

Polyurethane Casting System

Two Component Mass Casting

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Key Properties

- Can be cast in thick layers and large volumes
- Low exothermic reaction in layers >600-1000mm
With direct casting (filled) >250mm up to max. 350 mm
- High mechanical properties (filled and unfilled)
- Minimal shrinkage
- Superior interlayer adhesion
- Casting viscosity can be adjusted
- Easily repaired or modified
- Recyclable

Applications

- Metal sheet forming tools
- Production of undersized cores for foundry patterns / core boxes
- Vacuum forming molds
- RIM molds
- Molds for prototyping
- Suitable for a wide range of full and face casting

Processing Properties

			PC-3403	PH-3903	AC-9004
Color	visual		Beige	Yellowish	White
Mix ratio		pbw	100	80	-
			100	80	380-400
Density	ISO 1183	g/cm ³	ca. 1.10	ca. 1.21	-
Viscosity at 25 °C	DIN 53019-1	mPa·s	2000-2500	20-40	-

			PC-3403 / PH-3903	PC-3403 / PH-3903 / AC-9004
Pot life at 25 °C	1000 ml	min	30-40	60
Layer thickness		mm	20	300
Demold time		h	18	18

Cured / Mechanical Properties

Cure: 7 days at RT or 14h at 40°C			PC-3403 / PH-3903	PC-3403 / PH-3903 / AC-9004
Appearance	visual		Beige	Beige
Density	ISO 1183	g/cm ³	ca. 1.2	ca. 1.6-1.7
Shore hardness D	ISO 868		75-80	85-90
Coefficient of thermal expansion	ISO 11359	10 ⁻⁶ K ⁻¹	90-95	45-50
Deflection temperature, HDT	ISO 75	°C	75-80	75-80
Compressive strength	ISO 604	MPa	85-90	90-95
Compressive modulus	ISO 604	MPa	2500-3000	9000-10000
Flexural strength	ISO 178	MPa	85-95	55-65
Flexural modulus	ISO 178	MPa	2500-3000	9500-10500
Linear shrinkage*		mm / m	1.0	0.6
Abrasion	Taber	mm ³ /100 R	80	80

*measured on maximum layer thickness as stated above

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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.

Mix the two components thoroughly in the ratio indicated.

Degassing and /or post-curing will improve final properties.

Packaging

RAKU-TOOL® PC-3403	5 kg / 25 kg / 1000 kg
RAKU-TOOL® PH-3903	4 kg / 20 kg / 1000 kg
RAKU-TOOL® AC-9004	20 kg / 1000 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.
