

PF-3701-2 / PH-3977, AC-9004

Fast Cast Resin

Two component polyurethane system, processable filled or unfilled

Key Properties

- Fast cure and short demold time
- Unfilled, very low viscosity
- Excellent heat resistance
- Improved moisture resistance
- High fill rate possible
- Very high strength

Applications

- Foundry patterns, core boxes, negatives, pattern plates
- Checking casts
- Copy models
- Thermoforming tools
- Cutting jigs for prototype parts

Processing Properties

| | | Unit | PF-3701-2 | PH-3977 | AC-9004 |
|--------------------|-------------|-------------------|-----------|-----------|----------|
| Color | visual | | opaque | yellowish | white |
| Mix ratio | | pbw | 100 | 100 | - |
| Mix ratio | | pbw | 100 | 100 | 300 |
| Density | ISO 1183 | g/cm ³ | ca. 0.95 | ca. 1.10 | ca. 2.40 |
| Viscosity at 25 °C | DIN 53019-1 | mPa·s | 115 - 130 | 30 - 50 | - |

| | | Unit | PF-3701-2 / PH-3977 | PF-3701-2 / PH-3977 AC-9004 |
|----------------------|---------|------|---------------------|--------------------------------|
| Pot life at 25 °C | 1000 ml | min | 5 - 6 | 6 - 7 |
| Max. layer thickness | | mm | 20 | 80 |
| Demold time | | h | 1 | 2 |

Cured / Mechanical Properties

| | | Unit | PF-3701-2 / PH-3977 7 days at RT or 14h at 40°C | PF-3701-2 / PH-3977 AC-9004 7 days at RT or 14h at 40°C |
|-----------------------------|----------|-------------------|--|---|
| Cure | | | | |
| Color | | visual | white | beige |
| Density | ISO 1183 | g/cm ³ | ca. 1.10 | ca. 1.60 |
| Hardness | ISO 868 | Shore D | 70 - 75 | 80 - 85 |
| Deflection temperature, HDT | ISO 75 | °C | 60 - 70 | 70 - 80 |
| Compressive strength | ISO 604 | MPa | 30 - 40 | 45 - 50 |
| Compressive modulus | ISO 604 | MPa | 800 - 900 | 3,000 - 3,100 |
| Flexural strength | ISO 178 | MPa | 30 - 40 | 35 - 45 |
| Linear shrinkage* | | mm/m | - | ca. 0.40 |



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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.

The fillers should first be mixed into the individual A and B components, ensuring that the two components have roughly 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 | 20 kg, 4,5 kg, 6 x 1 kg |
| RAKU® TOOL PH-3977 | 20 kg, 4,5 kg, 6 x 1 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.