



PT7240 & PT7250 Soft, Flexible Urethane Elastomers

DESCRIPTION

The Shore A-40 and A-50 urethane systems described here are tough, soft, highly resilient polyurethane elastomers that have good handling characteristics and excellent cured properties. These high physicals make them ideally suited for applications such as bumpers, pads, flexible molds or soft parts where a high degree of flexibility and toughness is required. Their relatively high tensile strengths make them good performers for complicated masking or holding fixtures where the tooling needs to be stretched to apply and remove. These two systems are very low in viscosity, so they mix and pour with great ease. They will duplicate the finest detail without trapping air. They are very clear, and light amber in tint, so they can be easily pigmented if desired, for a broad range of finished part colors.

PRODUCT SPECIFICATIONS

	Shore A-40 System		Shore A-50 System		ASTM Method
	PT7240 A	PT7240 B	PT7250 A	PT7250 B	
Color	Amber	Amber	Lt. Amber	Lt. Amber	Visual
Viscosity, @77°F, centipoise	1175 cps	25 cps	1600 cps	20 cps	D2393
Specific Gravity, gms./cc	1.04	1.08	1.04	1.08	D1475
Mix Ratio, By Wt.	100 : 75		100 : 70		PTM&W
Pot Life, 4 fl. Oz. Mass @ 77°F	20 - 25 min.		18 - 22 min.		D2471

HANDLING and CURING

Generally, with polyurethane elastomers, full properties are developed in 7 days at room temperature (75°F). Temperatures below 75°F will lengthen the cure time, and if the ambient temperature is below 60°F, additional heat may be necessary for proper cure. Elevated temperatures will accelerate the cure of urethanes, but care must be taken if a higher temperature is used to cure the material. Generally, the higher the curing temperature, the greater the final cured shrinkage. When heat curing for more rapid processing, to best control shrinkage, the casting should be allowed to set for 12 to 18 hours at room temperature before an oven post cure. A typical accelerated curing cycle, therefore, would be: Allow to gel on the pattern for 12 to 18 hours at room temperature (70°F to 80°F), then post cure for a minimum of 8 hours at 150°F to 165°F and allow to cool before demolding.

PACKAGING WEIGHTS

	Gallon Kit	Pail Kit
PT7240 Part A	8 lb.	40 lb.
PT7240 Part B	6 lb.	30 lb.
Shore A-40 Kit	14 lb.	70 lb.
PT7250 Part A	8 lb.	40 lb.
PT7250 Part B	5.75 lb.	28 lb.
Shore A-50 Kit	13.75 lb.	68 lb.

TYPICAL MECHANICAL PROPERTIES

	PT7240 A / B	PT7250 A / B	ASTM Method
Mix Ratio, By Weight	100 : 75	100 : 70	PTM&W
Color	Lt. Amber	Lt. Amber	Visual
Mixed Viscosity, @77°F, centipoise	825 cps	950 cps	D2393
Working Time, 4 fl. Oz. Mass, @77°F	25 min.	20 min.	D2471
Cured Hardness, Shore D	40 A ± 5	50 A ± 5	D2240
Shrinkage, inch/inch Mold Number 1, Volume: .053 Gallon	.0006 in./in.	.0009 in./in.	D2566
Specific Gravity, grams, cc	1.057	1.056	D1475
Specific Volume, cu. in./lb.	26.2	26.2	D792
Tensile Strength, psi	800 psi	775 psi	D638
Elongation at Break, %	525 %	450 %	
Tensile modulus @ 100% Elongation	175 psi	200 psi	D412
Tensile modulus @ 200% Elongation	300 psi	375 psi	
Tensile modulus @ 400% Elongation	520 psi	550 psi	
Tear Strength, Die C, pli	180 pli	165 pli	D624
Compression Set, Method B	45 %	30%	D395
Bashore Rebound	65%	64%	D2632
Taber Abrasion, H18 Wheel, 1000 grams, 1000 cycles, mg loss	6 mg.	5 mg.	D1044

SAFETY and HANDLING

PTM&W urethane 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 urethane 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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