

# Composite Polymer Design

ELASTOMERS

## TECHNICAL DATA BULLETIN

### 35 SHORE A - OPTICALLY CLEAR URETHANE CASTING ELASTOMER 9135A PREPOLYMER / 9135B CURATIVE

CPD 9135 is an optically clear, very low viscosity, two component, tough, soft and flexible room temperature curing urethane elastomer. This product has excellent handling characteristics and very low sensitivity to moisture during processing and curing. Among its many uses are flexible cast parts, washers, gaskets, and flexible pads. CPD 9135 may also be used in potting and encapsulation.

#### HANDLING PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Density, Part A at 25°C, g/cm <sup>3</sup> (lbs/gal)	0.977 (8.14)	ASTM D1475
Density, Part B at 25°C, g/cm <sup>3</sup> (lbs/gal)	0.901 (7.51)	ASTM D1475
Part A Viscosity at 25°C, cP	380	ASTM D2196
Part B Viscosity at 25°C, cP	80	ASTM D2196
Mixed Viscosity at 25°C, cP	520	ASTM D2196
Mix Ratio by Weight	100A : 10B	Calculated
Mix Ratio by Volume	9.23A : 1B	Calculated
Work Life at 25°C, minutes	14	Time to 20,000cP
Gel Time at 25°C, minutes	23	ASTM D2471
Demold Time cP 25°C, hours	16-24	
Demold Time cP 66°C, hours	2-3	
Complete Cure cP 25°C, days	3-5	

#### PHYSICAL PROPERTIES

	<u>VALUE</u>	<u>TEST METHOD</u>
Color	Clear	Visual
Hardness, Shore A	35	ASTM D2240
Tensile Strength, psi	700	ASTM D412
Tensile Modulus at 100%, psi	225	ASTM D412
Tensile Modulus at 300%, psi	530	ASTM D412
Elongation, %	650	ASTM D412
Tear Strength, pli	70	ASTM D624 Die C
Linear Shrinkage (in/in)	0.0006	ASTM D2566
Density Cured, g/cm <sup>3</sup> (lbs/in <sup>3</sup> )	0.98 (0.035)	ASTM D792
Split Tear, pli	60/72	ASTM D470/1938



**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 77°F (25°C)	X (S)	X (S)
*7 days at 77°F (25°C)	X (U)	
4 hrs. at 150°F (66°C)		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 60-100°F 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 65°F 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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