

NEUKADUR PN 9049, 9057, 9060, 9080

2-C PUR Casting System – as clear as glass
Manual casting process possible, modular system

altropol

Main features

- transparent, cures to be as clear as glass
- different Shore hardness grades (A 50 to D 80) possible, see page 2
- variable pot life adjustment possible (pot life adjustable)
- good UV stability
- can be processed by manual casting and in the vacuum

Applications

- electrical casting (LEDs)
- artistic casting

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

		NEUKADUR PN 9060 Comp. A	NEUKADUR PN 9060 Comp. B
Colour		transparent colourless	transparent colourless
Mixing ratio	p.b.w.	100	111
Density 20 °C	g/cm ³	1.07	1.10
Viscosity 25 °C	mPa·s	2000	500

Properties of the mixture (approx. values)

Colour			transparent colourless
Mixed viscosity	mPa·s		1200
Mixed density 20°C	g/cm ³		1.08
Hardness (after 14 d RT)	Shore D	DIN 53505	60
Pot life (room temperature)	minutes		20
Demouldable (room temperature)	hours		24
Pot life (both components preheated to 40 °C)	minutes		12
Demouldable (components kept at 40 °C beforehand)	minutes		60
Mould temperature 70 °C/kept at 70 °C			
Tensile strength	Mpa	DIN 53455	12
Tensile elongation	%	DIN 53455	70
Flexural strength		DIN 53452	not measurable
Dimensional stability under heat	°C	HDT	50
Castable layer thickness	mm		max. 10

How to process the material

Application temperature: room temperature

Mix NEUKADUR PN 9060 Comp. A and NEUKADUR PN 9060 Comp. B thoroughly with each other under careful, slow agitation by means of a metal or plastic spatula (do on no account use a wooden spatula). When mixing, you will see that the components are turbid. This turbidity disappears after 5 - 10 minutes of continuous agitation. After 5 and/or 10 minutes, stir once again carefully until the product is completely clear. Without this repeated stirring, streaks may be produced in the casting during the curing process. Do not cast the material before it has become completely clear.

We do recommend repotting the material in order to prevent mixing faults and to obtain an even better degassing.

Pour the clear material slowly and carefully over the edge of the mould into the mould. Should there still be bubbles in the cast material, you have to re pot several times (possibly up to 4 times) and let the material run again and again in a thin stream over the edge of the mould - if possible over an inclined plane (in case of open moulds) - , into the mould.

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

		NEUKADUR PN 9080 Comp. A	NEUKADUR PN 9060 Comp. B
Colour		transparent colourless	transparent colourless
Mixing ratio	p.b.w.	100	186
Density 20 °C	g/cm ³	1.07	1.10
Viscosity 25 °C	mPa·s	2900	500

Properties of the mixture (approx. values)

Colour			transparent colourless
Mixed viscosity	mPa·s		1300
Mixed density (20 °C)	g/cm ³		1.08
Hardness (after 14 d RT)	Shore D	DIN 53505	80
Pot life (room temperature)	minutes		20
Demouldable (room temperature)	hours		24
Pot life (both components preheated to 40 °C)	minutes		8
Demouldable (components kept at 40 °C beforehand) Mould temperature 70 °C/kept at 70 °C	minutes		60

Mechanical values

Tensile strength	Mpa	DIN 53455	56
Tensile elongation	%	DIN 53455	11
Flexural strength		DIN 53452	not tested
Dimensional stability under heat	°C	HDT	50
Castable layer thickness	mm		max. 10

Regarding NEUKADUR PN 9080 Comp. A / NEUKADUR PN 9060 Comp. B, it takes much longer until the turbidity disappears (10 to 15 minutes). In this case, too, careful stirring after for example 10, 12 and 15 minutes helps to accelerate the clearing phase of the mixture. Repeated repotting after the stirring process helps also in case of NEUKADUR PN 9080 Comp. A / NEUKADUR PN 9060 Comp. B to suppress the formation of bubbles. Without vacuum degassing and/or without vacuum cast, it is difficult to produce completely bubble-free castings. Stir and repot carefully in a thin stream to prevent the formation of bubbles caused by stirring.

Via the vacuum cast, bubble-free castings can be produced much easier.

Pour the material, which is clear now, slowly and carefully over the edge of the mould into the mould. Suitable for the mould making are materials of polypropylene or polyethylene. PVC (e. g. cable ducts of PVC) can also be used, but then you have to apply our semipermanent NEUKADUR release spray SPT up to three times and polish it later.

