

NEUKADUR ProtoCast 103 NEW

Polyurethane Casting Compound

NEW

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Main features

- very good flowability
- very impact resistant
- very easy to colour, even in black
- high dimensional stability under heat
- curing to be white translucent
- only for vacuum casting

Applications

- all kinds of moulds and patterns
- prototyping

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

		NEUKADUR ProtoCast 103 Comp. A	NEUKADUR ProtoCast 103 Comp. B
Colour		slightly yellowish	slightly yellowish
Mixing ratio	p.b.w.	100	200
Density (20 °C)	g/cm ³	1.05	1.16
Viscosity (25 °C)	mPa·s	750	250

Properties of the mixture (approx. values)

			PC 103 Comp. A / PC 103 Comp. B	after storage 2 hours at 70 °C
Mixed viscosity (25 °C)	mPa·s		425	
Density (20 °C)	g/cm ³	DIN 53479	1.13	
Pot life (25°C)	minutes		5	
Demouldable after (70 °C)	minutes		30	
Hardness	Shore D	DIN 53505		80
Colour (cured)			white translucent	
Recommended layer thickness	mm		5	

Mechanical values (approx. values)

Tensile strength	MPa	DIN 53455	71
Tensile elongation	%	DIN 53455	10
Flexural strength	MPa	DIN 53452	102
Modulus in flexure	MPa	DIN 53457	2,400
Dimensional stability under heat 110 x 13 x 6 mm	°C	HDT	100
Impact strength after 2 h 80 °C	KJ/m ²	DIN 51230	>30
Linear dimensional change	%	500 x 50 x 3mm	0.3

How to process the material

Prior to processing, homogenize NEUKADUR ProtoCast 103 Comp. A thoroughly. Always close receptacles tightly after use. After 30 – 60 minutes, the cured material has not yet obtained its full impact strength (it will be achieved after approx. 1 – 2 hours only at 70 °C) so that you should demould carefully, particularly in case of thin parts. We recommend pouring NEUKADUR ProtoCast 103 Comp. A/B into moulds having been preheated to 70 °C (e.g. of ProtoSil RTV 245) and tempering the compound for at least 1 hour at 70 °C before demoulding. Recommended thickness of cast layer: 2 – 7 mm

Furthermore, we recommend evacuating NEUKADUR ProtoCast 103 Comp. A for 15 minutes at the highest possible vacuum, then releasing the material to 20 – 25 mbar before adding NEUKADUR ProtoCast 103 Comp. B. At <20 mbar, heavy foaming

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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 NEUKADUR ProtoCast 103 Comp. B (larger quantity) under vacuum and under stirring and to add Comp. A (smaller quantity) to Comp. B. This may prevent a too heavy foaming of Comp. B at <5 mbar and possibly prevents a heavy foaming when Comp. A and Comp. B are poured together.

When castings of a layer thickness >7 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 NEUKADUR ProtoCast 103 VZ/NEUKADUR ProtoCast 103 Comp. B only. The mixing ratio of the NEUKADUR ProtoCast 103 VZ with NEUKADUR ProtoCast 103 Comp. B is also 100 : 200. The pot life of the NEUKADUR ProtoCast 103 VZ with NEUKADUR 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 NEUKADUR catalyst UL 1% or NEUKADUR catalyst UL 10%. By addition of e.g. 0.1% of NEUKADUR 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 Comp. A.

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

For release agents, please visit our homepage under <http://www.altropol.de/en/produkte/weitere-produkte/trennmittel>

Form of delivery

NEUKADUR ProtoCast 103 Comp. A	1 kg
NEUKADUR ProtoCast 103 Comp. B	1 kg
NEUKADUR ProtoCast 103 VZ	1 kg

Storage

The material should be kept in tightly closed original receptacles at temperatures of 15 – 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

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.

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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