

# RAKU-TOOL<sup>®</sup> PR-3602 (Polyol) / PH-3905 (Isocyanate)

## Prototyping System

### Fast curing, two component Polyurethane

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#### Key Properties

- Simulates PE/PP
- Good impact strength
- Temperature resistant
- Fast demold time

#### Applications

- Functional prototype parts & Bumpers
- Short run production
- Rapid Prototyping

#### Processing Properties

			PR-3602	PH-3905
Color	visual		Black	Brown
Mix ratio		pb weight	100	80
		pb volume	100	68
Density	ISO 1183	g/cm <sup>3</sup>	1.04	1.22
Viscosity at 25 °C	ISO 2555	m Pa.s	1800-2200	150-200
			PR-3602 / PH-3905	
Pot life at 25 °C		sec	60	
Layer thickness		mm	4	
Demold time (RT)		min	10-20	

#### Cured / Mechanical Properties

Cure: after initial hardening post cure in steps up to 80°C				PR-3602 / PH-3905
Appearance	visual			Black
Density	ISO 1183	g/cm <sup>3</sup>		1.14
Shore hardness D	ISO 868			70-75
Deflection temperature, HDT	ISO 75	°C		85-90
Tensile strength	ISO 527	MPa		25-30
Elongation at break	ISO 527	%		20-25
Flexural strength	ISO 178	MPa		35-40
Flexural modulus	ISO 178	MPa		800-900
Impact strength Charpy (edgewise)	ISO 179-1/1eU	KJ/m <sup>2</sup>		70-75
Tear strength	DIN 53515	N/mm		-
Abrasion	Taber	mm <sup>3</sup> /100R		50-55
Linear shrinkage		mm / m		-

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### Processing

**The processing and material temperature should be between 20-25 °C.**

The A component needs to be stirred well before use as some fillers might be prone to sedimentation.

**Hand mixing or manual processing of the material is not recommended.** To process the material it is recommended to use a two component low pressure casting machine with a static dynamic mixer. The material must be cast into the mold during the pot life time but not too fast to avoid any air entrapment. The recommended material temperature **must** be observed. Too high or low a material temperature will change the viscosity (high/low) and have a direct influence on the mixing ratio set up on the machine. Changes in the mixing ratio will result in faults in the finished part.

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### Packaging

RAKU-TOOL<sup>®</sup> PR-3602

RAKU-TOOL<sup>®</sup> PH-3905

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### Storage

Original containers should be kept tightly sealed and stored at ambient temperatures (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

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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