

## Polyurethane Casting System

Two component transparent vacuum casting

### Key Properties

- Easy to polish
- Transparent and pigmentable
- Good impact strength
- Good UV resistance

### Applications

- Functional prototype parts
- Short run production
- Rapid prototyping

### Processing Properties

			PC-3436	PH-3936
Color	visual		Transparent	Clear
Mix ratio		pb weight	100	180
Density	ASTM D-792	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )	ca. 65.6 (1.05)	ca. 66.8 (1.07)
Viscosity at 77°F (25°C)	ASTM D-2393	cP	1,100-1,400	200-300
			PC-3436 / PH-3936	
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	10,000 – 15,000	
Pot life at 77°F (25°C)	100 ml	min	18-22	
Demold time at 77°F (25°C)		min	110-130	

### Cured / Mechanical Properties

#### Cure: 2 days at 77°F (25°C)

			PC-3436 / PH-3936
Aspect	visual		Transparent
Density	ASTM D-792	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )	ca. 66.2 (1.06)
Shore D hardness	ASTM D-2240		80 – 85
Coefficient of thermal expansion	ASTM D-3386	10 <sup>-6</sup> F <sup>-1</sup> (10 <sup>-6</sup> K <sup>-1</sup> )	61 – 72 (110 – 130)
Flexural strength	ASTM D-790	psi	15,000 – 14,500
Flexural modulus	ASTM D-790	psi	334,000 – 348,000
Impact strength Charpy (edgewise)	ISO 179-1/1eU	KJ/m <sup>2</sup>	45 – 50

#### Cure: 4 hours at 150°F (70°C) + 16h at 221°F (100°C)

			PC-3436 / PH-3936
Glass Transition Temperature, T <sub>g</sub>	DSC	°F (°C)	223 – 232 (106 – 111)

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## Processing

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**The processing and material temperature should be between 68-77°F (20-25°C).**

Manual Processing:

Mix the two components thoroughly in the ratio indicated for 2 minutes.

Degas under 29 inches of vacuum for 5 to 10 minutes.

Pour into 158°F (70°C) preheated silicone mold for best results.

May be cured in a pressure pot but not under vacuum.

After 1 to 2 hours at room temperature place in oven at 158°F (70°C) for 2 hours.

Vacuum chamber processing – follow equipment manufactures' recommendation using preheated silicone mold.

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## Packaging

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RAKU® TOOL PC-3436

2.37# in 1 quart plastic F style bottle, 40 pounds in 5 gallon plastic pail

RAKU® TOOL PH-3936

4.30# in ½ gallon plastic F style bottle, 40 pounds in 5 gallon plastic pail

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## Storage

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Original containers should be kept tightly sealed and stored at ambient temperatures 59-86°F (15°C to 30°C). If properly stored the products have the shelf-life indicated on the product label.

Partly used containers should always be sealed appropriately and used up as soon as possible.

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## Handling Precautions

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Good workplace ventilation is to be ensured during processing. At the same time, the employer's liability insurance association's industrial hygiene safety regulations regarding the handling of reaction resins and their hardeners are to be observed. Please take heed of the appropriate safety data sheets.

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