

Casting compound Wepox VT 3000

The casting compound **Wepox VT 3000** protects and insulates electronic components and assemblies against rough climatic influences and aggressive media as well as against mechanical attack.

- Base: epoxy resin (ER)
- solvent-free/VOC-free (volatile organic compounds)
- low viscosity (good fluidity)
- transparent even in high layers
- high mechanical stability
- excellent protection against shock, impact and vibration
- operating temperature range -65 to at least +130 °C [-85 °F to at least 266 °F]
- excellent resistance against water, moisture and aggressive media
- outstanding adhesion

Characteristics

Colour/appearance		yellowish, transparent
Viscosity* at 20 °C [68 °F] DIN EN ISO 3219	Component A Hardener (component B) Mixture	2000 ± 200 mPas 750 ± 250 mPas 1400 ± 200 mPas
Density at 20 °C [68 °F] DIN EN ISO 2811-1	Component A Hardener (Component B) Mixture	1.14 ± 0.05 g/cm ³ 0.95 ± 0.05 g/cm ³ 1.06 ± 0.05 g/cm ³
Pot life of mixture at 18-20 °C [64.4-68 °F] (initial temperature 20 °C [68 °F]; set-up quantity 100 g) Tenfold viscosity		80 ± 10 min

* measured with Haake RS 600, C 1/1°, D = 50 s⁻¹,
viscosity measuring unit supplied by Thermo Fisher Scientific, www.thermofisher.com

Index: VT = casting compound, transparent

Physical and mechanical properties

These properties are reached after 14 days storage at room temperature (18–23 °C [64.4–73.4 °F]).

Property	Test method	Result
Shore-D hardness	DIN 53 505	70–80
	DIN ISO 7619-1	70–80
Water absorption	DIN EN ISO 62 (24 h/23 °C)	≈ 0.2 %
Glass transition temperature Tg	TMA	≈ 60 °C
Coefficient of thermal expansion CTE	TMA	≈ 85 ppm/K < Tg ≈ 195 ppm/K > Tg
Temperature shock*	in acc. with IPC-TM-650, 2.6.7.1, -65 bis +125 °C [-85 to +257 °F]	passed
Thermal class*	in acc. with DIN IEC 60 085	B = 130 °C
Temperature index (TI)*	in acc. with DIN EN 60216 (IEC 60216) as of 2001 Mass loss: 5 % 10 % 20 % 50 %	after 5000 / 20000 h ≈ 115 °C / 80 °C ≈ 130 °C / 95 °C ≈ 145 °C / 115 °C ≈ 170 °C / 135 °C

* can be used in a temperature range of **-65 up to at least +130 °C** [-85 up to at least 266 °F]. Both at the lower and upper ends of this range the performance and reliability of the material can be negatively affected in some applications. In these cases, additional pre-trials and tests are required.

Electrical properties

These properties are reached after 14 days storage at room temperature (18–23 °C [64.4–73.4 °F]).

Property	Test method	Result
Dielectric strength	VDE 0303, part 21 DIN EN 60243-1	≥ 35 kV/mm
Surface resistance	VDE 0303, parat 30 DIN IEC 60093	≥ 5 x 10 ¹³ Ohm
Specific volume resistance	VDE 0303, parat 30 DIN IEC 60093	≥ 9 x 10 ¹⁴ Ohm x cm
Comparative tracking index (CTI)	DIN EN 60112	CTI > 600

Processing



Please read this technical report and the publications listed below carefully before using the product. These sheets are enclosed with the first shipment of product or sample.

MSDS	The corresponding material safety data sheet contains detailed information and characteristics on safety precautions, environmental protection, transport, storage, handling and waste disposal.
TI	Technical information TI 15/2 "Selection criteria and processing instructions for casting compounds"
TI	Technical information TI 15/3 "Protective measures when using chemicals including lacquers, casting compounds, thinners, cleaning agents"
TI	Technical information TI 15/10 "Processing of 2-pack systems"

Since the many different permutations make it impossible to evaluate the whole spectrum (parameters, reactions with materials used, chemical processes and machines) of processes and subsequent processes in all their variations, the parameters we recommend are to be viewed as guidelines only that were determined in laboratory conditions. We advise you to determine the exact process limitations within your production environment, in particular as regards compatibility with your specific follow-up processes, in order to ensure a stable fabrication process and products of the highest possible quality.

The specified product data is based upon standard processing conditions/test conditions of the mentioned norms and must be verified if necessary while observing suitable test conditions on processed products.

Feel free to contact our application technology department (ATD) if you have any questions or for a consultation.

Safety recommendation

→ When using chemicals, the common precautions should be carefully noted.

Mixing



Component A : Hardener (Component B) = 2 : 1 (parts by weight)

CAUTION: The labels on our containers indicate both the volume [L] and weight [kg]. The mixing ratio applies to the weight.
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The larger the quantity that is set up, the higher the temperature will rise in the curing process: With 500 g set up, the temperature may rise from 20 °C [68 °F] to distinctly more than 100 °C [212 °F].

Auxiliary products recommended

- [ELPESPEC® sealing mastic EH 13.271](#)
solvent-free paste for sealing jobs in electronics and electrical engineering, self-adhesive and permelastatic
- [ELPESPEC® adhesion promoters EH 13.950/EH 13.951](#)
for improving the adhesion; **EH 13.950** is applied thinly to the parts that will come into contact with the casting compound while **EH 13.951** is mixed thoroughly with the casting compound prior to potting
- [ELPESPEC® mould release agent EH 13.650](#)
solvent-, silicone- and grease-free, for pre-treating the surfaces of parts to be potted; after curing, the potting can be easily removed from the mould without residue
- [ELPESPEC® cleaning agent R 13.780](#)
for the cleaning of work place and tools; cleaning should be effected immediately after processing as cleaning becomes increasingly difficult the further the curing process progresses and is impossible after final curing.

Drying/curing

The following specifications for a quantity of 25 g serve as a guideline:

	Room temperature (18-23°C) [64.4-73.4 °F]	80°C [176 °F]	125°C [257 °F]
Tack-free	24 h	30 min	15 min
Cured	7 days	approx. 2 h	approx. 1 h

Packaging

The packing units available are indicated in our offer which we will send you upon request.

Shelf life and storage conditions



Shelf life: in sealed original containers at least 9 months



Storage conditions: +5 °C to +25 °C [+41 °F to +77 °F]



Protect against humidity

For warehousing reasons, isolated cases may occur where the shelf life upon shipment is less than the shelf life indicated in this technical report. However, it is ensured that our products have **at least** two-thirds of their shelf life remaining when they leave our company. Labels on containers show shelf life and storage conditions.

Disclaimer

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Any questions? We would be pleased to offer you advice and assistance in solving your problems. Samples and technical literature are available upon request.

Lackwerke Peters GmbH & Co. KG
Hooghe Weg 13, 47906 Kempen, Germany

Internet: www.peters.de
E-Mail: peters@peters.de

Phone +49 2152 2009-0
Fax +49 2152 2009-70

peters
Coating Innovations
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