

NEUKADUR ProtoCast 103 Comp. A/B

Polyurethane Casting Compound, impact resistant,
low-viscous, white translucent after curing

altropol

Main features

- very good flowability
- very impact resistant
- very easy to dye, even in black
- high HDT
- white translucent after curing

Applications

- all kinds of moulds and patterns
- prototyping

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

		NEUKADUR ProtoCast 103 Component A	NEUKADUR ProtoCast 103 Component B	
Colour		slightly yellowish	slightly yellowish	
Density 20 °C	g/cm ³	1.09	1.16	
Viscosity 25°C	mPas	650	350	

Properties of the mixture (approx. values)

				Storage 2 hours 70 °C
Mixing ratio	p.b.w.	100	200	
Mixed viscosity	mPas		450	
Mixed density 20 °C	g/cm ³		1.15	
Pot life 25 °C	minutes		4	
Demoulding time 70 °C	minutes		30 - 45	
Colour after curing			white translucent	
Shore D-hardness	DIN 53505			80
Tensile strength [MPa]	DIN 53455			68
Tensile elongation [%]	DIN 53455			16
Flexural strength [MPa]	DIN 53452			92
Modulus in flexure [MPa]	DIN 53457			2350
Impact strength [KJ/m ²]	DIN 51230			> 30
Dimensional stability under heat [°C]	HDT			100
Shrinkage	%			0.3

How to process the material

Homogenize NEUKADUR ProtoCast 103 Component A 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 103 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

We recommend continuing to evacuate NEUKADUR ProtoCast 103 Comp. A for 15 minutes at the highest possible vacuum, then releasing the material to 20 – 25 mbar before adding NEUKADUR

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ProtoCast 103 Comp. B. At < 20 mbar, heavy foaming may occur when both components are poured together. NEUKADUR ProtoCast 103 Comp. A can also be preheated beforehand to e. g. 40 ° C, then an evacuation time of approx. 10 minutes will be sufficient.

It is also possible to evacuate ProtoCast 103 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 103 Comp. A with the pot life retarder NEUKADUR ProtoCast 103 VZ or – in case of bigger parts – working with ProtoCast 103 VZ/ProtoCast 103 Comp. B only. The mixing ratio of the ProtoCast 103 VZ with ProtoCast 103 Comp. B is also 100 : 200. The pot life of the ProtoCast 103 VZ with ProtoCast 103 Comp. B is approx. 8 minutes at 20°C. This measure minimizes the shrinkage, but simultaneously prolongs the demoulding time.

When castings of a layer thickness <1 mm are produced, we recommend the addition of our catalyst UL 1 % or UL 10 %. By addition of e. g. 0.1 % of catalyst UL 1 % to the mixture, the pot life shortens by approx. 1 minute, but the demoulding time shortens significantly.

The catalyst should be mixed into component A.

NEUKADUR ProtoCast 103 - manual casting: NEUKADUR ProtoCast 103 Comp. A is very sensitive to humidity. If ProtoCast 103 Comp. A/B shall be processed in manual casting, we recommend stirring 5 – 10 % of Zeolith paste as third component into component A before adding NEUKADUR ProtoCast 103 Comp. B.

Form of delivery

NEUKADUR ProtoCast 103 Comp. A	1.0 kg; 5 kg
NEUKADUR ProtoCast 103 Comp. B	1.0 kg; 5 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.