

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



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.

### Characteristics:

Two – component trickle resin NZ 83 is a solution of unsaturated polyesterimide in styrene. Before processing it must be mixed with an 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 <sup>3</sup> ]	1050-1070
Flow time (DIN Cup 4)	23°C	[s]	55-65
Viscosity	23°C	[mPa.s]	200-250
Shelf- life	max. 23°C	[months]	min. 6
Flash point (AP)		[°C]	31
Gel-time <sup>1</sup>	100°C	[min]	3-4
Pot life	max. 23°C	[days]	min. 7
Reaction time <sup>2,3</sup>	100°C	[min]	5-6
Maximum temperature <sup>2,3</sup>	100°C	[°C]	200-220
Curing time <sup>4</sup>	130°C	[min]	15-30
Effect of resin on enamelled wires <sup>5</sup>			OK

Polyesterimide in styrene



**VUKI**  
SINCE 1950

F-11.1.22-20-2/11en

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### Properties after cure:

Curing of test specimen	130 °C	[h]	1
Ability to cure in considerable thickness <sup>2,6</sup>		[degree <sup>10</sup> ]	S 1 U 1 I 1.1
Electric strength <sup>2,7</sup>	23 °C 155 °C after 96 h in 92% humidity 23 °C	[kV/mm]	100 80 60
Volume resistance <sup>2</sup>	23 °C 155 °C after immersion in water for 240h at 23 °C	[Ω .m]	3x10 <sup>14</sup> 2x10 <sup>11</sup> 2x10 <sup>13</sup>
Twisted coil test <sup>8</sup>	23°C 155°C	[N]	300-350 35 – 40
Thermal endurance <sup>9</sup> Test criterion:	Bond strength 22 N (Helical coil) Breakdown voltage 700 V (Twist)	[°C]	174 182

1. DIN 16 945 Method A

2. DIN 46 448 Blatt 1

3. Fe-Ko –thermoelement after ASTM D 2471-71

4. After the winding has reached 130°C

5. STN 67 3150 part. 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 have to be stored in tightly closed drums at temperature max. +23 °C.



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