COMPOSITE POLYMER DESIGN

9107A PREPOLYMER
9107B CURATIVE

83 SHORE A - POLYURETHANE CASTING ELASTOMER

TECHNICAL DATA BULLETIN

SYSTEM BENEFITS:

CPD 9107A Prepolymer with CPD 9107B Curative is a two component, tough and resilient, room temperature curing urethane elastomer suitable for general purpose molding and casting of various shapes. This system may be used to provide abrasion resistant liners, pads and bumpers. It is also useful in potting and encapsulation applications.

- Flexible casting
- Medium gel time
- 83 Shore A

HANDLING PROPERTIES	CPD 9107B	Test Method
Part A Density at 25°C, g/cm^3 (lbs/gal)	1.03 (8.58)	ASTM D1475
Part B Density at 25°C, g/cm^3 (lbs/gal)	1.04 (8.63)	ASTM D1475
Part A Viscosity at 25°C, cP	6,750	ASTM D2196
Part B Viscosity at 25°C, cP	40	ASTM D2196
Mix Ratio by Weight	100A : 25B	Calculated
Mix Ratio by Volume	100A : 24.9B	Calculated
Initial Mixed Viscosity 25°C, cP	3,850	ASTM D2196
Gel Time at 25°C, minutes	33	ASTM D2471
Work Life at 25°C, minutes	22	Time to 20,000 cP
Demold Time at 25°C, hours	16 – 24	
Demold Time at 66°C, hours	2 – 4	
Full Cure at 25°C, days	3 - 5	

PHYSICAL PROPERTIES	CPD 9107B	Test Method
Tensile Strength, psi	1,730	ASTM D412
Tensile Elongation, %	700	ASTM D412
Tensile Modulus at 100%, psi	530	ASTM D412
Tensile Modulus at 300%, psi	870	ASTM D412
Split Tear, ppi	54/51	ASTM D470/1938
Tear Strength, ppi	165	ASTM D624 Die C
Cured Density, g/cm^3 (lbs/in^3)	1.03 (0.037)	ASTM D792
Hardness, Shore A	83	ASTM D2240
Linear Shrinkage, in/in	0.0005	ASTM D2566

ELECTRICAL PROPERTIES	CPD 9107B	Test Method
Dielectric Strength at 25°C, volts/mil	375	ASTM D149
Dielectric Constant at 25°C, 10^6 HZ	5.3	ASTM D150
Dielectric Constant at 25°C, 10^3 HZ	6.0	ASTM D150
Volume Resistivity at 25°C, 1000V, ohm-cm	1×10^{14}	ASTM D257
Surface Resistivity at 25°C, 1000V, ohm-cm	2×10^{14}	ASTM D257
Insulation Resistance at 25°C, ohms after 25 days at 95°F/95% RH	5×10^{11}	WE AT8612

SYSTEM POST CURE OPTIONS:

Select one of the following cure schedules depending on the available time, the physical properties of the mold and the desired physical properties of the final part. Post cure the part to obtain maximum physical and thermal properties of the system. The recommended post cure temperature ramp rate between stages is up 5°F per minute for heating and down 1-2°F per minute for cooling. Heating and cooling ramp rates can vary based on size and thickness of the part. For larger thicker parts use a more conservative ramp. If you need to deviate from the recommended post cure schedule, please contact our technical service department.

CURE INCREMENTS:

CPD 9107B	24 Hours at 77°F (25°C)	7 Days at 77°F (25°C)	4 Hours at 150°F (66°C)
Room Temperature Cure	Supported	Unsupported	
Post Cure	Supported		Unsupported

MIXING AND SURFACE PREP:

Always use the recommended mix ratio for the system. Do not deviate in an attempt to speed up or slow down gel time. Mix together thoroughly, scraping sides and bottom of mixing container, until no streaks or striations are visible, then use immediately. Use only clean dry tools for mixing and applying. Do not mix or apply below 60°F. All surfaces must be clean, dry, and free of any surface contamination. Molds and patterns should be treated with release or parting agents.

STORAGE:

Store between 60-90°F in a dry place. After use, tightly reseal all containers and store products on a raised surface during cold weather and avoid storing near outside walls or doors. Purge with dry nitrogen, or other inert gas, to keep dry. Will react with water. Do not allow to freeze during winter storage.

SAFETY HANDLING:

Wear protective gloves, clothing, and eye/face protection. Use only outdoors or in a well-ventilated area. Avoid contact to the skin and eyes. Avoid breathing dust, fumes, gas mist, vapors and spray. Wash hands thoroughly after handling. Take off contaminated clothing and wash before reuse. These products may cause skin and respiratory allergic reactions. Consult product Safety Data Sheets for complete precautions for use of this product.

Endurance Technologies, Inc. has experience only in the compounding of resins and hardeners and not in the actual manufacture of tools or parts. Each piece is different. The user should run tests to assure the suitability of the system for use in a particular application. The test data and results set forth herein are based on laboratory work and do not necessarily indicate the results that the buyer or user will attain.

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