

# Casting compounds/casting resins for electronics, sensor and electrotechnology



More than 50 years' experience in the field of coating materials have led to a great variety of cold and thermo curing 2-pack casting resins and casting compounds based on epoxy resin (EP), polyurethane resin (PUR) or silicone-rubber (SIR) that meet the most diverse requirements:

- available in different viscosities, hardnesses / elasticities, temperature resistances and colours
- protect against extreme environmental influences and aggressive media
- excellent insulation properties
- increase the reliability and lifespan of sensors and electronic assemblies
- partly with UL approval in the best flame class V-0 according to UL 94
- the transparent casting resins are suitable for use in optoelectronics
- the opaque casting compounds are distinguished by their good thermal conductivity
- the low-viscosity adjustments are extremely flowable and thus also suitable to cast component geometries that are difficult to access
- solvent-free, thus no attack of solvent-sensitive plastics, no unpleasant odour caused by solvents
- free of halogenated flame retardants
- do not contain substances listed in the RoHS directive 2002/95/EC, the EU Vehicle End-of-Life directive 2000/53/EC and the WEEE directive 2002/96/EC
- do not contain any substances listed in the United States' EPA 33/50 program [this program by the EPA (Environmental Protection Agency) aims for a reduction in the use of certain substances that are hazardous to the environment and health]

