

NK 50/1K Txn



VUPOS IMPREGNANTS

Characteristic

NK 50/1K Txn is a low to medium viscosity single-component solution of unsaturated polyesterimide resin in styrene. It is a cloudy yellow liquid without mechanical impurities.

It is characterized by the following properties:

- after curing, it is characterized by an elastic lacquer film while at the same time high mechanical strength of the winding
- purity of system surfaces after impregnation and curing
- resistance to solvent vapors, transformer oil and freons

Field of application

NK 50/1K Txn is designed for the impregnation of electric machines of temperature up to class C (220 °C). It is intended for impregnation:

- winding of electric rotary machines of general use
- transformers
- traction motors
- dynamos

Processing

NK 50/1K Txn is intended for continuous impregnation by dipping in continuous impregnating devices. However, it is also possible to use it for discontinuous impregnation of windings, especially from low diameter, enameled wires, at atmospheric pressure and vacuum, in those cases where a low-viscosity impregnant with a high penetration capacity is required. Exact instructions for processing will be provided depending on the customer's processing method.

Since it is a thixotropic system, the impregnation must be mixed before it is pumped into the impregnation vessel. Mixing must be ensured also in the impregnation vessel. It is also advisable to mix the dripping flowing back into the impregnation vessel. To achieve the maximum lifetime of the impregnant, its operating temperature is recommended max. 23 °C

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

To clean equipment and work tools from non-hardened impregnant, it is recommended to use VUKI thinner T5.

Hardening

Hardening conditions:

- Conventional curing: 2 hours from reaching 140°C inside the windings
- The oven has to be equipped with a suction device and must be non-explosive



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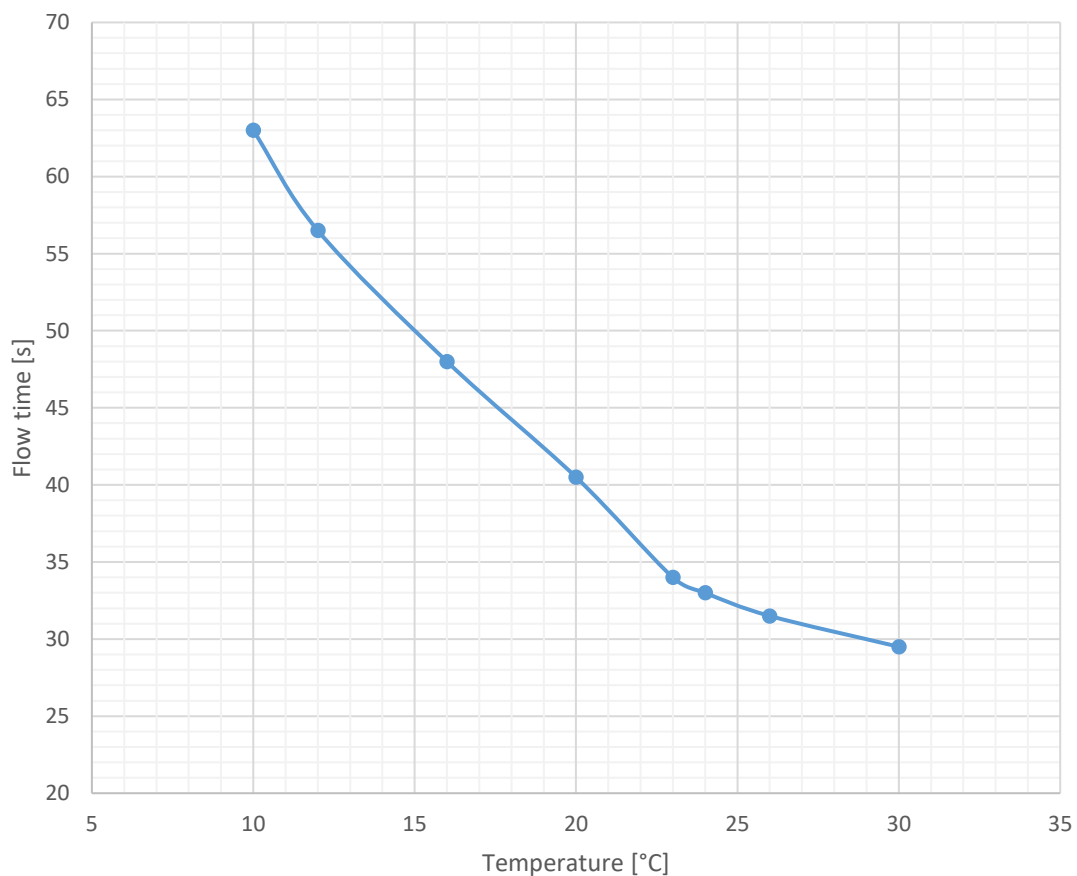


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Processing properties

Parameter	Standard	Condition	Value	Unit	Description
Density	STN EN ISO 2811-1	23 °C	1020 – 1030	kg/m ³	
Flow time	DIN 53 211	23 °C	33 – 35	S	DIN cup 4 mm
Shelf life		max.23 °C without mixing max.23 °C with mixing	1 6	month	
Flash point	STN EN ISO 2592		32	°C	
Gel time	DIN 16 945	100 °C	29 – 31	Min	
VOC			15 – 25	%	
Hardening time		140 °C	2	hour	from reaching of required temperature in the winding
Effect on enameled wires	STN EN 60851-4,5 STN EN 60317		suitable		compatible with all commonly used wires

Flow time - temperature characteristic



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Parameters after hardening

Parameter	Standard	Condition	Value	Unit	Description
Drying in thick layer	STN EN 60464-2		I 2.1 S1 U1		
Layer thickness on AL plate			32	µm	
Tensibility	IEC 464-2		no cracks in the bend angle 180°		mandrel Ø 3 mm
Dielectric strength	STN EN 60243-1	23 °C 155 °C after 24 h in water at 23 °C after 96 h in 92 % rel.h.	70 60 35 50	kV/mm	cylindrical electrodes ø 6 mm
Volume resistivity	STN EN 62631-3-1	23 °C 180 °C after 168 h in water 23 °C	10 ¹⁴ 10 ⁹ 10 ¹³	Ω.m	
Twisted coil strength	STN EN 61 033 art. 2.1 method A	23 °C 155 °C 180 °C	> 150 > 30 > 25	N	
Temperature index	STN IEC 60 216	twisted pairs	220	°C	Test voltage 1500V (twisted pair)

Packing, storing and manipulation

Impregnating resin is supplied in non-returnable, clean IBC containers with weight 1000kg or another according agreement. Impregnating resin is stored in tightly closed containers in a dry, ventilated place at temperature maximally up to +23 °C for maximally 6 months. **It must be mixed after the first month of storage from the date of manufacture for 15 minutes. If the impregnating resin does not work within one month after the date of manufacture, it must be mixed every two weeks for 15 minutes.**

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

In terms of transport regulations, the impregnating resin is classified as a dangerous product class 3, UN: 1866.

Certification

- twisted pairs: 220 °C, thermal class C (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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