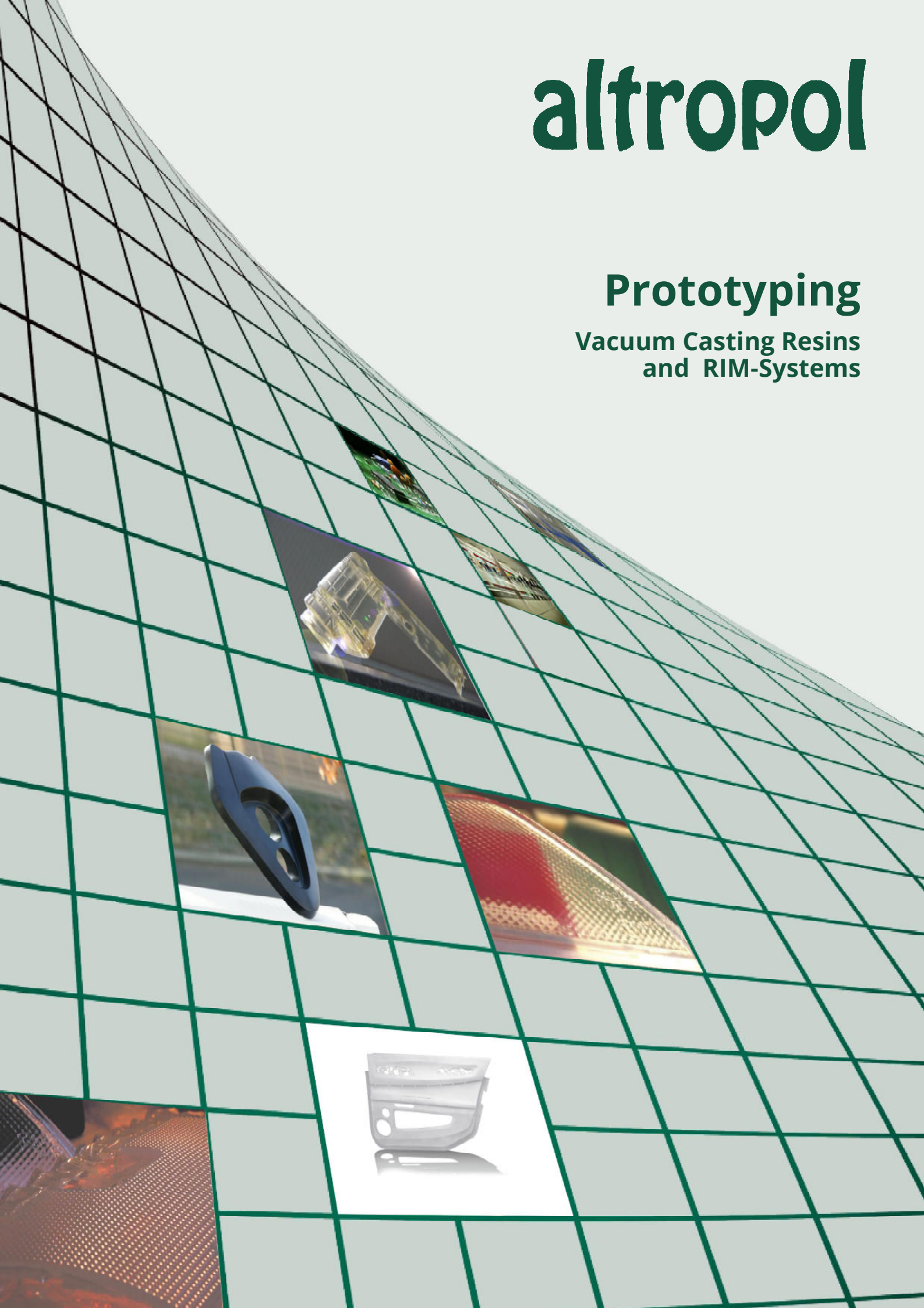


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Prototyping

Vacuum Casting Resins
and RIM-Systems



NEUKADUR Prototyping Vacuum Casting Resins and RIM-Systems

- unfilled
- low- to medium viscous
- available colourless and coloured
- quick curing and demoulding
- variable pot lives and adjustments of hardness possible
- thermoplastic character (PP, ABS, PE etc.)
- character similar to rubber (EPDM)
- high impact strength and elongations

