

PC-3403 / PH-3903

Polyurethane Casting System

Two component mass casting

Key Properties

- Can be cast in thick layers and large volumes
- Low exothermic with layers >600-1000 mm. With direct casting (filled) >250mm up to max. 350 mm
- High mechanical values (filled and unfilled)
- Minimal shrinkage
- Good layer adhesion
- Casting viscosity can be adjusted by filler
- Easy to repair or modify

Applications

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

Processing Properties

		Unit	PC-3403	PH-3903	AC-9004
Color	visual		beige	yellowish	white
Mix ratio		pbw	100	80	-
Mix ratio		pbw	100	80	400
Density	DIN 2811-1	g/cm ³	ca. 1.10	ca. 1.21	ca. 2.40
Viscosity at 25 °C	DIN 53019-1	mPa·s	2,000 - 2,500	20 - 40	-

		Unit	PC-3403 / PH-3903	PC-3403 / PH-3903 AC-9004
Pot life at 25 °C	1000 ml	min	30 - 40	50 - 60
Max. layer thickness		mm	20	300
Demold time		h	18	18



Cured / Mechanical Properties

		Unit	PC-3403 / PH-3903	PC-3403 / PH-3903 AC-9004
Cure			7 days at RT or 14h at 40°C	7 days at RT or 14h at 40°C
Color		visual	beige	beige
Density	ISO 1183	g/cm³	ca. 1.20	ca. 1.70
Hardness	ISO 868	Shore D	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	2,500 - 3,000	9,000 - 10,000
Flexural strength	ISO 178	MPa	85 - 90	55 - 65
Flexural modulus	ISO 178	MPa	2,500 - 3,000	9,500 - 10,500
Abrasion	Taber	mm³/100R	70 - 80	70 - 80
Linear shrinkage*		mm/m	ca. 1.00	ca. 0.60

*measured on maximum layer thickness as stated above



Processing

The processing temperature 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	1.000 kg, 25 kg, 5 kg
RAKU® TOOL PH-3903	1.000 kg, 20 kg, 4 kg
RAKU® TOOL AC-9004	1.000 kg, 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.