

3. IMPREGNATING RESINS **VUDAC**/ Polyesterimide in diacrylate/ **NAB/800-1K AC**



IMPREGNANTS



WIRES



RESEARCH

Application:

Impregnating resin is suitable for insulation systems – thermal class H. It is suitable for impregnation of windings of electrical rotating machines and transformers from big diameter enamelled wires and from rectangular wires.

Charakteristics:

NAB/800-1K AC is one component solution of diluted unsaturated polyesterimide in diacrylate. Impregnat provides an excellent build up of layer and perfect penetration into the winding. It has an improved anticorrosive ability. 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.

- **low VOC, environmentally friendly**
- perfect build up of layer and penetration into the winding
- **humidity and corrosion resistance**
- **high mechanical strength** at working temperature of the motor
- solvents free

Processing data and properties of liquid resin:

			NAB/800-1K AC
Density (DIN 53 217)	20 °C	[kg/m ³]	1080 – 1120
Viscosity (STN 67 3014)	25 °C	[mPa.s]	700 – 1000
Storability	+ 5° C až 25° C	[month]	min. 6
Flash-point STN EN 22592		[°C]	> 112
Gel-time ¹	100 °C	[min]	15 – 20
	130 °C	[min]	2/30 - 5
Reaction-time ^{2,3}	130 °C	[min]	4 – 6
Maximum temperature ^{2,3}	130 °C	[°C]	180 – 230
Curing-time ⁴	130 °C	[h]	2 – 3
	150 °C		1 – 1,5
Effect of impregnant on enameled wires ⁵ (IEC 317 - 3, - 8, - 13)			OK (compatible with every general used enameled wires)
Appearance			yellowish, brownish liquid

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Polyesterimide in diacrylate

Properties after cure:

Ability to cure in considerable thickness ^{2,6}			I. 1.1.1.1. ¹⁰ 0. 1.1.1.1.
Curing-time of test specimen	150 °C	[h]	1
Electrical strenght ^{2,7}	23 °C	[kV/mm]	60
	180 °C		50
	after 96 h in hum of 92 %		50
Volume resistivity ²	23 °C	[Ω .m]	10 ¹⁴
	180 °C		10 ⁹
	after 96 h in water		10 ¹⁴
Mechanical strenght of twisted coil ⁸	23° C	[N]	200 – 220
	180°C		50 – 80
Temperature index ⁹		[°C]	180

1. DIN 16 945 Method A

2. DIN 46 448 Blatt 1

3. Fe-Ko after ASTM D 2471-71

4. From reached temperature 130 °C in winding

5. STN 67 31 50 part. 11, met. B after 60 min at 60 °C

6. 2 h at 100 °C + 1 h at 150 °C

7. Test specimens A2, cylindrical electrode Ø 6 mm

8. STN IEC 61033 met. A,

9. STN IEC 60216-1,-2

10. The upper side: S – smooth

The underside: U – non tacky

The interior: I – hard, free of bubbles

Resistance:

High resistance to humidity, corrosion, soap solutions, transformer oils and coolants.

Packing and storage:

Impregnating resin is delivered in no-returnable, clean metal package in amount of 200 and 50 kg, or according to contract between producer and customer. Impregnant has to be stored in tightly closed package in dry and ventilated place at temperature from + 5 °C to + 25 °C (according to STN 65 0201). Concerning of transport – impregnant is not classified as a hazardous product.

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