

# RAKU® TOOL

## PF-3701-2 (Polyol) / PH-3977 (Isocyanate)



### Fast Cast System

Two component, unfilled polyurethane, can be filled with AC-9004

#### Key Properties

- Fast cure and fast demold
- Unfilled, very low viscosity
- Very good temperature resistance
- Improved moisture resistance
- High fill rate possible
- Very high strength

#### Applications

- Foundry patterns, core boxes, negatives, pattern plates
- Checking casts
- Replicas
- Vacuum forming molds
- Jigs

#### Processing Properties

			PF-3701-2	PH-3977	AC-9004
Color	visual		Opaque	Yellowish	White
Mix ratio		pb weight	100	100	300
		pb volume	100	86	-
Density	ASTM D-792	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )	ca. 59.3 (0.95)	ca. 68.7 (1.10)	ca. 149.8 (2.40)
Viscosity at 77°F (25°C)	ASTM D-2393	cP	115-130	30-50	-

			PF-3701-2 / PH-3977	PF-3701-2 / PH-3977 AC-9004
Pot life at 77°F (25°C)	ASTM D-2393	cP	5-6	6-7
Max. Layer thickness		in/mm	0.79/20	3.15/80
Demold time at RT		h	1	2

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### Cured / Mechanical Properties

Cure: 7 days at RT or 14h at 104°F (40°C)

			PF-3701-2 / PH-3977	PF-3701-2 / PH-3977 AC-9004
Aspect	visual		White	Beige
Density	ASTM D-792	lb/ft <sup>3</sup> (g/cm <sup>3</sup> )	ca. 68.7 ca. (1.1)	ca. 99.9 ca. (1.6)
Shore D hardness	ASTM D-2240		70-75	80-85
Deflection temperature, HDT	ASTM D-648	°F (°C)	140 – 158 (60–70)	158 – 176 (70-80)
Compressive strength	ASTM D-695	psi	4,400 - 5,800	6,500 - 7,300
Compressive modulus	ASTM D-695	psi	116,000 - 131,000	435,000 - 450,000
Flexural strength	ASTM D-790	psi	4,400 - 5,800	5,100 – 6,500
Linear shrinkage		mm / m	n.a.	0.4

### Processing

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

The A component needs to be stirred well before use as some fillers might be prone to sedimentation. The fillers should first be mixed into the individual A and B components in a way so that the two components have about the same viscosity. This allows for easier and better mixing of the two components afterwards. With a bit of practice it is possible to mix small quantities of unfilled A and B and then add the filler without the pot life being too short for the casting process.

### Packaging

RAKU® TOOL PF-3701-2	6 x 0.26 gallons / 1.19 gallons / 5.28 gallons / (6x1 kg / 4.5 kg / 20 kg)
RAKU® TOOL PH-3977	6 x 0.26 gallons / 1.19 gallons / 5.28 gallons / (6x1 kg / 4.5 kg / 20 kg)
RAKU® TOOL AC-9004	5.28 gallons / 264.2 gallons (20 kg / 1000 kg)

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#### **Storage**

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**

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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