Product description	Colour, appearance	Viscosity of mixture at 20 °C [68 °F] [mPas] ISO 3219	Density of mixture at 20 °C [68 °F] [g/cm³] ISO 2811-1	Pot life of mixture at room temp. set-up quantity 500 g	Shore hardness Shore A / Shore D DIN 53505	Dielectric strength [kV/mm] EN 60243-1	Volume resistivity [Ohm x cm] IEC 60093	Temperature range	Special notes
2-pack Wepuran casting compounds / casting resins <b>based on polyurethane resin (PUR)</b> <ul style="list-style-type: none"> <li>• good resistance to water, moisture, lyes, acids and diverse chemicals</li> <li>• good mechanical resistance</li> <li>• for potting electronic components, mini and print transformers, induction, high-frequency and transformer coils and many more</li> <li>• the elastic adjustments are particularly suitable for casting sensitive components (glass diodes, sensors, ferrite cores, etc.) as on account of the elasticity material tensions resulting from thermal shocks are reduced</li> <li>• extremely low heat development and very low shrinkage pressure</li> </ul>	<b>VT 3402 KK series</b>	colourless transparent, crystal-clear	1100 - 2700*	1.10 – 1.12*	50 min - 4 h*	70 - 90 / < 30 - 38*	50 - 70*	10 <sup>12</sup> - 10 <sup>15</sup> *	-40 to + 90 °C [-40 to +194 °F] crystal-clear and highly transparent, thus especially suitable for optical applications (light sources/light emitting diodes) very good climatic resistance and UV light stability can be mixed with dye(stuff) concentrates or hazing paste for coloured transparent or light-diffusing casting compounds
	<b>VT 3403</b>	brownish transparent	3300	1.06	40 min	> 90 / 43	31	4.5 x 10 <sup>14</sup>	-40 to + 90 °C transparent in thin layers (5-7 mm), so that conductors and component assemblies remain visible; in high layers opaque
	<b>VT 3404 LS</b>	yellowish, milky cloudy	1100	1.06	50 min	90 / 43	35	2.4 x 10 <sup>15</sup>	-40 to + 90 °C on account of its light-diffusing effect creates diffused light when used to cast light sources
	<b>VT 3407 series</b>	brownish transparent	600 - 900*	1.07	60 min	> 90 / 42	38	1.1 x 10 <sup>14</sup>	-40 to + 90 °C slightly more transparent than <b>VT 3403</b> , but also opaque in higher layers
	<b>VU 4444/31 SB-WB</b>	black	3500	1.44	70 min	80 / < 30	25	3.0 x 10 <sup>13</sup>	-40 to + 90 °C elastic corresponds to the best flame class V-0 according to UL 94 very good climatic resistance and resistant to UV light, no gloss or adhesion loss
	<b>VU 4445</b>	black	6000	1.68	40 min	> 90 / 68	23	1.0 x 10 <sup>14</sup>	-40 to + 165 °C [-40 to +329 °F] high permanent temperature resistance up to 165 °C [329 °F] high thermal conductivity
	<b>VU 4452 series</b>	blue, black	1500 - 3000*	1.11 - 1.20*	105 min	65 - 70 / < 30*	36 - 46*	10 <sup>10</sup> - 10 <sup>11</sup> *	-40 to + 120 °C [-40 to 248 °F] <b>highly elastic, high temperature stability up to 120 °C [248 °F]</b> , cost-saving alternative to silicone-rubber casting compounds
	<b>VU 4452/41 SV-HF</b>	blue	3400	1.43	80 min	> 90 / 75	38	1.0 x 10 <sup>15</sup>	-40 to + 120 °C high hardness / mechanical strength, high temperature stability up to 120 °C [248 °F] <b>UL approval</b> with the best flame class V-0 according to UL 94
	<b>VU 4453 series</b>	blue, black, grey	1000 - 60000*	1.00 - 1.26*	35 - 85 min*	50 - 85 / < 30*	30 - 60*	10 <sup>14</sup> - 10 <sup>15</sup> *	-40 to + 90 °C highly elastic, very low water absorption water resistant adjustment <b>VU 4453/101 WR</b> for underwater application
	<b>VU 4456</b>	blue	1800	1.41	45 min	> 90 / 58	30	5.4 x 10 <sup>14</sup>	-40 to + 90 °C cost-saving alternative where requirements on moisture and chemical resistances are not high
	<b>VU 4457 series</b>	blue, black, grey	1100 - 2900*	1.23 - 1.60*	70 - 90 min*	> 90 / 45 - 60*	27 - 34*	10 <sup>12</sup> - 10 <sup>14</sup> *	-40 to + 90 °C "all-round" casting compounds for diverse application fields available in various adjustments (colour, viscosity, etc.) <b>VU 4457/61 SB</b> corresponds to the best flame class V-0 acc. to UL 94
	<b>VU 4458/51 SB</b>	blue	900	1.32	40 min	75 / < 30	40	1.0 x 10 <sup>15</sup>	-40 to + 90 °C elastic corresponds to the best flame class V-0 according to UL 94
<b>VU 4459/41 SV-HF series</b>	blue	1800	1.44	80 min	> 90 / 73	31	3.2 x 10 <sup>13</sup>	-40 to + 90 °C <b>UL approval for VU 4459/41 SV-HF</b> with the best flame class UL 94 V-0	

\* These casting compounds/casting resins are available in different adjustments (colour, viscosity, pot life, mechanical and electrical properties, etc.). The property values of the various adjustments are within the above mentioned ranges.

Ask for further information! We will gladly provide free-of-charge samples and detailed technical data sheets.

