

1K-NAH/99/Z



VUDAC IMPREGNANTS

Characteristic

1K-NAH99/Z is a single component impregnating resin with medium to high viscosity based on unsaturated polyester-imide resin dissolved in diacrylate. It has a clear amber look. There is little emission (VOC) released during curing. Does not pollute the work environment, does not create a fire hazard. Waste air does not need to be cleaned.

Impregnat is characterized by the following properties:

- Excellent thermal resistance
- Excellent mechanical strength
- Cleanliness of system surfaces after impregnation
- Short curing time
- Minimal cure losses
- Exceptional cure efficiency
- Customizable processing properties according to customer requirements

Field of application

1K-NAH99/Z is suitable for trickling applications in temperature class H. It is designed for the impregnation of thermally stressed windings of alternators, electric high speed rotary machines of domestic tools and power tools.

Processing

1K-NAH99/Z is developed for trickling impregnation by closed impregnation lines under atmospheric pressure. Sufficient suction of the vapors produced during curing must be ensured. Exact instructions for processing will be provided depending on the customer's processing method

Since it is a one-component system, additional additives are not required before use. To achieve the maximum lifetime of the impregnant, its recommended to maintain operating temperature 25°C as maximum.

When handling the impregnating resin, 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 conditions:

- conventional curing: 15 – 30 min from reaching 130 °C in the winding
10 – 15 min from reaching 140 °C in the winding
- oven should be equipped with vapors suction device



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Processing properties

Parameter	Standard	Condition	Value	Unit	Description
Density	STN EN ISO 2811-1	20 °C	1050 – 1150	kg/m ³	
Viscosity	STN 67 3014	25 °C	2000 – 2500	mPa.s	value adjustable according to customer request
Stability		23 °C	min. 4	Month	
Flash point	STN EN ISO 2592		> 112	°C	
Gel time	DIN 16 945	130 °C	2 – 4	min	
Reaction time	STN EN 60455-2	130 °C	3 – 5	min	
Exothermic temperature	STN EN 60455-2	130 °C	240 – 280	°C	
VOC			< 3	%	
Hardening time		130 °C 140 °C	15 – 30 10 - 15	min	from reaching specific temperature in the winding
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	STN EN 60464-2	2 h at 80 °C + 1 h at 90 °C + 2 h at 130 °C	I 1.1 S1 U1		sample solid, no cracks and bubbles, surface smooth, non-stick
Electrical strength	STN EN 60243-1	23 °C 180 °C after 96 h/ 92% r.h./ 23 °C	50 60 50	kV/mm	cylindrical electrodes ø 6 mm
Volume resistivity	STN EN 62631-3-1	23 °C 180 °C after 96 h in water/ 23 °C	10 ¹⁴ 10 ⁹ 10 ¹⁴	Ω.m	
Twisted coil strength	STN EN 61 033 art. 2.1 method A	23 °C 155 °C 180 °C	260 – 320 80 – 110 80 – 90	N	
Temperature index	STN IEC 60 216		180	°C	

Packing, storing and manipulation

Impregnating resin is supplied in non-returnable, clean, metal drums with weight 200 kg, 25kg or 10kg. Alternatively, other packaging can be used 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 4 months from the date of manufacture.

CAUTION: Extreme heat, contamination or exposure to direct sunlight may result in the polymerization and deterioration of the impregnant!

Impregnating resin is not classified as a dangerous product from the transport point of view.





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Safety

The impregnating resin contains hexanediol diacrylate as a reactive solvent which irritates the skin. Impregnating resin is Liquid of IV. hazard class according to the Decree of the Ministerial Council of the Interior no. 86/1999 Coll.

Safety and health instructions are given in the MSDS

Certificates

- twisted pairs: 180 °C, thermal class H (UL file E233982)

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.

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