TECHNICAL DATA SHEET

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DOLPHON® CC-1105- LV

SOLVENTLESS POLYESTER RESIN LOW VISCOSITY

PRODUCT DESCRIPTION

CC-1105-LV is the single best selling electrical impregnation resin on the market. It is a versatile, cost-effective solventless polyester resin, offering excellent tank stability and superior performance characteristics.

FEATURES & BENEFITS

- High flash point (over 200º F)
- Solventless
- Versatile—can be used in dip & bake, vacuum, VPI, roll-thru and trickle applications
- Included in UL-Approved Systems up to 220º C
- Exceptionally high bond strength
- Low VOC emissions
- Low viscosity—excellent penetration into windings
- Can be used in hermetic applications
- Refrigerant resistant (R123 & R134a)
- Excellent tank stability
- Very low build—minimum clean-up and balancing
- Low odor
- Superior chemical resistance
- Excellent for vacuum processing because of low vapor pressure

TYPICAL APPLICATIONS

- Solenoids
- Transformers
- Rotors
- Hermetic applications
- Armatures
- Inductors
- Form wound coils
- Ferro Resonant Transformers
- Stators
- Motors
- Chokes
- Brake coils

TYPICAL PROPERTIES

Physical

Color/Appearance	**Clear/Amber**
Density @ 77°F (25°C), Lbs/gal	**9.6 – 10.0**
Viscosity, Brookfield Model RVT #1 Spindle @ 77°F (25°C), cps 10 RPM	**200 - 300**
Flash Point, ºF,	**> 200**
Gel Time @ 212 ºF (100°C), minutes	**110 – 180**
Film build, mils/side	**0.3 – 0.5**
VOC content, ASTM D 6053, lbs/gal	**0.7**
Thermal Conductivity, BTU-in./hr-ft^2-ºF	**0.53**

Mechanical

Bond Strength, Helical Coil Method, lbs to break	**@ 23ºC** **@ 150º C**	**45** **25**

Electrical

Dielectric Strength, ASTM D-1115, volts/mi, Dry)	**3,000**
Surface Resistivity, 500V, ohms	**1.5×10^{14}**
Volume Resistivity, ohm-cm	**6.2×10^{15}**

THERMAL CLASS (UL1446)

Twisted Pair	**MW16** **MW28** **MW35**	**220** **130** **200**
Helical Coil,	**MW16** **MW28** **MW35**	**220** **130** **200**

Refrigerant Extraction (NEMA RE-2)

R-22	**<1%**
R-123	**<1%**
R-134a	**<1%**

APPLICATION AND CURE

Following is a suggested dip and bake cycle.	**Suggested Bake Cycles***
1. Preheat parts to 250-325°F to remove moisture. *Note: If thermoset tapes are used, preset tapes according to tape manufacturer's recommendations.* 2. Cool to I30°-140°F 3. Dip until bubbling stops (15-30 minutes). 4. Drain between 5-20 minutes 5. Bake in a preheated oven at recommended time and temperature	1-2 hours @ 325°F 2-3 hours @ 300°F * *Times are taken after unit reaches baking temperature*

Vacuum Pressure Impregnation (VPI)

The following cycle has been established as a starting point for using CC-1105-LV in VPI systems. Adjustments may be required to obtain desired results with your specific application

1. Place the unit in the vacuum chamber and apply dry vacuum at approximately 1-4 mm Hg for 30-60 minutes. For form wound coils use 20 minutes per half lap of tape.
2. Transfer the resin to the chamber still under vacuum. It is best to have the resin flow up around the unit from the bottom of the chamber. Allow the resin to cover the unit by a depth of at least 1 inch.
3. Maintain vacuum for 20-60 minutes.
4. Release vacuum and apply pressure of 80- 90 psi for 30-120 minutes.
5. For form wound coils, apply pressure for 15 minutes per half lap of tape. Release pressure.
6. Remove the unit slowly from the resin. A rate of 4 inches per minute is recommended.
7. Better drain will be obtained if the unit is suspended at an angle rather than level.
8. Bake at suggested bake cycles listed above

FLEXIBLE COIL APPLICATIONS: For flexible form wound coil applications, cure part 20 minutes at 235º F.

* After coils are installed, the completed equipment should be given a full impregnation and cure cycle to seal the unit, and develop full bond strength.

EQUIPMENT RECOMMENDATIONS AND PRECAUTIONS

CC-1105-LV may react with copper, copper alloys and natural rubber. Therefore, do not use these materials in the tank or recirculating system. Tanks should be constructed of black iron or stainless steel and flexible fittings should be made of synthetic rubber or plastic.

Bare copper conductor: *When used with bare copper, a green discoloration may form. This is more likely to occur when the insulation system has a high moisture content. Windings that include bare copper require longer bake time and/or higher oven temperature. Please contact the DOLPH Company for information on adjusting resin application and cure cycles.*

STORAGE AND SHELF LIFE

Shelf life is one year from date of shipment from our plant, when stored in closed containers at 70°F or below.

1. Store in cool, dry place at 70°F/21°C or below.
2. Protect from direct sunlight and sources of heat

SAFETY ENVIRONMENT

Avoid contact with skin and eyes. See Material Safety Data Sheet

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