



Characteristics

VUKOL N33/60 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 N33/60 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 N33/60 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 M is used as the default hardener.
- During mixing, the temperature of the components should be between 15 – 25 °C. At higher temperature, the hardening takes place more rapidly, thus shortening the pot life of the mixture.
- 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.
- During storage, slight sedimentation of the fillers in the resin can occur, so VUKOL N33/60 should always be stirred up thoroughly before mixing with the hardener.
- The mixing ratio of polyol component VUKOL N33/60 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 manual processing are available in the document: "VUKOL N – Processing Instructions for PUR compounds.pdf". They are available on the VUKI website within the "Downloads" 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 N33/60	VUKIT M	Unit	Description
Appearance	HZS 003		Viscous liquid	Clear brown liquid		VUKOL N33/60 natural VUKOL N33/60 black
Density	STN EN ISO 2811-1	25 °C	1,32 – 1,38	1,20 – 1,24	g/cm ³	
Viscosity	STN 67 3014	25 °C	3 000 – 4 500	70 – 250	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 N33/60 : VUKIT LV	100 : 23

Properties of mixture

Parameter	Standard	Condition	VUKOL N33/60 + hardner	Unit	Description
Final color		VUKOL N33/60 natural VUKOL N33/60 black	Yellowish-white Black		other colors possible on request
Initial viscosity of mixture	STN 67 3014	25 °C	1 300 – 2 000	mPa.s	
Processing time: Time till reaching 3 000 mPa.s	STN 67 3014	23 °C	15 – 30	min	100 g
Hardening time		23 °C	24	hours	humidity: less than 45 – 55 %
Full hardening time		23 °C	7	days	

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		31	%	4 mm
Tensile strength	STN EN ISO 527-2		4,6	MPa	4 mm
Hardness	STN EN ISO 868	Shore D	30 – 35		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 7 days in water at 23 °C	9,3.10 ¹¹ 7.10 ¹⁰	Ω.m	



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Surface resistivity	STN EN 62631-3-2	23 °C after 7 days in water at 23 °C	3,1.10¹⁵ 2,1.10¹⁵	Ω	
Thermal class	STN IEC 60216		B (130 °C)		
Water absorption	ISO 62	25 °C, 24 hours	max. 0,25	%	

Packing, storing and manipulation

VUKOL N33/60 and VUKIT M 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!

Alternative versions – On request

It is possible to deliver **versions with accelerated curing**, according to customer requirements.

NOTE

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