

Polyurethane Casting System

Two component, vacuum casting

Key Properties

- Simulate PP / ABS
- Temperature resistant at 230°F (110°C)
- Good impact strength

Applications

- Functional prototype parts
- Short run production
- Rapid prototyping

Processing Properties

			PC-3435	PH-3935
Color	visual		Black	Clear
Mix ratio		pb weight	100	125
Density	ASTM D-792	lb/ft ³ (g/cm ³)	ca. 69.9 (1.12)	ca. 73.0 (1.17)
Viscosity at 77°F (25°C)	ASTM D-2393	cP	250-350	1000-1200

			PC-3435 / PH-3935
Mix viscosity at 77°F (25°C)	ASTM D-2393	cP	800-900
Pot life at 77°F (25°C)	100 ml	min	6-8
Demold time at 77°F (25°C)		min	60

Cured / Mechanical Properties

Cure: 2 days at 77°F (25°C)			PC-3435 / PH-3935
Aspect	visual		Black
Density	ASTM D-792	lb/ft ³ (g/cm ³)	ca. 75 (1.2)
Shore D hardness	ASTM D-2240		78 – 83
Coefficient of thermal expansion	ASTM D-3386	10 ⁻⁶ F ⁻¹ (10 ⁻⁶ K ⁻¹)	61 – 72 (110 – 130)
Glass Transition Temperature, T _g	DSC	°F (°C)	230 – 248 (110 – 120)
Deflection temperature, HDT	ASTM D-648	°F (°C)	203 – 212 (95 – 100)
Flexural strength	ASTM D-790	psi	10,900 – 11,600
Flexural modulus	ASTM D-790	psi	232,000 – 247,000
Impact strength Charpy (edgewise)	ISO 179-1/1eU	KJ/m ²	35 – 40



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.

Mix the two components thoroughly in the ratio indicated under vacuum for 45 seconds.

Pour into preheated silicone mold at 158°F (70°C).

Cure at 158°F (70°C) for 1 hour before demolding.

Post cure as follows – 1 hr at 158°F (70°C) + 1 hr at 212°F (100°C) + 12 hr at 230°F (110°C)

Packaging

RAKU® TOOL PC-3435

7.6# in 1 gallon F style plastic bottle, 40 pounds in 5 gallon plastic pail

RAKU® TOOL PH-3935

9.6# in 1 gallon F style plastic bottle, 40 pounds in 5 gallon plastic pail

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.

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.
