

## SYSTEM BENEFITS:

CPD 406A Resin with CPD 406B Hardener is a white, easy to brush, thixotropic surface coat with good “hang” characteristics for tooling and pattern making applications. It is designed for use with the CPD 506 white laminating resin to produce white, dimensionally stable patterns and molds. CPD 406 can be brushed on or applied with a squeegee to the surface of models or patterns.

- Surface coat
- Room temp
- Brushable

### HANDLING PROPERTIES

	CPD 406B	Test Method
Resin Density at 25°C, lbs/gal	13.6	ASTM D1475
Hardener Density at 25°C, lbs/gal	9.0	ASTM D1475
Mix Ratio by Weight	10A : 1B	Calculated
Mix Ratio by Volume	6.6A : 1B	Calculated
Initial Mixed Viscosity 25°C, cP	Thixotropic paste	ASTM D2196
Gel Time at 25°C, 150g mass, minutes	20 - 25	ASTM D2471
Demold Time at 25°C, hours	12 – 16	Visual
Sag Test, 1/16”	Pass	Visual
Sag Test, 1/8”	Fail	Visual

### PHYSICAL PROPERTIES

	CPD 406B	Test Method
Color	White	Visual
Tensile Strength, psi	6,800	ASTM D638
HDT, Room Temp Cure, °F	130	ASTM D648
HDT, Post Cure, °F	165	ASTM D648
Compressive Strength, psi	13,800	ASTM D695
Flexural Strength, psi	10,300	ASTM D790
Hardness, Shore D	88 - 90	ASTM D2240
Cured Density, g/cm <sup>3</sup> (lbs/in <sup>3</sup> )	1.54 (0.056)	ASTM D792
Volumetric Yield, in <sup>3</sup> /lb	17.9	ASTM D792

## MOLD PREPERATION:

Metal and plastic molds do not require sealing. Porous mold materials, such as gypsum cement, wood, and plaster must be sealed to prevent the resin from sticking to the pores of the mold. Several mold sealants are available such as automotive type (quick drying) lacquer. Alternatively, CPD 504A/B laminating epoxy provides excellent results when diluted with methyl alcohol. After the resin and hardener have been mixed according to the directions, mix one part methyl alcohol to 3 parts of resin/hardener mixture. After the mold surface has been properly sealed, apply two coats of urethane wax release, buff the wax and then spray or brush on a thin coat of PVA.

## 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 406B	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 AND CRYSTALLIZATION:

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. If available, purge with dry nitrogen to preserve color and minimize moisture contamination. Do not allow to freeze during winter storage. Do not use material with any signs of crystallization such as solid chunks, grainy texture or white color. Crystallization can be reversed by heating the material to 125-140°F, and stirring occasionally, until all crystals dissolve.

## 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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