



# 8003A PREPOLYMER 8086B CURATIVE

80 SHORE D - CLEAR POLYURETHANE  
TECHNICAL DATA BULLETIN

## SYSTEM BENEFITS:

CPD 8003A Prepolymer with CPD 8086B Curative is a two part polyurethane system formulated to produce tough, crystal clear prototypes and parts. It offers a convenient 1 to 1 mix ratio by weight and a low mixed viscosity. The product also provides a combination of heat deflection temperature and Izod impact strength that rivals any product on the market today.

- Clear casting
- Medium gel time
- 80 Shore D

## HANDLING PROPERTIES

	CPD 8086B	Test Method
Part A Density at 25°C, lbs/gal	9.0	ASTM D1475
Part B Density at 25°C, lbs/gal	8.7	ASTM D1475
Part A Viscosity at 25°C, cP	250	ASTM D2196
Part B Viscosity at 25°C, cP	1,350	ASTM D2196
Mix Ratio by Weight	100A : 100B	Calculated
Mix Ratio by Volume	100A : 104B	Calculated
Initial Mixed Viscosity 25°C, cP	800	ASTM D2196
Gel Time at 25°C, 100g mass, minutes	15	ASTM D2471
Demold Time at 25°C, minutes	140	
Demold Time at 40°C, minutes	60	
Shelf life, months	6	

## PHYSICAL PROPERTIES

	CPD 8086B	Test Method
Color	Crystal clear	Visual
Izod Impact, Notched, ft-lb/in	1.10	ASTM D256
Tear Strength, ppi	500	ASTM D624 Die C
Tensile Strength, psi	5,800	ASTM D638
Tensile Elongation, %	30	ASTM D638
HDT at 66 psi, °F	150	ASTM D648
Compressive Strength psi	7,000	ASTM D695
Flexural Strength, psi	10,800	ASTM D790
Cured Density, g/cm <sup>3</sup> (lbs/in <sup>3</sup> )	1.06 (0.038)	ASTM D792
Volumetric Yield, in <sup>3</sup> /lb	26.3	ASTM D792
Hardness, Shore D	80	ASTM D2240
Linear Shrinkage, in/in	0.007	ASTM D2566

## 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 8086B	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.

Polytek Development Corp. 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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