NEUKADUR ProtoAmid - Polyamide Character

Type	Hardener	Colour	Character similar to	MR (weight) 100:	Pot life (Min.)	de-mouldable after (Min.)	Hardness (Shore D)	Tensile strength (N/mm ²)	Modulus in flexure (N/mm ²)	impact strength (KJ/m ²)	HDT (°C)
40	B 2	yellow, transparent	HD-PE	25	15	30 - 60	42	22	185	>150	80
60	B 4	yellow, transparent	HD-PP	40	4	30 - 60	58	20	195	>150	100
70	B 4	amber, transparent	PA	50	4	30 - 60	73	36	580	>150	140
80	B 4	amber, transparent	PA	55	2,5	30 - 60	80	37	800	42	>150

In addition for the products of the NEUKADUR ProtoAmid Series, we also offer the hardeners NEUKADUR ProtoAmid Comp. B 2, B 4 and B 10 with which you can adjust the pot lives individually. Due to their short pot life and their high viscosity, NEUKADUR ProtoAmid PA 70 and PA 80 can only be processed under vacuum and with the help of a differential pressure machine.

NEUKADUR ProtoRIM - Systems for low-pressure processes

Type	Hardener	Colour	Character similar to	MR (Weight) 100:	Pot life (Sec.)*	de-mouldable after (Min.)	Hardness (Shore D)	Tensile strength (N/mm ²)	Modulus in flexure (N/mm ²)	Impact strength (KJ/m ²)	HDT (°C)
70 R	70 B	beige or black	PP / ABS	140	40 - 50	10 - 15	70	20	300	>150	70
85 R	85 B	beige or black	PP / ABS	90	40 - 50	10 - 15	75 - 80	34	850	100	85
100 R	100 B	beige or black	ABS	80	40 - 50	10 - 15	75 - 80	38	1.000	70	100
111 R	111 B	beige or black	ABS	100	50 - 60	15 - 20	80	57	1.650	19	100
130 R	130 B	beige or black	ABS	80	60	15 - 20	75 - 80	40	1.050	45	130
180 R	180 B	beige or black	ABS	80	35 - 45	10 - 15	75 - 80	34	1.000	28	180

* The pot lives can be adapted individually with the pot life prolonger NEUKADUR ProtoRim VZ.

NEUKADUR ProtoSil RTV 2-C Silicone rubber

Type	Hardener	Colour	Hardness (Shore A)	MR (Weight) 100:	Pot life RT (Min.)	Mixed viscosity (mPa • s)	Tensile strength (N/mm ²)	Resistance to tear propagation (N/mm ²)	Tensile elongation (%)	HDT (°C)
245	245 B 1 *	colourless translucent	40	10	80	35,000	5	25	350	200
250	250 B	blue	50	10	80	95,000	5	6	400	200

* Optionally, we have also available the crosslinker NEUKADUR ProtoSil RTV 245 Comp. B 2 with self-bleeding properties.

The indications of the mechanical properties are approx. values.

NEUKADUR ProtoFlex - Vacuum Casting Systems - elastic

Type	Character similar to	Hardener	Colour	MR (Weight) 100:	Pot life (Min.)	de-mouldable after (Min.)	Hardness (Shore A)	Tensile strength (N/mm ²)	Tensile elongation (%)	Resistance to tear propagation (KJ/m ²)	HDT (°C)
110	Soft PVC	PTG 1	beige	14	5 - 25	2 - 24 h	20	2	1.500	19	50
150	EPDM	PTG 1	beige	20	5 - 25	2 - 24 h	50	7	500	8	80
HS 50	EPDM	HS 50 B	yellow	100	6 - 7	30 - 60	50	2	1.300	14	100
HS 75	Rigid PVC	HS 75 B	yellow	75	10	30 - 60	75	6	1.900	35	100
190	HPDE	PTG 1	beige	54	5 - 25	2 - 24 h	90	15	150	25	80
HS 90	HPDE	HS 90 B	yellow	50	5 - 6	30 - 60	90	14	1.600	50	120

NEUKADUR Protoflex 110 / 150 / 190 can also be processed without vacuum machine.

