

RAKU-TOOL[®] PR-3603 (Polyol) / PH-3904 (Isocyanate) PH-3905 (Isocyanate)

Prototyping System

Fast curing, two component Polyurethane

PC - Rev.-Status: 01- 2009/06/26

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Key Properties

- Simulates PP/ABS
- Short demold time
- Good elastic memory

Applications

- Functional prototype parts
- Short run production
- Rapid Prototyping

Processing Properties

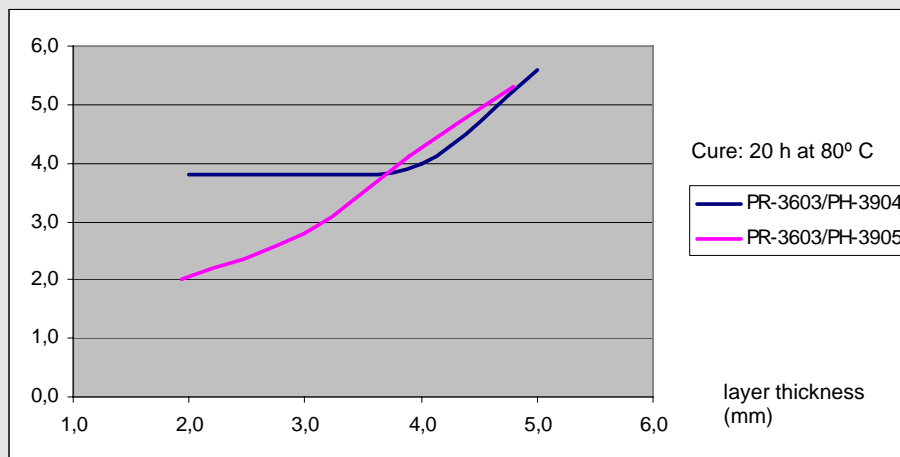
			PR-3603	PH-3904	PH-3905
Color	visual		Black	Yellowish	Brown
Mix ratio		pb weight	100	80	80
		pb volume	100	68	68
Density	ISO 1183	g/cm ³	1.03	1.21	1.22
Viscosity at 25 °C	ISO 2555	m Pa.s	1500-1900	20-40	150-200
			PR-3603 PH-3904	PR-3603 PH-3905	
Pot life at 25 °C		sec	50-60	50-60	
Layer thickness		mm	4	4	
Demold time (RT)		min	15-20	15-20	

Cured / Mechanical Properties

Cure: 7 days at RT or 14h at 40°C			PR-3603 PH-3904	PR-3603 PH-3905
Appearance	visual		Black	Black
Density	ISO 1183	g/cm ³	1.17	1.2
Shore hardness D	ISO 868		75-80	70-75
Deflection temperature, HDT	ISO 75	°C	65-70	75-80
Tensile strength	ISO 527	MPa	25-30	30-35
Elongation at break	ISO 527	%	20-25	38-43
Flexural strength	ISO 178	MPa	45-50	48-53
Flexural modulus	ISO 178	MPa	1200-1500	1100-1400
Impact strength Charpy (edgewise)	ISO 179-1/1eU	KJ/m ²	70-80	65-75
Linear shrinkage		mm / m	See page 2	See page 2



Linear shrinkage mm/m



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-3603	25 kg
RAKU-TOOL [®] PH-3904	20 kg
RAKU-TOOL [®] PH-3905	20 kg

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.