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	Product description	Colour, appearance	Viscosity of mixture at 20 °C [68 °F] [mPas] ISO 3219	Density of mixture at 20 °C [68 °F] [g/cm³] ISO 2811-1	Pot life of mixture at room temp. set-up quantity 500 g	Shore hardness Shore A / Shore D DIN 53505	Dielectric strength [kV/mm] EN 60243-1	Volume resistivity [Ohm x cm] IEC 60093	Temperature range	Special notes
2-pack Wepox casting compounds / casting resins <b>based on epoxy resin (EP)</b> <ul style="list-style-type: none"> <li>• excellent resistance to water, moisture and aggressive media</li> <li>• outstanding adhesion and high mechanical strength and resistance</li> <li>• for sealing and casting electronic components that may only be exposed to a comparably low heat development and very low shrinkage pressure</li> </ul>	<b>VT 3000</b>	yellowish transparent	1300	1.06	80 min	- / 80	45	2.0 x 10 <sup>13</sup>	-40 to +130 °C [-40 to +266 °F]	high transparency: components remain visible even in case of high layers
	<b>VT 3002</b>	yellowish transparent	600	1.06	6 - 7 h	- / 70	31	1.0 x 10 <sup>14</sup>	-40 to +130 °C	high transparency: components remain visible even in case of high layers
	<b>VT 4052</b>	blue transparent	800	1.06	7 h	- / 80	36	1.0 x 10 <sup>15</sup>	-40 to +130 °C	long processing/pot life, thermo curing only
	<b>VU 4081 NV</b>	brown	3000	1.7	3 h	- / 88	44	1.0 x 10 <sup>14</sup>	-40 to +130 °C	long processing/pot life
	<b>VU 4085 series</b>	brown, black	1600 - 7500*	1.7 - 1.8*	2.5 - 3.5 h*	- / 88	45	1.0 x 10 <sup>14</sup>	-40 to +130 °C	very low heat development and low volume shrinkage particularly good thermal conductivity
	<b>VU 4085/51 SB</b>	brown	4500	1.52	2.5 - 3 h	- / 88	45	8.0 x 10 <sup>14</sup>	-40 to +130 °C	casting compound of the series <b>VU 4085</b> in a hardly flammable adjustment (Index <b>SB</b> ): corresponds to the best flame class V-0 according to UL 94
2-pack Wepesil casting compounds / casting resins <b>based on organopolysiloxane (silicone-rubber, SIR)</b> <ul style="list-style-type: none"> <li>• good flowability</li> <li>• cuttable, so that in case of repair work components can be exchanged</li> <li>• extremely high temperature stability</li> <li>• excellent tear strength</li> <li>• high elasticity, exceptionally low heat development and very low shrinkage pressure during curing, thus particularly suitable for casting sensitive components (glass diodes, sensors, etc.)</li> </ul>	<b>VT 3601 E</b>	colourless transparent	4800	0.99	90 min	45 / -	50	2.7 x 10 <sup>13</sup>	-40 to +200 °C [-40 to +392 °F]	addition cross-linking, thus no separation products during curing, also suitable for use in hermetically encapsulated casings, no risk of reversion (re-softening) highly transparent even in high layers exceptionally high temperature stability, brief loading up to 250 °C [482 °F] possible
	<b>VU 4691 E series</b>	white-grey / grey	16000	1.23	90 min	65 / -	31	2.0 x 10 <sup>14</sup>	-40 to +200 °C	addition cross-linking, thus no separation products during curing, also suitable for use in hermetically encapsulated casings, no risk of reversion (re-softening) exceptionally high temperature stability, brief loading up to 250 °C [482 °F] possible
	<b>VU 4692 series</b>	white-grey	2200 - 3500*	1.52	75 min	45 / -	34	6.9 x 10 <sup>14</sup>	-40 to +200 °C	condensation cross-linking
	<b>VU 4693</b>	white	2600	1.58	100 min	35 / -	34	2.1 x 10 <sup>14</sup>	-40 to +200 °C	condensation cross-linking
	<b>VU 4694 E</b>	white	4500	1.41	5 h	52 / -	43	2.0 x 10 <sup>15</sup>	-40 to +200 °C	addition cross-linking, thus no separation products during curing, also suitable for use in hermetically encapsulated casings, no risk of reversion (re-softening)

\* These casting compounds/casting resins are available in different adjustments (colour, viscosity, pot life, mechanical and electrical properties, etc.). The property values of the various adjustments are within the above mentioned ranges.

Please note our auxiliary products for the processing of casting compounds and casting resins, such as accelerators to reduce the curing time, adhesion promoters to improve the adhesion to difficult substrates, sealing mastic, mould release agents and cleaning agents.

Explanation of indices:

VT = casting compound, transparent      E = elastic      KK = crystal-clear      SB = hardly flammable      WB = weather proof  
 VU = casting compound, opaque      HF = halogen-free      LS = light diffusing      SV = self-extinguishing      /31 = mixing ratio 3:1

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