You can also use metal or silicone moulds, but these moulds have to be preheated to > 70°C beforehand.

Some silicone types may show surface faults. This applies particularly to higher layer thicknesses, e. g. > 10 mm.

With a special catalyst - NEUKADUR catalyst PN 9059 - you can obtain shorter pot lives and demoulding times.

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Pot lives and demoulding times (in case of prior storage at 40 °C) / see also adjustments of hardness grades Shore A/D on the next page:

		Pot life of the mix 40 °C	Demoulding time
85 p.b.w. PN 9057 Comp. A 40 °C 15 p.b.w. PN 9049 Comp. C 40 °C 79 p.b.w. PN 9060 Comp. B 40 °C Mould temperature 70°C °C/kept at 70 °C	minutes	10 min	60
90 p.b.w. PN 9057 Comp. A 40 °C 10 p.b.w. PN 9049 Comp. B 40 °C 84 p.b.w. PN 9060 Comp. B 40 °C Mould temperature 70 °C/kept at 70 °C	minutes	8 min	60
100 p.b.w. PN 9057 Comp. A 40 °C 94 p.b.w. PN 9060 Comp. B 40 °C Mould temperature 70 °C/kept at 70 °C	minutes	7 min	60
25 p.b.w. PN 9057 Comp. A 40 °C 75 p.b.w. PN 9060 Comp. A 40 °C 107 p.b.w. PN 9060 Comp. B 40 °C Mould temperature 70 °C/kept at 70 °C	minutes	9 min	60

Suitable as mould building material are materials of polypropylen and polyethylen. PVC (e. g. cable ducts of PVC) can also be used, but then you have to apply our semipermanent release spray SPT up to three times and to polish it afterwards. You can also use metal moulds or silicone moulds, however you then have to preheat the moulds to > 70 °C.

Some silicone types may show disturbances in the surface. This occurs above all in case of higher layer thicknesses (e. g. > 10 mm).

Very suitable as mould material is our ProtoSil RTV 245.

With a special catalyst - NEUKADUR catalyst PN 9059 - you can obtain shorter pot lives and shorter demoulding times.

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Adjustments of hardness grades Shore A/D (values after approx. 14 days of storage at RT)

The components A + C or A + A always amount to 100 p.b.w.*, component B is added according to the table.

Shore D					35	60	80
Shore A	50	60	70	80	90		
NEUKADUR PN 9057 Comp. A	85 pbw	90 pbw	100 pbw	25 pbw	10 pbw		
NEUKADUR PN 9060 Comp. A				75 pbw	90 pbw	100 pbw	
NEUKADUR PN 9080 Comp. A							100 pbw
NEUKADUR PN 9049 Comp. C	15 pbw	10 pbw					
A and C mixed result in:	100 pbw	100 pbw					
A and A mixed result in:				100 pbw	100 pbw		
(Hardener)							
NEUKADUR PN 9060 Comp. B	79 pbw	84 pbw	94 pbw	107 pbw	110 pbw	111 pbw	186 pbw

* pbw = parts by weight

	NEUKADUR PN 9060 Comp. A / B		NEUKADUR PN 9080 Comp. A NEUKADUR PN 9060 Comp. B	
	under stirring	without stirring	under stirring	without stirring
Deturbidization time:	2 – 3 min	5 – 6 min	10 – 12 min	10 – 15 min

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Form of delivery

NEUKADUR PN 9049 Comp. C	0.05 kg	0.25 kg	0.90 kg	5.00 kg	
NEUKADUR PN 9057 Comp. A	0.25 kg	1.00 kg	5.00 kg	25.00 kg	
NEUKADUR PN 9060 Comp. A	0.25 kg	0.50 kg	1.00 kg	5.00 kg	25.00 kg
NEUKADUR PN 9060 Comp. B	0.235 kg	0.28 kg	0.465 kg	0.60 kg	0.94 kg
	1.00 kg	1.11 kg	1.86 kg	4.70 kg	5.00 kg
	5.55 kg	9.30 kg	25.00 kg		
NEUKADUR PN 9080 Comp. A	0.25 kg	1.00 kg	5.00 kg		

Storage

We recommend keeping the material in tightly closed original receptacles at temperatures of > 20 °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).

If the transport is carried out at < 20°C, the material may become turbid or solid. This appearance is normally reversible when the material is kept at room temperature. If the material has not become clear after having been kept at room temperature, it has to be heated up to approx. 60 °C and then homogenized thoroughly.

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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