

PT5712 & PT5714 Low Viscosity Systems for Parts or Tooling

DESCRIPTION

PT5712 and PT5714 are low viscosity epoxy resin systems that have found good acceptance for use in vacuum infusion fabrication and tooling processes. The low mixed viscosity of these systems allow them to penetrate the reinforcing materials easily and completely, producing a void-free, dense composite structure.

PT5712 and PT5714 have very good hot strength, so cured parts or tooling fabricated with them can provide good service in elevated temperature operating conditions. PT5714 is a black version of PT5712.

	PT5712 & 14 Part A	Part B	Part B1	ASTM Method
Color	PT5712 - Amber PT5714 - Black	Amber	Amber	Visual
Viscosity,	1800 cps	40 cps	50 cps	D2392
Specific Gravity, gms./cc	1.14	0.96	0.95	D1475
Mix Ratio By Weight		100 : 20 By Weight		PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		80 - 90 minutes	175 - 185 minutes	D2471

PRODUCT SPECIFICATIONS

HANDLING and CURING

There are two hardeners available for use with these resins, for different size applications, and both hardeners will gel at at normal shop temperatures. In the thin film of the infusion process, the material will gel hard in 18 to 24 hours at these temperatures. At this point, the laminate must be post cured to complete its cure and develop full physical properties and heat capabilities. A typical post cure would be: Gel at room temperature, followed by an oven post cure of 3 to 4 hours each at 150°F and 250°F, followed by a final cure of at least 8 hours at 300°F. If the final curing temperature can be increased to 375°F instead of 300°F, then 4 to 6 hours at the 375° temperature will complete the cure.

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit	Drum Kit
PT5712 or PT5714 Part A	8 lb.	40 lb.	500 lb.
Part B or B1	1.6 lb.	8 lb.	105 lb. (3 @ 35 lb. ea.)
Kit	9.6 lb.	48 lb.	605 lb.

Page 1

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 hereis 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

		PT5712 or PT5714 A with B or B1	ASTM Method	
Color		PT5712 - Amber PT5714 - Black	Visual	
Mixed Viscosity, centipoise	@ 77°F @ 90°F	575 cps 400 cps	D2393	
Cured Hardness, Shore D		84 Shore D	D2240	
Specific Gravity, grams, cc		1.105	D1475	
Density,	lb. / cu. in. lb. / gallon	.0399 9.23	D792	
Tensile Strength, psi ⁽¹⁾	Laminate - 10 oz. (7500) Fabric Laminate - 8 oz. (181) Fabric ⁾	37,100 pdi 46,970 psi		
Elongation at Break, % ⁽¹⁾	Laminate - 10 oz. (7500) Fabric Laminate - 8 oz. (181) Fabric ⁾	2.1 % 1.6 %	D638	
Tensile modulus, psi ⁽¹⁾	Laminate - 10 oz. (7500) Fabric Laminate - 8 oz. (181) Fabric [,]	3,988,675 psi 3,197,430 psi		
Flexural Strength, psi ⁽¹⁾	Laminate - 10 oz. (7500) Fabric Laminate - 8 oz. (181) Fabric ⁾	59,110 psi 74,727 psi	D700	
Flexural Modulus, psi ⁽¹⁾	Laminate - 10 oz. (7500) Fabric Laminate - 8 oz. (181) Fabric [,]	2,612,766 psi 3,345,683 psi	0790	
Compressive Strength, psi		15,007 psi	DCOF	
Compressive Modulus, psi		384,653 psi	0095	
Izod Impact Strength, ft-Ibs / in of Notch, Method A - Notched		1.7	D256	
Glass Transition Temperature, DMA: Tg Onset (E') Peak		272ºF 302ºF	D4065	
Coefficient of Thermal Expansion, Range 40 ^o C to 60 ^o C		3.755 x 10⁻⁵ in./in./ ⁰F	D696	

⁽¹⁾ Tensile and Felxural Properties were Determined with .125" Laminates Made By Resin Infusion Process with Style 7500, 10

oz.Tooling Cloth and Style 181, 8 oz. Industrial Fabric.

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. <u>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.</u> 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, 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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