



Characteristic

NZ 83 is a trickling impregnating resin based on a modified unsaturated polyesterimide resin dissolved in styrene. It is a clear, medium viscous liquid of yellow to yellowish-red coloration.

It is characterized by the following properties:

- short curing time at 130 °C
- very good mechanical strength
- resistance to solvent vapors, freons and transformer oil

Field of application

NZ 83 is designed for the impregnation of mechanical and temperature high-voltage winding of alternators and high-speed rotary machines for household appliances and hand tools of temperature class F (155°C).

Processing

NZ 83/500 is processed on trickling impregnation machines. Exact instructions for processing will be provided depending on the type of processing and type of impregnated object at the customer. To achieve the maximum life of the impregnant, its operating temperature is recommended to be at maximum 23 °C.

It must be mixed with the initiator Z 83 in a weight ratio of 100:2 prior to processing. **The workability (pot life) of the impregnating resin after mixing with the initiator Z 83 is seven days at 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: 15 – 30 minutes from reaching 130°C inside the windings
- The oven has to be equipped with a suction device and must be non-explosive



Processing properties

Parameter	Standard	Condition	Value	Unit	Description
Density	STN EN ISO 2811-1	20 °C	1050 – 1070	kg/m ³	
Flow time	DIN 53 211	20 °C 23 °C	60 – 70 55 – 65	s	DIN cup 4 mm value adjustable according to customer requirements
Shelf life		max. 23 °C	min. 6	month	
Flash point	STN EN ISO 2592		32	°C	
Gel time	DIN 16 945	100 °C	3 – 4	min	
Reaction time	STN EN 60455-2	100 °C	4 – 6	min	
Exothermic temperature	STN EN 60455-2	100 °C	200 – 220	°C	
VOC			10 - 15	%	
Hardening time		130 °C	15 – 30	min	from reaching of required temperature in the winding
Pot life		max. 23 °C	7	day	
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		I 2.1 S1 U1		sample solid, free of cracks and bubbles, surface smooth, non-stick
Dielectric strength	STN EN 60243-1	23 °C 155 °C after 24 h in water at 23 °C	> 80 > 60 > 35	kV/mm	Cylindrical electrodes ø 6 mm
Volume resistivity	STN EN 62631-3-1	23 °C 155 °C after 96 h in water at 23 °C	> 10 ¹⁴ > 10 ¹⁰ > 10 ¹⁴	Ω.m	
Twisted coil strength	STN EN 61 033 art. 2.1 method A	23 °C 155 °C	> 250 > 30	N	
Temperature index	STN IEC 60 216		174	°C	the 30% weight loss criterion

Packing, storing and manipulation

Impregnating resin is supplied in non-returnable, clean, drums with weight 50kg or another according agreement. Impregnating resin is stored in tightly closed containers in a dry, ventilated place at temperature +5°C to +23 °C. When the storage conditions are met, the quality of the impregnating resin is guaranteed 6 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!

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





VUPOS IMPREGNANTS

Safety

The impregnant contains a reactive solvent.
Safety and health instructions are given in the MSDS

Certification

- twisted pairs: 155 °C, thermal class F (UL file E233982)

NOTE

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