

NEUKADUR ProtoCast 105 Comp. A/B

Polyurethane Casting Compound

impact resistant, low-viscous, white after curing

altropol

Main properties

- very good flowability
- very impact resistant
- very easy to dye
- high HDT
- white after curing

Applications

- all kinds of moulds and patterns
- prototyping

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

		NEUKADUR ProtoCast 105 Component A	NEUKADUR ProtoCast 105 Component B	
Colour		slightly yellowish	slightly yellowish	
Density 20 °C	g/cm ³	1.09	1.16	
Viscosity 25 °C	mPas	650	160	

Properties of the mixture (approx. values)

				Storage 2 hours 70 °C
Mixing ratio	p.b.w.	100	200	
Mixed viscosity	mPas		325	
Mixed density 20 °C	g/cm ³		1.15	
Pot life 25 °C	minutes		5 - 7	
Demoulding time 70 °C	minutes		30 - 60	
Colour after curing			white	
Shore D-hardness	DIN 53505			82
Tensile strength [MPa]	DIN 53455			71
Tensile elongation [%]	DIN 53455			15
Flexural strength [MPa]	DIN 53452			99
Modulus in flexure [MPa]	DIN 53457			2300
Impact strength [KJ/m ²]	DIN 51230			> 30
Dimensional stability under heat [°C]	HDT			100 - 110
Shrinkage	%			0.3

How to process the material

NEUKADUR ProtoCast 105 Component A has to be homogenized thoroughly prior to processing. Tightly close receptacles after every use. After 30 – 60 minutes, the cured material has not yet got its full impact strength (the same is only obtained after approx. 1 - 2 hours at 70 °C) so that demoulding should be made with care, particularly when it deals with thin parts.

We recommend pouring ProtoCast 105 Comp. A/B into moulds having been preheated to 70°C (e. g. of ProtoSil RTV 240) and tempering the compound for at least 1 hour at 70°C before demoulding. Recommended thickness of cast layer: up to max. 5 mm

NEUKADUR ProtoCast 105 Comp. A/B

Polyurethane Casting Compound

impact resistant, low-viscous, white after curing

altropol

Furthermore, we recommend evacuating NEUKADUR ProtoCast 105 Comp. A for 15 minutes at the highest possible vacuum, then releasing the same to 20 – 25 mbar before adding NEUKADUR ProtoCast 105 Comp. B. At < 20 mbar, heavy foaming may occur at the moment when both components are poured together. NEUKADUR ProtoCast 105 Comp. A can also be heated up to for example 40 ° C beforehand; in this case, approx. 10 minutes will be enough for evacuation as far as the same takes place at full vacuum.

It is also possible to evacuate ProtoCast 105 Comp. B (larger quantity) under vacuum and under stirring and to add component A (smaller quantity) to component B. This may stop a too heavy foaming of component B at <5 mbar and possibly prevents a heavy foaming when component A and component B are poured together.

When castings of a layer thickness >5 mm shall be produced, we recommend mixing NEUKADUR ProtoCast 105 Comp. A with the pot life retarder NEUKADUR ProtoCast 105 VZ. The mixing ratio of the ProtoCast 105 VZ with PROTOCAST 105 Comp. B is 100 : 180. This measure minimizes the shrinkage, but prolongs simultaneously the demoulding time. Furthermore, the dimensional stability under heat of the VZ is a little bit lower than that of ProtoCast 105 Comp. A/B

When castings of a layer thickness <1 mm shall be produced, we recommend the addition of our catalyst UL 1 % or UL 10 %. By adding e.g. 0.1 % of the catalyst UL 1 % to the mixture, the pot life will be reduced by approx. 1 minute, but the demoulding time will be reduced significantly. The catalyst should be stirred into component A.

NEUKADUR ProtoCast 105 - manual casting: NEUKADUR ProtoCast 105 Comp. A is very sensitive to humidity. When ProtoCast 105 Comp. A/B shall be processed by manual casting, we recommend stirring 5 to 10 % of Zeolith paste as 3rd component into Comp. A before adding NEUKADUR ProtoCast 105 Comp. B.

Form of delivery

NEUKADUR ProtoCast 105 Comp. A	1.0 kg / 5.0 kg
NEUKADUR ProtoCast 105 Comp. B	1.0 kg / 5.0 kg

Storage

The material should be kept in tightly closed original receptacles at temperatures of 15 - 25 °C. When duly stored, the materials can be used within the shelf life indicated on the labels.

Measure of precaution

Users should make use of the current safety data sheets, which contain physical, ecological, toxicological, and other data relating to safety, to inform themselves on the safe handling and storage of products.

Altropol Kunststoff GmbH
Daimlerstraße 9 · D-23617 Stockelsdorf
Tel. +49 (0)451-499 60-0 • Fax +49 (0)451-499 60-20
E-mail: info@altropol.de
www.altropol.de

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 you from the duty to check by yourselves 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.
State: 2010-10-13