Composite Polymer Design ELASTOMERS

TECHNICAL DATA BULLETIN

65 SHORE A - FLEXIBLE POLYURETHANE CASTING ELASTOMER

9164A PREPOLYMER / 9164B CURATIVE

CPD 9164A with CPD 9164B is a tough, two component, room temperature curing, general purpose, urethane elastomer. It is suitable for casting shapes, molds, bumpers, etc., lining core boxes and wood patterns; and is very useful in potting and encapsulation applications. It may also find use in specialty adhesive applications. This system exhibits excellent flexibility at very low temperatures.

HANDLING PROPERTIES

	VALUE	TEST METHOD
Density, Part A at 25°C, g/cm^3 (lbs/gal)	1.03 (8.57)	ASTM D1475
Density, Part B at 25°C, g/cm^3 (lbs/gal)	1.07 (8.91)	ASTM D1475
Part A Viscosity at 25°C, cP	6,750	ASTM D2196
Part B Viscosity at 25°C, cP	62	ASTM D2196
Mixed Viscosity at 25°C, cP	3,950	ASTM D2196
Mix Ratio By Weight	100A : 22B	Calculated
Mix Ratio By Volume	100A : 21.1B	Calculated
Work Life at 25°C, minutes	26	Time to 20,000cP
Gel Time at 25°C , minutes	32	ASTM D2471
Demold Time at 25°C, hours	12-24	
Demold Time at 82°C, hours	2	
Complete Cure at 25°C, days	3-4	

PHYSICAL PROPERTIES

	VALUE	TEST METHOD
Color	Brown	Visual
Hardness, Shore A	65	ASTM D2240
Tensile Strength, psi	1075	ASTM D412
Tensile Elongation %	725	ASTM D412
Modulus of Elasticity, psi	336	
Tear Strength, ppi	265	ASTM D624 Die C
Linear Shrinkage, in/in	0.0035	ASTM D2566
Density Cured, g/cm^3 (lbs/in^3)	1.07 (0.039)	ASTM D792
Volumetric Yield, in^3/lb	25.5	ASTM D792
Split Tear, ppi	66/72	ASTM D470/1938
Low Temperature Flexibility, Tg, °C	-54	
Volume Resistivity at 25°C, 1000V, ohm-cm	1 x 10^{12}	ASTM D257

SYSTEM POST CURE OPTIONS:

Select one of the following cure schedules depending on the available time, the physical properties of the master and the desired physical properties of the final part. Please contact technical service if you find it necessary to follow a different post cure schedule.

CURE INCREMENTS:

	OPTION 1	OPTION 2
24 hrs. at 77ºF (25ºC)	X (S)	X (S)
*7 days at 77ºF (25ºC)	X (U)	
4 hrs. at 150ºF (66ºC)		X (U)

*For full cure at room temperature

S = Supported U = Unsupported

TOOL, MOLD AND/OR PATTERN PREPARATION:

Wood structures should be sealed. Gypsum molds should be dried to remove free moisture and preferably sealed with the PFP process or appropriate sealer. All non-porous tools, molds or patterns should be treated with release or parting agents, which can withstand the temperature that the part will be cured at while remaining in a supported position.

STORAGE AND HANDLING:

Store at 60-100ºF in a dry place. After use, tightly reseal. Always use clean dry tools for mixing and applying. Mix according to the mix ratio stated for the specific product as listed on the front page. Mix together thoroughly and use immediately. Material temperatures should not be below 65ºF when mixing.

SAFETY HANDLING:

Work in well ventilated areas using gloves, eye protection and clothing protection. Avoid contact to the skin and eyes. Avoid clothing contamination. Wash thoroughly after handling. These products may cause skin and respiratory allergic reactions. Consult Material Safety Data Sheets for complete precautions with this product.

Endurance Technologies, Inc. is not a patternmaker. We have experience only in the compounding of resins, not in the actual manufacture of the tools or patterns. Each part 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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