

## MAINTENANCE OF VARNISH DIP IMPREGNATION TANKS

To successfully maintain a solvented varnish dip impregnation tank the following is recommended: -

### 1. A REGULAR VISCOSITY CHECK (see note A)

For a heavily used tank	-	Daily/ Twice weekly check.
For a moderately used tank	-	Weekly/ Fortnightly check.
For an infrequently used tank	-	Before use check.

Bands of the working tolerance for viscosity are given on the temperature viscosity graph. If the viscosity of the varnish exceeds the upper limit: -

- a) Add reducer to adjust.
- Or
- b) Add a combination of fresh varnish and reducer to adjust (see note B).

If the viscosity of the varnish becomes less than the lower limit: -

- a) Allow the excess reducer to evaporate from the varnish (see note C).
- b) If over thinning is considered to be excessive sample to the supplier for analysis, and on recommendation add high solids varnish.

### 2. A SAMPLE IS SUBMITTED TO THE SUPPLIER FOR ANALYSIS

A.E.V offer a free testing procedure for Dip Tank Varnishes. It is recommended a sample is submitted for analysis every 3-6 months (see note B).

### 3. TANK AND VARNISH CLEANING

With heavily used Dip Tanks it is beneficial to filter extraneous matter from the varnish and clean out the tank on an annual or biannual basis.

**NOTE:** Due to the introduction of improvements from time to time the right is reserved to supply products that may differ slightly from those illustrated or described in this publication.

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#### 4. GENERAL POINTS ON DIP TANK PROCESSING

- a) Always keep the tank covered when not in use. Loss of solvent is environmentally unfriendly and also very costly.
- b) Where Hot Dip processes are necessary to ensure impregnation, remember that this will shorten the life of the varnish. This is especially significant with faster curing varnishes where Hot Dip processing should be kept to a minimum.
- c) To ensure correct cure it is recommended that oven temperatures are checked regularly, it is suggested this is undertaken on an arbitrary basis every 6 months or if under cure is suspected.
- d) If components are form wound, highly taped of rectangular bar or fine wire construction, highly taped or have other constrictions that will prevent impregnation, it is advisable to adjust the viscosity to the lower end of the bands indicated on the temperature viscosity graph.

#### NOTE A

The viscosity can be checked in a cost effective and convenient manner using an A.E.V flow cup and temperature viscosity graph. An extract on the use of a BS 3900 PT A6 B\$ Flow cup is included. The A.E.V Flow cup has been calibrated against a British Standard cup and the upper and lower limits on the included temperature/viscosity graph correspond to     sec and sec on the BS cup at 25°C.

The temperature/viscosity graph has the advantage that the operator can measure viscosity at normal workshop temperatures.

#### NOTE B

With impregnating varnishes it is necessary to maintain tank stability, to add the equivalent to the working volume of the tank in fresh varnish every 12-24 months. Failure to Atop up≅ with fresh varnish, which is not always practical with larger tanks, results over several years in a reduction in the solids content of the varnish, which in turn leads to a lesser reduction in build. After many years the deterioration in build, and the older varnishes tendency to gelation, will make the varnish unsuitable for use.

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To combat this inevitable time when the varnish will become unsuitable for use, more cutting solvents, high solid varnishes, and chemical additives can be used. Assessment of the use of such systems to adjust varnishes in older Dip Tanks is best Made by the suppliers via. Regular sampling and analysis of the varnish.

### NOTE C

Removal of solvent from an over thinned varnish is assisted by removing the cover off the Dip Tank and extracting away any fumes in a safe manner.

Although these guidance notes are far from exhaustive on the subject, it is hoped they will assist in better maintenance of varnish in Dip Tanks.

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