1. IMPREGNATING RESINS **VUPOS/** Polyesterimide in styrene/ **NZ 83/500**

CABLES IMPREGNANTS WIRES RESEARCH

(UL certification - pending)

Application:

This resin is suitable for impregnation the mechanically stressed windings for example rotor winding of low voltage electrical rotating machines by trickle method.

Charakteristics:

Two – component trickle resin NZ 83/500 is a solution of unsaturated polyesterimid in styrene. Before processing it must be mixed with a hardener Z 83 in the mass ratio 100:2. Trickle resin is cured at temperature 130 °C. It is resistant to vapour solvents, transformer oils and refrigerator liquids.

Processing data:

Density (DIN 53 217)	20 °C	[kg/m^3]	1050-1070
Flow time (DIN Cup 4)	23 °C	[s]	
Viscosity	23 °C	[mPa.s]	450-550
Shelf- life	max. 23 °C	[months]	min. 6
Flash point (AP)		[°C]	31
Gel-time [1]	100 °C	[min]	3-4
Pot life	max. 23 °C	[days]	min. 7
Reaction time [2,3]	100 °C	[min]	5-6
Maximum temperature [2,3]	100 °C	[°C]	200-220
Curing time [4]	130 °C	[min]	15-30
Effect of resin on enamelled wires [5]			OK

VUKI a.s., Rybničná 38, SK-831 07 Bratislava, Tel: 421 2 4488 2824, 49213 231, 49213 213, Fax: 421 2 4488 1041,
email:info@vuki.sk, www.vuki.sk

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Properties after cure:

Curing of test specimen		130 °C	[h] 1
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 23 °C	[kV/mm]	100 80 60
Volume resistance [2]	23 °C 155 °C after immersion in water for 240h at 23 °C	[Ω.m]	$3x10^{14}$ $2x10^{11}$ $2x10^{13}$
Twisted coil test [8]	23 °C 155 °C	[N]	300-350 35 – 40
Thermal endurance [9] Test criterion:	Bond strength 22 N (Helical coil) Breakdown voltage 700 V (Twist)	[°C] [°C]	174 182

1. DIN 16 945 Method A
2. DIN 46 448 Blatt 1
3. Fe-Ko –thermoelement after ASTMD 2471-71
4. After the winding has reached 130°C
5. STN 67 3150 čl. 11, met. B after 60 min at 60 °C
6. 1 h at 100 °C + 1 h at 130 °C
7. Test specimens A2, cylindrical electrode ø6 mm
8. IEC 61033 met. A
9. IEC 60216
10. The upper side: S – smooth
    The underside : U - non tacky
    The interior: I – hard , free of bubbles

Packing a storage:

Impregnating resin is delivered in drums. It has to be stored in tightly closed drums at temperature max. +23 °C.

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