



# MVS-610

## Low Viscosity Room Temperature Infusion System

### DESCRIPTION

MVS-610 is a very low viscosity epoxy resin intended for the vacuum-assisted resin infusion process. Two hardeners are listed here with different gel times for a variety of part sizes. The mixed viscosities of these two systems are very low, and result in rapid infusion in even the most dense fiber stacks. This feature is very desirable in production applications, allowing quick turnaround for increased production. The MVS-610 System is ideal for quickly producing a variety of parts and shapes that offer very good cured properties and long term stability.

### PRODUCT SPECIFICATIONS

	MVS-610	MVS-615	MVS-620	ASTM Method
Color	Clear	Light Amber	Light Amber	Visual
Viscosity,	800 cps	17 cps	9 cps	D2392
Specific Gravity, gms./cc	1.11	0.96	0.94	D1475
Mix Ratio	100 : 18 By Weight			PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		30 minutes	2 hours	D2471

### HANDLING and CURING

The MVS-615 hardener has a 30 minute pot life and the MVS-620 hardener has a 2 hour pot life. Both hardeners will gel and cure completely at room temperature, and the room temperature cure will provide excellent cured properties sufficient for tough, durable parts and shapes. If a faster cure to full properties is required, the laminate should be allowed to gel at room temperature followed by an oven heat cure of 4 to 6 hours at 140°F to 180°F. An oven heat cure will provide improved stability at elevated temperatures, so it is recommended when the part is exposed to some heat in service. The properties on this bulletin were derived with a heat cure of 4 hours at 150°F.

### PACKAGING WEIGHTS

	Gallon Kit	Pail Kit	Drum Kit
MVS-610 Resin	9 lb.	40 lb.	500 lb.
MVS-615 or MVS-620 Hardeners	1.66 lb.	7.25 lb.	90 lb. (3 @ 30 lb. ea.)
Kit	10.66 lb.	47.25 lb.	590 lb.

**TYPICAL MECHANICAL PROPERTIES**

	MVS-610 / MVS-615 <sup>(1)</sup>	MVS-610 / MVS-620 <sup>(1)</sup>	ASTM Method
Mix Ratio, By Weight	100 : 18	100 : 18	PTM&W
Color	Clear	Clear	Visual
Mixed Viscosity, centipoise	250 cps	240 cps	D2393
Pot Life, 4 fl. Oz. Mass, @77°F	30 minutes	2 hours	D2471
Cured Hardness, Shore D	88 Shore D	88 Shore D	D2240
Specific Gravity, grams, cc	1.084	1.08	D1475
Density, lb./cu. Inch lb. / gallon	.0392 9.05	.0390 9.01	D792
Specific Volume, cu. in./lb.	25.53	25.63	
<b>Cast Bar - Neat Resin/Hardener</b>			
Tensile Strength, psi	10,040 psi (69.226 Mpa)	10,567 psi (72.859 Mpa)	D638
Elongation at Break, %	2.9 %	4.36 %	
Tensile modulus, psi	434,253 psi (2994.174 Mpa)	431,954 psi (2978.323 Mpa)	
Flexural Strength, psi	17,682 psi (121.904 Mpa)	18,243 psi (125.785 Mpa)	D790
Flexural Modulus, psi	474,109 psi (3268.982 Mpa)	462,257 psi (3187.262 Mpa)	
Compressive Strength, psi	14,256 psi (98.295 Mpa)	13,899 psi (95.833 Mpa)	D695
Compressive Modulus, psi	409,466 psi (2823.268 Mpa)	418,857 psi (2888.019 Mpa)	
Izod Impact Strength, Method A, Notched	1.34	1.68	D256
<b>Infused Laminate - Style 7500 Fabric, 38 % Resin Content</b>			
Tensile Strength, psi	49,516 psi (341.413 Mpa)	44,732 psi (308.407Mpa)	D638
Elongation at Break, %	2.10%	1.91 %	
Tensile modulus, psi	2,543,833 psi (17,539.7208 Mpa)	2,276,782 psi (15,698.412 Mpa)	
Flexural Strength, psi	55,235 psi (380.845 Mpa)	56,272 psi (387.995 Mpa)	D790
Flexural Modulus, psi	2,550,761 psi (17,587.497 Mpa)	2,492,944 psi (17,188.849 Mpa)	
Glass Transition Temperature, DMA: T <sub>g</sub> (Peak) E' (Onset)	207.0 °F 180.7 °F	209.5 °F 182.8 °F	D4065
HDT @ 264 psi	168.0 °F	174.5 °F	D648

(1) The properties on this bulletin were derived with a heat cure of 4 hours at 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](http://www.ptm-w.com) Send Questions To: [info@ptm-w.com](mailto:info@ptm-w.com)