



PT7667 A/B Shore D-65 Urethane Casting System

DESCRIPTION

PT7667 A/B is a tough, hard elastomeric material that has superior toughness and abrasion resistance, for good performance in demanding industrial applications. It has a good low mixed viscosity for easy processing, and it will duplicate fine detail pattern surfaces quite well. PT7667 has low initial cured shrinkage, and remains stable throughout its service life.

PT7667 will make extremely durable patterns, dies, fixtures and molds. It has very good tensile strength and high elongation properties, for good long-term toughness. Its excellent abrasion resistance makes it ideal for use in foundry patterns. Being slightly harder than usual candidates for this application, there is less tendency for sand to stick to such patterns.

PT7667 can be considered a very low hazard potential product, as it does not contain any toxic or regulated raw materials in its makeup. It does not contain methylene dianiline (MDA), or other potentially harmful aniline derivatives, nor does it contain MBOCA or TDI, and does not include any hazardous or potentially regulated diluents.

PRODUCT SPECIFICATIONS

| | PT7667 Part A | PT7667 Part B | ASTM Method |
|---------------------------------|------------------------------|---------------|-------------|
| Color | Lt. Amber | Amber** | Visual |
| Viscosity, centipoise | 4,000 cps | 180 cps | D23932 |
| Specific Gravity, gms./cc | 1.08 | 1.09 | D1475 |
| Mix Ratio, By Wt. | 100 : 50 By Weight or Volume | | PTM&W |
| Pot Life, 4 fl. Oz. Mass @ 77°F | 20 - 25 minutes | | D2471 |

** A Black and A Red Version Of PT7667 Part B are available by Special Order.

HANDLING and CURING

Generally, with polyurethane elastomers, full properties are developed in 7 days at room temperature (75°F). The nature of this system is to cure somewhat faster, however, so the castings reach full properties sooner than the 7 days. Almost 90% of full hardness is reached in a few hours, and the ultimate cured hardness is achieved in 24 to 36 hours. This faster "through cure" allows faster tool production rates, and therefore more efficient production. 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 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 hours at room temperature (70°F to 80°F), then post cure for a minimum of 4 hours at 150°F to 165°F and allow to cool before demolding.

TYPICAL MECHANICAL PROPERTIES

| | PT7667 A/B | ASTM Method |
|---|------------------------------|-------------|
| Mix Ratio, | 100 : 50 By Weight or Volume | PTM&W |
| Color | Amber, Red or Black** | Visual |
| Mixed Viscosity, centipoise | 2,700 cps | D2393 |
| Working Time, 4 fl. Oz. Mass, @77°F | 20 - 25 minutes | D2471 |
| Cured Hardness, Shore D | 65 D | D2240 |
| Shrinkage, inch/inch Mold Number 1, .053 Gallon Volume | 0.001 inch / inch | D2566 |
| Specific Gravity, grams, cc | 1.08 | D1475 |
| Density, lb./cu. Inch | .0390 | D792 |
| Specific Volume, cu. in./lb. | 25.6 | D792 |
| Tensile Strength, psi | 6,558 psi | D638 |
| Elongation at Break, % | 633 % | |
| Tensile modulus @ 100% Elongation | 2,055 psi | D412 |
| Tensile modulus @ 200% Elongation | 2,551 psi | |
| Tensile modulus @ 400% Elongation | 4,184 psi | |
| Tear Strength, Die C, pli | 654 pli | D624 |
| Compression Set, Method B | 85 % | D395 |
| Bashore Rebound | 52 % | D2632 |
| Taber Abrasion, H18 Wheel, 1000 grams load, 1000 cycles, mg loss | 37 mg. | D1044 |

** A Black and A Red Version Of PT7667 Part B are available by Special Order. Amber is the standard color.

PACKAGING WEIGHTS

| | Gallon Kit | Pail Kit | Drum Kit |
|---------------|------------|----------|----------|
| PT7667 Part A | 8 lb. | 40 lb. | 460 lb. |
| PT7667 Part B | 4 lb. | 20 lb. | 230 lb. |
| Kit | 12 lb. | 60 lb. | 690 lb. |

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.

PT7667 Bulletin / ZW-8 / 052307-C1



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