



PT2752 A/B

High Strength Toughened Infusion & Laminating System

DESCRIPTION

PT2752 is a high strength toughened epoxy system that is an ideal material for the production of very durable parts and structures which possess very high cured properties. With a low mixed viscosity, it is well suited to the resin infusion process, where it flows readily into the reinforcing fabric. It also performs very well in traditional hand lay-up operations and proves to be a quite versatile material for producing all types of parts and structures. Parts and structures that are subjected to high stress loads and severe impact abuse are good candidates for the tough nature of PT2752.

PRODUCT SPECIFICATIONS

	PT2752 Part A	PT2752 Part B	ASTM Method
Color	Light Amber	Light Amber	Visual
Viscosity, @77°F, centipoise	13,000 cps	60 cps	D2392
Specific Gravity, gms./cc	1.16	0.96	D1475
Mix Ratio	100 : 40 By Weight or 2 to 1 By Volume		PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F	55 - 66 minutes		D2471

HANDLING and CURING

The high performance ingredients and additives used in PT2752 require a heat cure to develop optimum properties with this system. PT2752 will gel hard overnight at room temperature, but the material is brittle at this stage. Even after 3 weeks at room temperature, the material will achieve only 2/3 of ultimate properties, and it is still brittle! It must be given some heat to cure sufficiently for service. Also, **the part or structure must be supported during heat cure** to prevent sag or distortion at elevated temperature before full cure. The amount and duration of the heat cure needed can be determined by the end use of the part or structure. The more heat applied, the higher the resulting strengths and heat resistance. The following test results can be used to determine the cure cycle best suited to your application:

Allow to Gel @ Room Temp.	Initial Cure	Post Cure	% of Full Cure Attained
6 - 8 Hours	Overnight @ 115°F		79 %
Overnight @ Room Temp.		5 - 6 Hours @ 150°F	85 %
6 - 8 Hours	Overnight @ 150°F		98 %
6 - 8 Hours	Overnight @ 150°F	2 - 3 Hours @ 175-180°F	100 %

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit	Drum Kit
PT2752 Part A	9 lb.	35 lb.	450 lb.
PT2752 Part B	3.6 lb.	2 @ 7 lb. ea.	180 lb.
Kit	12.6 lb.	49 lb.	630 lb.

TYPICAL MECHANICAL PROPERTIES

	PT2752 A/B		ASTM Method
Mix Ratio, By Weight, Volume	100 : 40 By Weight or 2 to 1 By Volume		PTM&W
Color	Light Amber		Visual
Mixed Viscosity, @77°F, centipoise	650 cps		D2393
Pot Life, 4 fl. Oz. Mass, @77°F	55 - 65 minutes		D2471
Cured Hardness, Shore D	87 Shore D		D2240
Specific Gravity, grams, cc	1.09		D1475
Density, lb./cu. Inch lb. / gallon	0.0394 9.1 lb.		D792
Specific Volume, cu. in./lb.	25.4		
Tensile Strength, psi, Cast Bar	8,968 psi (62 MPa)		D638
Elongation at Break, % Cast Bar	8.54 %		
Tensile modulus, psi Cast Bar	421,855 psi (2,909 MPa)		
	<u>Glass Laminate</u> ¹	<u>Carbon Laminate</u> ²	
Tensile Strength, psi Laminate	51,800 psi (357 MPa)	90,854 psi (627 MPa)	D638
Elongation at Break, % Laminate	1.77 %	1.41 %	
Tensile modulus, psi Laminate	3,796,836 psi (26,185 MPa)	6,373,907 psi (43,958 MPa)	
Flexural Strength, psi Cast Bar	15,393 psi (106 MPa)		D790
Flexural Modulus, psi Cast Bar	455,033 psi (3,128 MPa)		
Flexural Strength, psi Laminate	57,435 psi (396 MPa)	95,926 psi (662 MPa)	D790
Flexural Modulus, psi Laminate	3,363,756 psi (23,198 MPa)	5,317,661 psi (36,674 MPa)	
Compressive Strength, psi	12,656 psi (87 MPa)		D695
Compressive Modulus, psi	467,834 psi (3,226 MPa)		
Izod Impact Strength, Method A, Notched, ft.lb./in. of notch	2.184 (116.6 J/m)		D256
Glass Transition Temperature, DMA: Tg, E' (Onset) Tg, Peak	170°F 189°F		D4065
Coefficient of Thermal Expansion, Range 40°C to 80°C	4.75 x 10 ⁻⁵ in./in./ °F		D696

1. Properties Determined with 14 Plies Style 7781 Fabric, 0° Rotation, 33% Resin Content, Infused, Cured Overnight @ 150°F.

2. Properties Determined with 16 Plies 3K - 2X2 Carbon Twill, 0°, 45°, 90°, 45° Rotation, 35% Resin Content, Infused, Cured Overnight @ 150°F.

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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PTM&W Industries, Inc.

10640 S. Painter Avenue Santa Fe Springs, CA 90670-4092

562-946-4511 800-421-1518 FAX: 562-941-4773

Visit Us At: www.ptm-w.com

Send Questions To: info@ptm-w.com