NEUKADUR ProtoCast - Vacuum Casting Systems - rigid

Type	Charakter similar to	Hardener	Colour	MR (Weight) 100:	Pot life (Min.)	de-mouldable after (Min.) *	Hardness Shore D	Tensile strength (N/mm ²)	Modulus in flexure (N /mm ²)	Impact strength (KJ/m ²)	HDT (°C)
100	HDPE	100 B	white	130	4 - 5	30 - 60	78	42	1.510	20	80
102	ABS	102 B	white	333	6 - 7	30 - 60	78	48	1.600	25	95
103	filled ABS / PS	103 B	translucent	200	4	30 - 60	80	68	2.350	30	100
105	filled ABS / PS	105 B	white	200	5 - 7	30 - 60	82	71	2.300	35	105
112	HDPE / PP	PTG 8	beige	75	2	15	78	25	460	100	85
113	ABS	PTG 4	beige	100	3	20 - 30	78	48	1.200	31	85
115	ABS	PTG 4	beige	100	3 - 4	30 - 60	82	60	1.750	25	105
120 **	ABS	120 B1	beige	154	6 - 7	30 - 60	84	55	1.500	70	115
140	filled PA	140 B	black	133	7	45 - 60	80	61	2.000	13	140
195	ABS / PC PMMA	195 B	colourless	140	5 - 7	30	80	64	1.900	60	95
229	ABS / PC PMMA	225 B	colourless UV-stable	130	7	120	80	54	2.300	40	95

* mould temperature 80 °C

** great cast numbers possible

NEUKADUR Modular Casting Systems, transparent, UV-stable, non toxic

Type (p.b.w.)	Character similar to	Hardener	Colour	MR (Weight) 100:	Pot life (Min.)	de-mouldable after (Min.)	Hardness Shore (A / D)	Tensile strength (N/mm ²)	Tensile elongation (%)	Resistance to tear propagation (KJ/m ²)	HDT (°C)
PN 9057 (85) PN 9049 (15)	Rubber	PN 9060 B	transparent	79	30	variable	50 / -	2	60	50	50
PN 9057 (100)	Hard rubber	PN 9060 B	transparent	94	20	variable	70 / -	3	47	50	80
PN 9057 (25) PN 9060 (75)	HDPP	PN 9060 B	transparent	107	20	variable	- / 50	10	85	14	50
PN 9060 (100)	HDPP	PN 9060 B	transparent	111	20	variable	- / 60	12	70	35	50
PN 9080 (100)	ABS / PC	PN 9060 B	transparent	186	20	variable	- / 80	56	11	25	50

The indications of the mechanical properties are approx. values.



NEUKADUR Polyurethanes

- fast-casting resins • vacuum casting resins hard / elastic
- casting compounds • elastic mould making resins
- RIM-Systems • foam systems • adhesives



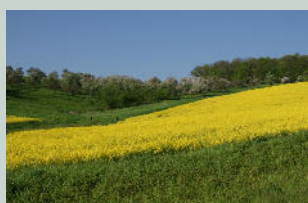
NEUKADUR Epoxy Resins

- gel coats • casting compounds • infusion resins
- linked gel coats • laminating and multi purpose resins
- laminating pastes • foam systems • adhesives



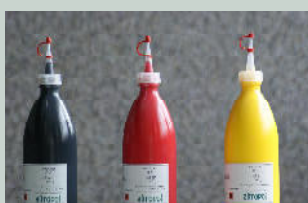
NEUKASIL RTV 2-C Silicones

- condensation systems • from shore 00 up to A 70
- addition systems • modeling materials
- FDA-/BfR-compliant systems



NEUKAPOL Polyols

- „green“ polyols for use in coating systems, adhesives, elastomers and for corrosion protection



AltroColor Color Pastes

- pigments for coloring polyurethanes, epoxy resins, polyurea systems and polyaspartic systems
- the following base colors are available in 500 ml bottles: white, green, flame red, lemon yellow, blue and black



Auxiliaries

- construction adhesives • release agents • metallic and mineral fillers
- equipment for vacuum infusion technology • glass- and carbonfabric
- patching and modelling compounds

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The above mentioned products are standard products. On request, we have a large number of further products and modifications as well as variations of the pot lives and processing times at your disposal. For more detailed information on the Altropol products, please refer to the specific technical data sheets which you can also download in the internet under www.altropol.de. You can of course also get in direct contact with us. Our application engineers will be well prepared to assist you on site and to answer your questions regarding all the other products of Altropol.



Altropol Kunststoff GmbH · Rudolf-Diesel-Straße 9-13 · D-23617 Stockelsdorf
Tel: +49 (0) 451 / 4 99 60-0 · Fax: +49 (0) 451 / 4 99 60-20
E-Mail: info@altropol.de · www.altropol.de · www.altrocolor.de · www.neukapol.de

