

# RAKU-TOOL<sup>®</sup> PR-3604 (Polyol) / PH-3905 (Isocyanate)

## Prototyping System

### Fast curing, two component Polyurethane

PC - Rev.-Status: 01- 2008/01/18

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**Key Properties**

- Simulates PP / ABS
- High temperature resistance (115°C)
- Longer pot life than PR-3605

**Applications**

- Functional prototype parts
- Short run production
- Rapid Prototyping

**Processing Properties**

			PR-3604	PH-3905
Color	visual		Black	Brown
Mix ratio		pb weight	100	100
		pb volume	100	87
Density	ISO 1183	g/cm <sup>3</sup>	1.06	1.22
Viscosity at 25 °C	ISO 2555	m Pa.s	1600-2000	150-200
			PR-3604 / PH-3905	
Pot life at 25 °C		sec	90	
Layer thickness		mm	5	
Demold time (RT)		min	15-25	

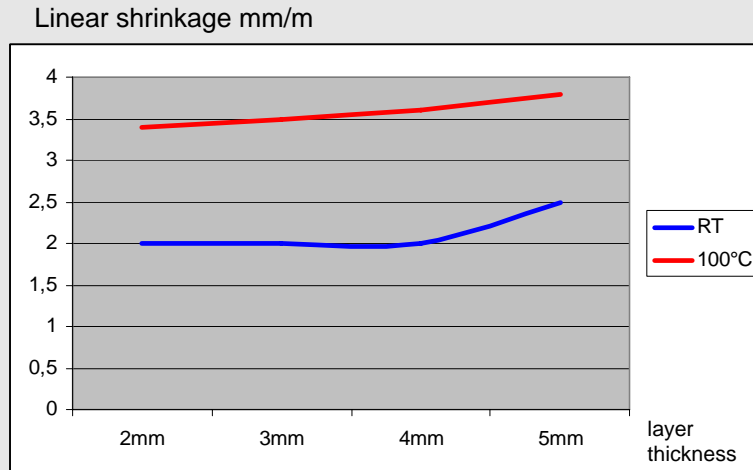
**Cured / Mechanical Properties**

<b>Cure:</b> after initial hardening post cure in steps up to 100°C			PR-3604 / PH-3905
Appearance	visual		Black
Density	ISO 1183	g/cm <sup>3</sup>	1.17
Shore hardness D	ISO 868		80-85
Deflection temperature, HDT	ISO 75	°C	110-115
Tensile strength	ISO 527	MPa	45-50
Elongation at break	ISO 527	%	10-15
Flexural strength	ISO 178	MPa	70-80
Flexural modulus	ISO 178	MPa	1800-2000
Impact strength Charpy (edgewise)	ISO 179-1/1eU	KJ/m <sup>2</sup>	35-40
Tear strength	DIN 53515	N/mm	-
Abrasion	Taber	mm <sup>3</sup> /100R	55-60
Linear shrinkage		mm / m	see graph on next page

**RAKU-TOOL® PR-3604 (Polyol) / PH-3905 (Isocyanate)**

Prototyping System

Fast curing, two component Polyurethane

**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.

**Packaging**

RAKU-TOOL® PR-3604

RAKU-TOOL® PH-3905

**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.

**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.