

## BAWA F- TWO

Modified polyester based baking impregnating varnish for thermal class 155 electrical machines.

BAWA F-TWO is a modified polyester resin an electric insulating impregnating varnish. Bawa F-TWO consists of a polymeric binder, the so-called solid and a solvent mixture. After evaporation of the solvent e.g. by means of a circulating air oven the resin reacts under application of heat to give a tough hard material.

Bawa F-TWO is used both for manufacturing and repairing for

- Standard motors
- Generators
- Transformers
- Drives in the chemical industry
- Drives for ships etc.

The cured material displays very good film formation and resistance to chemical. The relatively elastic varnish film has good heat resistance. Owing to its temperature index of 180-200 can be used for machines in thermal class H.A reduction in the degree of hardness of enameled wires generally used does not occur if the components are properly impregnated. Bawa F-TWO contains mild solvents leading to better work environment.

Bawa F-TWO is processed by all conventional impregnating methods, such as dipping, rolling or flooding. Bawa F-TWO can also be processed under vacuum. In this case the vacuum should not drop below 20-25 mbar to avoid too much solvent being removed.

Bawa F-TWO impregnating varnish displays low susceptibility to the influence of foreign substances such as punching grease, oils or primers however contamination of the varnish should be avoided as much as possible. After the drainage of varnish at room temperature, the product should be cured in the circulating air oven having a proper exhaust at the temperatures and periods of time given. For large objects or those with a complicated winding structure a two stage curing process is recommended to ensure removal of the solvents.

## Properties of Bawa F-TWO

### Physical Properties

Colour			Light Brown
Appearance			Clear liquid
Non Volatile Matter	(1.5g/130°C/2h)	%	50 ± 2
Viscosity at 30°C	by ford Cup B-4	Sec	115 –145
Density at 25° C		g/ml	0.93
Flash Point	(Closed Cup)	°C	>35
Recommended Thinner			Thinner FC
Compatibility with Thinner FC			1:3 (Min)
Shelf Life	When stored in Original sealed Container at R.T	Months	12

## Recommended Curing

At 8 - 100 °C for 2h + at 140°C – 150°C for 4-6 hrs. The suggested curing time is after the unit attains the specified temperature.

## BAWA POLYMERS

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### Curing Properties of Varnish

Curing in thick Layer	20g/10h/1200C +4h/1400C	Top, Bottom, Inside	Smooth, Track Free Leather like Rigid, no bubbles)
Resoftening		At 165°C	No change

### Typical Properties of Cured Varnish

Specimen curing – 4h at 1400C			
Resoftening Test methods according to IEC 60464 – 2/IS 10026-2 unless otherwise specified.		At 165°C	No change
Dielectric strength	At R.T., 24 h water Immersion at RT	KV/MM	70 - 55
Volume resistivity (500 V DC)	At R.T. 168 water Immersion at R.T	Ohm.cm	10 <sup>16</sup> - 10 <sup>14</sup>
Dielectric constant (30 V / 1 KHz)	At R.T. At 155°C		3.5 - 3.8
Dielectric loss factor (30 V / 1 KHz)	At R.T. At 155°C		0.016 - 0.038
Bond Strength	IEC 61033, Twisted coil at R.T., At 155°C	N	180 - 36
Water absorption	(96 h at RT)	1/1	0.5
Temperature Index	IEC 60216 (30%, Weight loss criterion)		160

#### PACKING

Bawa F-Two : 21Kg and 200Kg in mild steel drums.  
Thinner FC : 21 Kg and 200 Kg in mild steel drums.

#### Safe Handling:

Bawa F-Two is a flammable liquid. Use foam CO2 or dry chemical powder for fire fighting. Inhalation and direct contact with the skin to be avoided. In case of contact the affected area should be washed with soap and plenty of water. For details check M.S.D.S.

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