



December 1, 1980
 New Information
 Mailed to: E, D, C/2169/DB

B-549-1 Water Soluble Insulating Varnish

Description

Westinghouse B-549-1 Water Soluble Varnish is in compliance with the requirements of Rule 66, Los Angeles County, California, and other state air pollution regulations. The small amount of organic solvent present at manufacture is a non-photochemical reactive exempt type material.

Features

- Water reducible high hot bond strength varnish
- B-549-1 is one of the few water soluble varnishes that will not attack bare copper and turn it green.
- B-549-1 is stable enough to ship at 60% non-volatile, allowing the user freight savings. It is readily reduced to the desired solids by stirring in tap water.
- Viscosity stability is very good in storage at 60% non-volatile
- A temperature of -10° F. does not harm the varnish.
- A 1.1 mil/build is obtained at 35% non-volatile.

Descriptive Information:

Weight per Gallon	9.0±.1 Pounds
Non-Volatile	60±1%
Viscosity (Demmler #1 @ 25° C.)	250-450 Seconds
Gel Time @ 135° C.	60-90 Minutes
Dry Time (1 Mil @ 135° C.)	10-15 Minutes
Dielectric Strength - Dry	4000 Volts/Mil
Dielectric Strength - Wet	3500 Volts/Mil
Cake Hardness (Shore D Durometer)	40/35
Cake in Oil 48 Hrs. @ 110° C.	48/43
Recommended Curing Cycle ₁	2-4 Hours @ 150° C.
Recommended Thinner	Tap Water
Flash Point (TOC)	204° F.

Thermal Life

Westinghouse B-549-1 has a thermal life of 20,000 hours at 195°C as determined by IEEE #57 test using MW-35 wire.

The information contained herein is intended as a guide and should not be construed as a performance guarantee as the Company has no control over the manner in which others may employ the product.

Recommended Curing Cycle₁ - The recommended cure time will vary depending on the size and mass of unit coated. The recommended cure is when the part is at temperature and is minimum. A cure temperature of 175° C. for one hour is recommended for ultimate properties.

Bond Strength - Helical Coil:

	Break At Room Temperature				
	150° C.	180° C.	200° C.	220° C.	150° C.
1 Mil build per dip, reverse dip, cure 4 hours at 150° C. per dip	38 Lbs.				16 Lbs.
1 Mil build per dip, reverse dip, cure 1 hour at 175° C. per dip	50 Lbs.	25 Lbs.	19 Lbs.	9 Lbs.	6 Lbs.

It should be noted that blistering of the varnish may occur at curing temperatures of 150° C. and above. This is due to the fast reactivity of the varnish. If this happens, a prebake of 20 minutes at 80° C. before the final bake will eliminate the blistering.

Moisture Resistance - Helical Coil:

Cure: 1 mil build per dip, reverse dip, cure is one hour at 160° C. per dip.

	Room Temperature	150° C.
No Moisture Exposure	48 Lbs.	16 Lbs.
24 Hours at 98% R.H.	45 Lbs.	13 Lbs.
168 Hours at 98% R.H.	52 Lbs.	14 Lbs.
24 Hours Salt Spray	47 Lbs.	14 Lbs.
168 Hours Salt Spray	43 Lbs.	11 Lbs.

Application Information:

As a guide to adjust the film thickness, the following information is offered:

% Non-Volatile	Viscosity @ 25° C. (Demmler #1)	Build/Dip
60%	175-350 Seconds	1.4 Mils
35%	90-150 Seconds	1.1 Mils

The above viscosities are approximate. The reduction in non-volatile was made with tap water.

Packaging Information:

Westinghouse B-549-1 Water Soluble Insulating Varnish is available in 1-gallon cans, 5-gallon pails, and 55-gallon drums.

Printed in U.S.A.

