

TYPICAL MECHANICAL PROPERTIES

		PR2032 / PH3663 ⁽¹⁾		ASTM Method
Mix Ratio,	By Weight	100 : 25 By Weight		PTM&W
Color		Light Amber		Visual
Mixed Viscosity, @ 77°F,	centipoise	440 cps		D2393
Pot Life, 4 fl. Oz. Mass, @77°F		1.5 hours		D2471
Cured Hardness, Shore D		87 Shore D		D2240
Specific Gravity, grams, cc		1.109		D1475
Density,	lb./cu. Inch lb. / gallon	.0401 9.27		D792
Specific Volume, cu. in./lb.		24.96		
		7781 Glass Fabric ⁽²⁾	3K 2 x 2 Twill Carbon Fabric ⁽³⁾	
Tensile Strength, psi (MPa) *		49,765 psi (343.1 MPa)	102,215 psi (704.8 MPa)	D638
Elongation at Break, % *		1.63	1.19	
Tensile modulus, psi (MPa) *		3,593,363 psi (24,776 MPa)	7,602,404 psi (52,418 MPa)	
Flexural Strength, psi (MPa) *		74,283 psi (512.2 MPa)	94,336 psi (650.4 MPa)	D790
Flexural Modulus, psi (MPa) *		3,624,822 (MPa)	5,9269,607 psi (40,863 MPa)	
Glass Transition Temperature, TMA: Tg		194°F (Peak)		D3386
Coefficient of Thermal Expansion, Range 50°C to 100°C		4.14 x 10 ⁻⁵ in./in./ °F		D696

(1) The Properties In This Bulletin Were Derived with Specimens Prepared with the Following Cure Cycle: Overnight @ Room Temperature plus A 4 hour Oven Cure at 150°F.

(2) Infused Samples Consisting of 12 Plies Style 7781 Glass Fabric, Ply Orientation 0°, 90°, with 33.5% Resin Content.

(3) Infused Samples Consisting of 12 Plies 3K 2 x 2 Twill Carbon Fabric, Ply Orientation 0°, +45°, 90°, -45°, with 28.5% Resin Content.

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.

PR2032/PH3663 For Infusion / InDesign /041817-C1



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