



### Characteristics

VUKOL N22/60 is a pale yellow / black polyurethane potting compound with the addition of an inorganic filler. It is cured at room temperature, with a temperature index B (130 °C). It does not contain solvents. VUKOL N22/60 is, after curing, a soft, flexible and very ductile rubber mass, resistant to moisture. In the black version, it is also very resistant to direct sunlight.

### Field of application

VUKOL N22/60 is suitable for filling cavities, especially for encapsulating electrical equipment, where sealants without internal stress, with good electrical insulating properties are required, belong to the softer types of polyurethanes. It is suitable for potting transformers, electronics, car batteries, etc. Due to the low initial viscosity of the mixture, it is possible to fill very narrow gaps or cavities. Due to its high ductility, it is suitable for encapsulating materials with different coefficients of thermal expansion. **It does not contain abrasive fillers, it is suitable for manual and continuous machining.**

### Processing

- VUKIT LV is used as the default hardener with mixing ratio 100 : 23 pbw.
- Moisture must be strictly avoided during all steps of work-up, until the resin is hardened. All workpieces and processing tools must be dry before use, possibly stored at ambient temperature, to avoid condensation of air moisture on cold surfaces.
- Polyol component VUKOL N22/60 should always be stirred up thoroughly before mixing with the hardener.
- During mixing the temperature of the components should be between 15 – 25 °C.
- The mixing ratio of polyol component VUKOL N22/60 and hardener is 100 : 23 (weight mixing ratio).

For manual work-up:

- The amount of resin-hardener mixture prepared at once should be adjusted to the number of the workpieces, as they should be casted/potted within the pot life. As soon as the viscosity of the mixture reaches double to triple of the initial value, it should not be used any more.
- For cleaning of the tools, it is recommended to use VUKI thinner T5.

In case of automatic application:

- According to the device manufacturer/supplier specific instructions.

Detailed instructions for working with PUR materials are mentioned in the document: "VUKOL N – Processing Instructions for PUR compounds". It is available on the VUKI website in the "download" section.

**CAUTION:** In case of humidity higher than 55 %, bubbles may arise in castings, therefore application in such conditions is not recommended.

Labor safety and environmental information is detailed in the „Safety data sheets“ of the product. Follow the safety instructions in the Safety Data Sheet during all the works.

### Hardening

Hardening conditions:

- Conventional hardening: 16 hours at 23 °C, humidity: < 55 %
- Oven hardening: 2 hours at 80 °C
- Full hardening: 7 days at 23 °C (achievement of final parameters)

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### Properties of components

Parameter	Standard	Condition	VUKOL N22/60	VUKIT LV	Unit	Description
Appearance	HZS 003		pale yellow liquid black liquid	clear brown liquid		VUKOL N22/60 natural VUKOL N22/60 black
Density	STN EN ISO 2811-1	25 °C	1,32 – 1,38	1,20 – 1,24	g/cm <sup>3</sup>	= kg/m <sup>3</sup>
Viscosity	STN 67 3014	25 °C	800 – 1 000	20 – 40	mPa.s	
Non-volatile content			> 99	> 99	%	
Flash point	STN EN ISO 2592		> 220	> 200	°C	
Shelf life		15 – 25 °C	12	12	months	

Mixing ratio	Weight mixing ratio
VUKOL N22/60 : VUKIT LV	100 : 23

### Properties of mixture

Parameter	Standard	Condition	VUKOL N22 + hardener	Unit	Description
Final color		VUKOL N22/60 natural VUKOL N22/60 black	yellowish white black		other colors possible on request
Initial viscosity of mixture	STN 67 3014	25 °C	500 – 900	mPa.s	VUKIT LV
Processing time: Time till reaching double viscosity Time till reaching triple viscosity	STN 67 3014	23 °C	10 – 20 15 – 30	min	100 g
Hardening time		23 °C	24	hours	humidity: less than 45 – 55 %
Full hardening time		23 °C	7	days	



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### Parameters of the hardened material (after 7 days at 23 °C)

Parameter	Standard	Condition	Value	Unit	Description
Elongation at break	STN EN ISO 527-2		54	%	
Tensile strength	STN EN ISO 527-2		4,1	MPa	
Hardness	STN EN ISO 868		20 – 23	Shore D	after 7 days at 23 °C
Dielectric strength	STN EN 60243-1	23 °C	22 – 27	kV/mm	2 mm thickness sample
Volume resistivity	STN EN 62631-3-1	23 °C after 24 hours in water	6,5.10 <sup>11</sup> 4,4.10 <sup>11</sup>	Ω.cm	
Surface resistivity	STN EN 62631-3-2	23 °C after 24 hours in water	6,4.10 <sup>13</sup> 3,3.10 <sup>13</sup>	Ω	
CTI	STN EN 60112		CTI 600 (UL cert.)		
Thermal class	STN IEC 60216		B (130 °C)	Index	
Water absorption	ISO 62	25 °C, 24 hours	max. 0,15	%	

### Packing, storing and manipulation

VUKOL N22/60 and VUKIT LV are supplied in non-returnable, clean, metal containers. Should be stored in tightly closed containers in a dry, ventilated place at + 5 °C to + 25 °C. When the storage conditions are met, the quality of the unhardened resin is guaranteed 12 months from the date of manufacture.

**CAUTION:** Prevent the infiltration of moisture or air humidity into the material, it causes degradation!

### NOTE

The information in this document is consistent with our best knowledge of the date of publication. This information can be a subject of revision without prior notice if new knowledge and experience are available. The data provided falls within the normal range of product properties and relates only to the specified material. These data may not apply to materials used in combination with other materials or ingredients or other processes, unless expressly stated otherwise. The data provided should not be used to set limits or used separately as

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### Contact

VUKI a.s., Rybníčná 38, 831 07 Bratislava 06  
Customer service: tel.: +421 906 063 231, +421 906 063 107  
e-mail: [info@vuki.sk](mailto:info@vuki.sk)  
<http://www.vuki.sk/en/impregnating-substances-and-potting-materials>



VUKI a.s., Rybníčná 38, SK - 831 07 Bratislava, Tel.: +421 906 063 231  
e-mail: [vuki@vuki.sk](mailto:vuki@vuki.sk), [www.vuki.sk](http://www.vuki.sk)

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## Version

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