



Trias Chem s.r.l.

Formulazioni epossidiche e poliuretatiche - Prodotti chimici per l'industria

Technical data sheet

Resin
UP 370

Hardener
IPU 812

100	Mixing ratio by weight	100
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Applications

Foundry patterns, negatives, tools for thermoforming, prototypes, handworks.

Processing

Face or mass casting. It's possible mix CA 135 up to 300% in order to reduce reactivity and shrinkage .

N.B. shake component resin always before using and cast on dry surface and without humidity.

Product information

Low viscosity polyurethane system unfilled, machinable, abrasion resistant. Fast curing, low shrinkage. It can be added of dry filler in a different ratio depending of the applications and on the required thickness.

Product characteristics	Resin	Hardener
<i>Colour</i>	White	Pale yellow
<i>Viscosity at 25 °C (mPas)</i>	90 – 120	100 – 200
<i>Density at 25 °C (g/ml)</i>	0,98 – 1,02	1,05 – 1,08
<i>Mixing ratio by volume (ml)</i>	100	95

System typical characteristics

		Unfilled system	Filled system (300% with CA135)
Pot life (200 ml, 50 mm, 25 °C)	min	4 – 5	8 – 10
Exothermal peak	°C	70 – 80	40 – 50
Gel time (15 ml, 5 mm, 25 °C)	min	8 – 9	10 – 12
Demoulding time (15 ml, 5 mm, 25 °C)	h	1 – 2	1 – 2
Post-curing at 60 °C (optional)	h	4 – 5	4 – 5
Mixing viscosity at 25 °C	MPas	70 – 90	2.500 – 3.500
Maximum recommended thickness	mm	5	70

RT = room temperature (23±2°C)

Conversion units: 1 mPas = 1 cPs 1MN/m² = 10 kg/cm² = 1 MPa



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TYPICAL CURED SYSTEM PROPERTIES

(standard curing: 24h at room temperature + 15h 60°C)

		Unfilled system	Filled system (300% with CA135)
Colour		White	White
Machinability		very good	very good
Density	g/ml	1,05 – 1,10	1,65 – 1,70
Hardness Shore	D/15	78 – 80	83 – 85
Max glass transition	°C	100 – 105	100 – 105
Maximum recommended operating temperature	°C	85	85

Instructions for a proper use

Shake before use component resin energetically.

Mix the two components (resin and hardener) eventually prefilled in the proper mixing ratio avoiding air trapping until an homogeneous mixture is obtained, then cast quickly.

Prepare surface of mould with wax release agent (consult release agent data sheet).

Post-curing

Post-curing is always advisable to stabilize the cured handwork to reach the best mechanical properties. Post-curing becomes necessary when the handwork is used at elevated temperatures. Post-cure the handwork increasing temperature avoiding thermal gradients over 10°C/hour. The thermal gradient and post curing time refer to standard specimens. Users should find the best conditions depending on the component size and shape. For big size components decrease the thermal gradient and increase the post-curing time; in the case of thin layer applications and composites post cure on the jig.

Storage and handling precautions

Polyurethanes resins and hardeners can be stored over one year in the original sealed package in a cool and dry place. Resins and hardeners are both highly moisture sensitive; it could be cause an anomaly expansion during the post-curing.

The isocyanates may crystallize at low temperature, to restore the originals conditions it reheat product at 70-80°C avoiding local overheating. Cool down at room temperature before using.

Refer to the product health and safety data sheet .

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Information given in this publication is based on the present state of our technical knowledge. Buyers and users should make their own assessments of our products under their own applications conditions.