



PT7705 Shore D-75 Rigid Urethane Elastomer

DESCRIPTION

PT7705 is a white, Shore D-75 urethane casting system that is very good for making short run parts and other castings. It has an easy 1 to 1 mix ratio for quick preparation, and a low mixed viscosity for rapid mold filling. PT7705 will fill complicated molds and pick up fine detail with ease. Cured castings made with PT7705 are bright white in color, possess very good tensile strength, and thin section areas have good stiffness. These features makes PT7705 ideal for the casting of prototypes to simulate molded parts. It is also an excellent material for preproduction checking of injection molds, as the low viscosity allows easy hand injection into the most detailed cavities. Ease of use and superior properties have made this product very popular for high performance parts and castings.

KEY FEATURES

- 1:1 Mix Ratio for Ease of Use
- Low Viscosity for Good Detail Pickup
- High Cured Physical Properties
- Good Stiffness in Thin Sections
- Good Hot Strength

RECOMMENDED APPLICATIONS

- Production Casting of High Strength Parts
- Prototype and Short Run Molded Parts
- Preproduction Checking of Molds and Dies
- Industrial Models and Display Items
- Seals, Bushings and Other Mechanical Items

PRODUCT SPECIFICATIONS

	PT7705 A	PT7705 B	ASTM Method
Color	Clear	Clear	Visual
Viscosity, @ 77°F, centipoise	60 cps	600 cps	D23932
Specific Gravity, gms./cc	1.13	1.07	D1475
Mix Ratio, By Wt.	100 : 100		PTM&W
Pot Life, 4 fl. Oz. Mass @ 77°F	30 - 40 minutes		D2471

HANDLING and CURING

PT7705 is an ideal material for applications where a room temperature cure is desired. This system has a longer pot life to allow the casting of thicker cross sections when needed. The cured material exhibits a smooth, dense surface for cosmetic appeal in the finished parts. PT7705 will cure completely at room temperature. Demold time for heavier section castings is 4 to 6 hours @ 77 ° F. Castings will develop strength sufficient for most applications in 18 to 24 hours at 77°F, and reach full cure in 7 days at room temperature. The full cure can be accelerated by oven curing after the material gels at room temperature. The time of the cure will depend upon the curing temperature; for example: at 150°F, the parts should be cured for 2 - 3 hours, however, at 120°F, the cure time should be 4 - 6 hours. Heat curing will increase the heat distortion temperature, and therefore improve the heat stability of the cured material.

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TYPICAL MECHANICAL PROPERTIES

	PT7705 A / B	ASTM Method
Mix Ratio, By Weight	100 : 100	PTM&W
Color	White	Visual
Mixed Viscosity, @ 77°F, centipoise	300 cps	D2393
Working Time, 4 fl. Oz. Mass, @77°F	30 - 40 minutes	D2471
Cured Hardness, Shore D	@77°F 75 Shore D \pm 5 @180°F 66 Shore D	D2240
Specific Gravity, grams, cc	1.10	D1475
Density, lb./cu. Inch	.0397	D792
Specific Volume, cu. in./lb.	25.2	D792
Tensile Strength, psi	5,000 psi	
Elongation at Break, %	20 %	D638
Tear Strength, Die C, pli	750 pli	D624
Compressive Strength, psi	7,000 psi	D395
Bashore Rebound	62 %	D2632
Heat Distortion Temperature,	@ 264 psi @ 66 psi	125°F 138°F 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.

PACKAGING WEIGHTS

	Quart Kit	Gallon Kit	Pail Kit
PT7705 A	2 lb.	8 lb.	38 lb.
PT7705 B	2 lb.	8 lb.	38 lb.
Kit	4 lb.	16 lb.	76 lb.

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