

3. IMPREGNATING RESINS **VUDAC/** Polyesterimide in diacrylate/ **1K-NAH 99/VT/u**



CABLES



IMPREGNANTS



WIRES



RESEARCH

Application:

Impregnating resin is suitable for dipping impregnation of high mechanical stressed windings of transformers electrical rotating machines for starters alternators and tools.

Characteristics:

Impregnating resin 1K-NAH 99/VT/u features with short curing time at 120-130°C. It is one component unsaturated polyesterimide resin in diacrylate. Only a small amount of volatile substances avoid during curing (cca 1,5 to 2%) . It is resistant to vapor solvents, oils and refrigerator liquids.

Processing data and properties of liquid resin:

Density (DIN 53 217)	20 °C	[kg/m ³]	1020 - 1100
Viscosity	25 °C	[mPa.s]	400 - 800
Shelf- life	5- 23 °C	[months]	min. 4
Flash point (Cleveland)		[°C]	>110
Gel-time ¹	130 °C	[min]	3 - 5
Reaction time ^{2,3}	130 °C	[min/s.]	3 - 7
Maximum temperature ^{2,3}	130 °C	[°C]	240 - 280
Curing time ⁴	130 °C 120 °C	[h]	2 - 3
Effect of resin on enamelled wires ⁵			OK



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Properties after cure:

Curing of test specimen		130 °C	[h] 2
Ability to cure in considerable thickness ^{2,6}		[degree ¹⁰]	S 1 U 1 I 1.1
Electric strength ^{2,7}	23 °C 155 °C after 96 h in 92% humidity at 23 °C	[kV/mm]	80-100 60-80 40-60
Volume resistivity ²	23 °C 155 °C after immersion in water for 96 h at 23 °C	[Ω.m]	10 ¹⁴ 10 ⁹ 10 ¹³
Twisted coil test ⁸	23 °C 180 °C	[N]	250-350 100-120
Thermal endurance ⁹		[°C]	183

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. 1 h at 100 °C + 2 h at 130 °C

7. Test specimens A2, cylindrical electrode ø6 mm

8. IEC 61033 met. A,

9. IEC 60216-1,-2

10. : S – smooth

The underside : U – non tacky

The interior: I – hard , free of bubbles

Packing a storage:

Impregnating resin is delivered in drums. It have to be stored in tightly closed drums at temperature from +5 °C to +25 °C.

In terms of traffic regulations impregnating resins are not classified as hazardous product.

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