

NEUKADUR ProtoCast 229-10 mercury-free
 2-C PUR Vacuum Casting System
 transparent, UV-resistant

altropol

Main features

- properties similar to those of PMMA
- transparent, colourless
- resistant to yellowing
- high thermal stability
- very fast curing
- mercury-free
- pot life extension possible with NEUKADUR ProtoCast 229 L Comp. A

Applications

- prototyping
- production of technical parts
- production of decorative items

Properties in the non-crosslinked state (approx. values)

		NEUKADUR ProtoCast 229-10 Comp. A mercury-free	NEUKADUR ProtoCast 229 Comp. B
Colour		transparent, colourless	transparent, colourless
Mixing ratio	p.b.w.	100	130
Density (20 °C)	g/cm ³	1.03	1.07
Viscosity (25 °C)	mPa·s	850	25

Properties of the mixture (approx. values)

Colour			transparent, colourless
Mixed viscosity (25 °C)	mPa·s		110
Density (20 °C)	g/cm ³	DIN 53479	1.05
Hardness	Shore D	DIN 53505	80
Pot life (100 g) (RT)	minutes		10
Waiting time after crosslinking up to casting	seconds	Comp. A preheated to 40 °C	25
		Comp. A at 23 °C	120
Demoulding time (70 °C)	minutes	1 - 3 mm	60 - 120

Mechanical values after 1 d of tempering at RT and 2 h of storage at 80 °C (approx. values)

Tensile elongation	%	DIN 53455	8
Tensile strength	MPa	DIN 53455	60
Flexural strength	MPa	DIN 53452	90
Modulus in flexure	MPa	DIN 53457	2,300
Index of refraction	nD23	ISO 489 : 1999	1,507
Light transmittance	%		99
Dimensional stability under heat	°C	HDT	90
Linear dimensional change	%	500 x 50 x 10 mm	0.26

* RT = room temperature

How to process the material

Preheat casting mould/tool to 70 °C. Preheat Comp. A to approx. 40 °C and degas and/or dehydrate the resin under full vacuum for 15 - 30 minutes. Mix components A and B under full vacuum for approx. 60 seconds. At the beginning, the mixture is turbid.

It is essential to observe the waiting time after crosslinking to avoid mixing faults. After approx. 20 to 30 seconds, the mixture becomes clear, as far as NEUKADUR ProtoCast 229-10 Comp. A mercury-free has been preheated to 40 °C beforehand.

NEUKADUR ProtoCast 229 Comp. B needs not be preheated and can be cast. If NEUKADUR ProtoCast 229-10 Comp. A mercury-free is not preheated, the turbidity will disappear approx. 2 minutes after addition of Comp. B. The mixture must on no account be cast in a turbid state as this may lead to mixing faults. For casting (max. layer thickness 10 mm), reduce the vacuum to approx. 100 - 200 mbar. You will only achieve the mentioned mechanical values after having tempered the material as described above. The pot life shortens when the material is heated up. At 35 °C, it is 4 to 4.5 minutes only. Heating up to 40 °C leads to a pot life reduction to 3.5 to 4 minutes only.

NEUKADUR ProtoCast 229 Comp. B is sensitive to low temperatures and may become turbid. This occurrence is reversible at approx. 45 °C.

NEUKADUR ProtoCast 229-10 Comp. A can be colored ideally. For this, we recommend the use of AltroColor Color Pastes which are available in the common basic colors (see <http://www.altropol.de/en>). Color inks of other manufacturers should be tested for their suitability before use.

Form of delivery

NEUKADUR ProtoCast 229-10 Comp. A mercury-free	0.77 kg	3.85 kg
NEUKADUR ProtoCast 229 Comp. B	1 kg	5 kg

Storage

We recommend keeping the material in tightly closed original receptacles at temperatures of 20 - 25 °C. When duly stored, the material can be used within the shelf life indicated on the labels (the first 2 digits of the batch number indicate the week, the 3rd digit indicates the year).

Measure of precaution

With the aid of the current safety data sheets, which contain physical, ecological, toxicological and other data relating to safety, the user can inform himself on the safe handling and storage of the products.

Our technical service - in words, in writing or by trials - is given according to the current state of our knowledge. It does however not relieve the customer/user from the duty to check by himself if the products supplied by us are suitable for the intended processes and purposes. Application, use and processing of the products take place beyond our control possibilities and lie therefore exclusively in the area of responsibility of the processor. Any existing property rights of third parties are to be considered. We guarantee the perfect quality of our products in accordance with our general terms and conditions of business. When handling our products you have to observe the legal rules and the rules for the industrial hygiene. As for the rest, we refer to the corresponding safety data sheets.

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