

# NAB/250-1K E



## VUDAC IMPREGNANTS

### Characteristic

NAB/250-1K E is one component solution of diluted unsaturated polyesterimide in diacrylate. Impregnant provides an excellent flexibility of layer and perfect penetration into the winding. Only a small amount of volatile substances is released during curing. Impregnating resin doesn't pollute the environment and doesn't cause fire hazards. It is not necessary to clean exhaust air.

Impregnant is characterized by the following properties:

- low VOC, environmental friendly,
- highly flexible after curing
- perfect penetration into the winding
- high mechanical strength at working temperature of the motor
- solvents free
- non-flammable, non-odor at room temperature
- resistant to transformer oils and refrigerants

### Field of application

NAB/250-1K E is impregnating resin suitable for insulation systems with thermal class H. It is suitable for impregnation of windings of electrical rotating machines and transformers made from big diameter enameled wires and made from rectangular wires.

### Processing

NAB/250-1K E can be processed on conventional impregnation devices at atmospheric pressure or vacuum by dipping, flooding or widening under rotation. Exact instructions for processing will be provided depending on the customer's processing method.

It can be processed immediately without the need to add additional additives as it is a one-component system. The recommended impregnant change in the tank is 20% of the total volume per month. To achieve the maximum life time of the impregnating resin, its operating temperature is recommended to not exceed 25 °C.

When handling the impregnant, follow the safety instructions in the **Safety Data Sheet**.

To clean the equipment and work tools from undamaged impregnant it is recommended to use VUKI thinner T5.

### Hardening/Curing

- Conventional curing: **1,5 – 2 hours at 170 °C in winding – recommended to reach best performance**  
2 – 4 hours at 150 °C in winding

NOTE: Curing time are to be measured from reaching of mentioned temperature in the winding.

- Oven has to be equipped with vapor extraction



# NAB/250-1K E



## VUDAC IMPREGNANTS

### Processing properties

Parameter	Standard	Condition	Value	Unit	Description
Appearance			Yellowish, brownish liquid		
Outflow time	DIN 53 211	23 °C	60 – 100	s	DIN cup 4
Stability		5 - 25 °C	min. 6	month	
Flash point	STN EN ISO 2592		> 112	°C	
Gel time	DIN 16 945	130 °C	1,5 – 3	min	
Hardening time		170 °C	2	hour	from reaching a temperature of 170°C in the winding
Drying time		130 °C	< 15	min.	
VOC		1,5 hour at 135 °C	< 2	%	
Effect on enameled wires	STN EN 60851-4,5 STN EN 60317		suitable		compatible with all commonly used wires

### Parameters after hardening

Parameter	Standard	Condition	Value	Unit	Description
Drying in thick layer	DIN 46 448 Blatt 1		I. 1.1.1 0. 1.1.1.		
Electrical strength	EN 60243-1	23 °C 180 °C after 96 h/ 92% r.h./ 23 °C	60 50 50	kV/mm	
Volume resistivity	STN EN 62631-3-1	23 °C 180 °C after 96 h in water, 23 °C	10 <sup>14</sup> 10 <sup>9</sup> 10 <sup>14</sup>	Ω.m	
Bond strength	STN EN 61 033 art. 2.1 method A (twisted coil)	23 °C	200 – 220	N	Depends on curing temperature
	STN EN 61 033 art. 2.1 method B (helical coil)		220 - 250		
	STN EN 61 033 art. 2.1 method A (twisted coil)	180 °C	80 - 85		
	STN EN 61 033 art. 2.1 method B (helical coil)		65 - 75		
Temperature index	STN IEC 60 216		180	°C	

### Packing, storing and manipulation

Impregnating resin is supplied in non-returnable, clean, metal drums with weight 50 kg and 200kg or according agreement. Impregnating resin is 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 impregnating resin is guaranteed 6 months from the date of manufacture.



# NAB/250-1K E



## VUDAC IMPREGNANTS

**CAUTION:** Extreme heat or contamination may result in the polymerization and deterioration of the impregnant!

Concerning of transport – impregnant is not classified as a hazardous product.

### Safety

The Safety and Health Guidelines are listed in the Material Safety Data Sheet.

### 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 a basis for the sample: they are not intended to compensate for any testing that may be necessary to make a decision as to whether the specific material is suitable for your particular purpose. Because VUKI cannot predict all variants of end-use product conditions, VUKI does not provide guarantees and has no responsibility with respect to any use of this information. Nothing in this publication is considered to be a use or recommendation to violate any patent rights.

### Contact

VUKI a.s., Rybníčná 38, 831 07 Bratislava 06

Customer service – tel.: +421 906 063 231; e-mail: [info@vuki.sk](mailto:info@vuki.sk); <http://www.vuki.sk>

### Version

2023-01-15

