

AI 3/1: Processing instructions for ELPECAST® casting compounds of the series Wepuran VT 3402 KK

The crystal-clear, highly transparent casting compounds of the series **Wepuran VT 3402 KK** are distinguished by their very good weather resistance and excellent UV light stability and fulfil high demands on optical properties.

To achieve this, an optimum potting without bubbles and flowmarks is required. Consequently, it is vital to avoid humidity, air inclusions and “dead zones” (unmixed material) during processing. The advice below will be of help when processing this product:

	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.
TR	Technical Report “Casting compounds of the series Wepuran VT 3402 KK”
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 product data specified in the technical reports 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.

Processing

- Ensure that the surface to be potted is clean, grease-free and dry, and that your workplace is as dust-free as possible. Air humidity should not exceed 75 % r. h.
- Heat the components to be potted to 50–80 °C [122-176 °F] for 30 min to remove even the slightest condensation, e. g. in the case of humid weather or on a cold component in a warm environment.
Perform potting before condensation forms again.
Do not pot cold components.
- Bring the containers of both components at least to the temperature at which they shall be processed.
- Mix both components in the specified mixing ratio.
Both components are packed in the correct mixing ratio.
- To avoid penetration of moisture close opened containers carefully after use and upend them once. Consume opened containers as soon as possible.

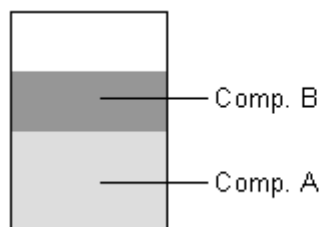
Mixing of both components

- Storage at colder temperatures can cause the A component to crystallize. In this case, warm up the total contents of the container to a maximum temperature of 70 °C [158 °F] until the crystals have melted. Stir the material thoroughly to ensure a homogeneous mixture. Prior to processing, let it cool down again to 20-25 °C [68-77° F].

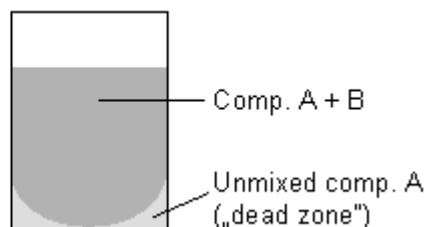


Stir before use: VT 3402 OPAL and TP 3492 LS

- Mix component A and hardener (component B) thoroughly with each other. Care must be taken that no unmixed material remains in the corners of the containers.



Unmixed material



"Dead zones" after mixing

- Should flowmarks appear while mixing continue to mix until they have disappeared.
- If possible, use a mechanical stirring unit.
- Ensure no air is stirred in. Use suitable mixing elements as shown below, **no** household mixers or drills with mixer attachment.



Left: Agitator with basket, right: Paddle stirrer with holes

Source: Collomix Rühr- und Mischgeräte GmbH, Gaimersheim, and Bochem Instrumente GmbH, Weilburg, Germany

Processing of the hazing paste

The hazing paste can be mixed with the casting compounds of the series **Wepuran VT 3402 KK** in different mixing ratios. The quantity of component A and hardener (component B) of the casting compound to be applied changes accordingly. We provide a "Mix calculator" in the [Download Center](#) of our website that enables you to calculate the necessary quantities of the individual components fast and easily. The added quantity of hazing paste must not exceed a total of 40 %.

→ Please note that the UL approval expires if you add hazing paste to a casting compound with UL approval.



Mix calculator for the casting compounds Wepuran
VT 3402 KK-NV, VT 3402 KK-NV-LT and VT 3402 KK-NV-UVP
for mixing with the hazing paste TP 3492 LS

desired total quantity in grammes
desired hazing in %

100
0

Component A	50,0 g
Hazing paste TP 3492 LS	0,0 g
Hardener (Component B)	50,0 g
Total	100 g

Input mask of a mix calculator (www.peters.de)

→ Add the hazing paste **TP 3492 LS** shortly before processing since otherwise the filler may settle.

→ Stir the the hazing paste into component A and then add the hardener (component B).

Evacuation of mixture

In order to avoid entrapping air in the compound, the air must be removed by means of vacuum (approx. 30-50 mbar) when mixing. Ensure that the compound is evacuated before **plus** after potting if necessary, in order to remove trapped air.

Peters has "[Bubble-free](#)" systems on offer consisting of a desiccator and a pump. They permit to evacuate approx. 500 g of casting compound in an easy manner.

→ Note that a larger size desiccator and a higher performance pump may be needed for evacuating larger quantities.

→ Select the size of the desiccator in such way that the quantity usually prepared for your application can be evacuated at one and the same time. The container used for this purpose should be filled up with casting compound to no more than one third to prevent overfoaming during evacuation.

→ When potting certain casting compounds of the series **Wepuran VT 3402 KK** note that even a quantity of 500 g already generates a remarkable amount of heat. Owing to the strong heat development surface defects may occur when potting quantities > 1 kg. In this case, casting compounds with a significantly reduced reactivity and heat development should be used. For this purpose, **Wepuran VT 3402 KK-NV-LT** is best suited (see also the selection chart in the technical report, item “low heat development when cured”).

Besides the quantity prepared, geometry is also important. If for example, the quantity of casting compound is applied on a large surface, heating will be limited.

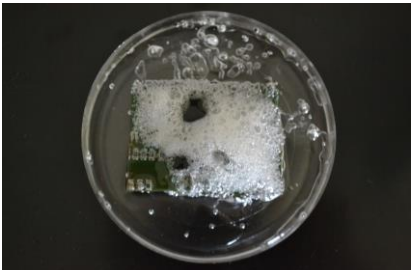
→ Perform tests with your own assemblies.

Machine processing

The casting compounds of the series **Wepuran VT 3402 KK** can be very easily processed in mixing and dosing units.

Troubleshooting

The following table gives details of typical mistakes, causes and solutions:

Mistake	Cause	Solution
Bubbles in the compound while material cures  from a different perspective: 	Air entrapped during mixing of components cannot be released	Evacuate at approx. 30-50 mbar after mixing
Strong formation of bubbles 	Moisture in the compound/ on the substrate	Dry assembly directly before encapsulation, e.g. at 60°C [140 °F] for 30 min

Mistake	Cause	Solution
Strong formation of bubbles 	Wrong mixing ratio, too much hardener added (component B)	Verify mixing ratio and observe recommended ratio
Surface defects 	1. Too much product prepared at one time 2. Cured at too high a temperature	1. Process smaller quantities at one time 2. Avoid curing above 60 °C [140 °F] Use Wepuran VT 3402 KK-NV-LT

Disclaimer

All descriptions and images of our goods and products contained in our technical literature, catalogues, flyers, circular letters, advertisements, price lists, websites, data sheets and brochures, and in particular the information given in this literature are non-binding unless expressly stated otherwise in the Agreement. This shall also include the property rights of third parties if applicable.

The products are exclusively intended for the applications indicated in the corresponding technical data sheets. The advisory service does not exempt you from performing your own assessments, in particular as regards their suitability for the applications intended. The application, use and processing of our products and of the products manufactured by you based on the advice given by our Application Technology Department are beyond our control and thus entirely your responsibility. The sale of our products is effected in accordance with our current terms of sale and delivery.

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

peters
 Coating Innovations
 for Electronics