



PT4151 VERSATILE EPOXY CASTING RESIN

DESCRIPTION

PT4151 is a medium viscosity, easily poured epoxy casting resin specifically formulated to provide a non-galling, self-lubricating cured surface. PT4151 contains a special blend of non-metallic fillers that provide easy mixing and handling, low shrinkage and special cured properties. This resin is ideally suited for metal forming operations as well as a variety of general tooling uses. PT4151 has been designed to be virtually non-settling when stored under moderate temperature conditions. If the resin is quite old, or if it has been exposed to higher than normal temperatures, it should be stirred before use as a normal precaution.

As PT4151 is an economical resin, it has been used extensively as a tooling backup resin, with the incorporation of a variety of bulk fillers. The mixed viscosity of the system is sufficiently low to allow the addition of large quantities of sand, aggregates or other clean, dry bulk fillers to provide low-cost tool backing.

PRODUCT SPECIFICATIONS

	PT4151 Part A	PT4151 Part B	PT4151 Part B1	ASTM Method
Color	Tan	Amber	Amber	Visual
Viscosity, @77°F, centipoise	140,000 cps	850 cps	700 cps	D2392
Specific Gravity, gms./cc	1.35	.99	.94	D1475
Mix Ratio		100 : 25 By Weight**		PTM&W
Pot Life, 4 fl.oz. Mass @ 77°F		100 : 26 By Weight**		D2471

** These are variable ratio hardeners that will provide good cures over a wide ratio range. The optimum ratio range for these hardeners is 20% to 30%. In this range, the highest cured hardness and best physical properties are obtained. Increasing the amount of hardener will lower the final cured hardness and increase the flexibility of the casting.

HANDLING and CURING

When using PT4151 with Parts B or B1, the material will cure completely at room temperature. The amount of time to cure will depend upon shop temperature, thickness of the casting and the insulating properties of the pattern/mold material. PT4151 Part B hardener is recommended for medium sized castings and for instances where bulk fillers are to be incorporated. PT4151 Part B1 hardener is intended for larger solid mass castings. The cure times for PT4151 were determined with 1000 gram mixtures cast into metal quart cans at 75°F ambient temperature. Under these conditions, PT4151 Part B required 24 hours, and PT4151 Part B1 required 48 hours to reach full properties.

PACKAGING WEIGHTS

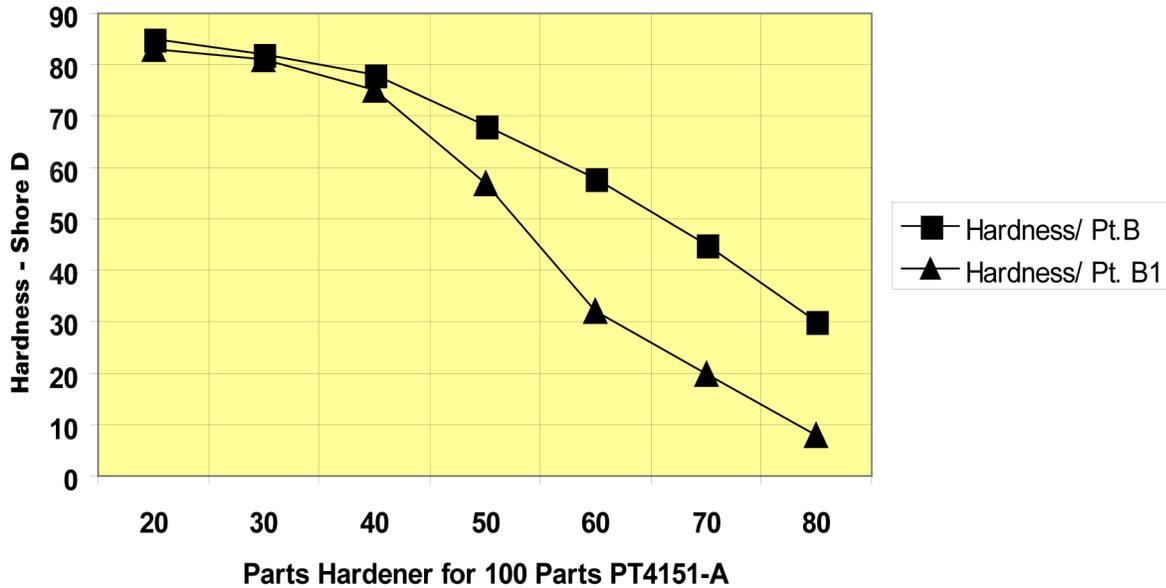
	Gallon Kit	Pail Kit
PT4151 Part A	11 lb.	30
PT4151 Part B	2.75	7.5
PT4151 Part B1	2.9	8

TYPICAL MECHANICAL PROPERTIES

	PT4151 A/B	PT4151 A/B1	ASTM Method
Mix Ratio, By Weight	100 : 25	100 : 26	PTM&W
Color	Tan	Tan	Visual
Mixed Viscosity, @77°F, centipoise	6,500 cps	6,000 cps	D2393
Pot Life, 4 fl. Oz. Mass, @77°F	2 hours	5 - 6 hours	D2471
Cured Hardness, Shore D	85 Shore D	84 Shore D	D2240
Shrinkage, inch/inch, Mold Number 2, Volume: .344 gal.	.001	.0009	D2566
Specific Gravity, grams, cc	1.34	1.31	D1475
Density, lb./cu. Inch lb. / gallon	.0485 11.2	.0474 10.9	D792
Specific Volume, cu. in./lb.	20.6	21.1	
Tensile Strength, psi	9,200 psi	8,900 psi	D638
Flexural Strength, psi	13,500 psi	11,500 psi	D790
Compressive Strength, psi	17,000 psi	14,500 psi	D695

SPECIAL INFORMATION

The chart below is provided to illustrate the effects of varying the mix ratio of PT4151 resin and hardeners. As is typical of the variable ratio type hardener, when the amount of hardener is increased above the optimum, the cured hardness of the casting is correspondingly decreased.



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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