



# TECHNICAL DATA SHEET

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## **DOLPHON<sup>®</sup> CC-1133**

### **SOLVENTLESS POLYESTER RESIN**

#### **PRODUCT DESCRIPTION**

CC-1133 is a versatile, solventless, resilient, medium build polyester resin for use in a wide variety of electrical applications. CC-1133 is fast reacting when baked to help in reducing overall production time.

#### **FEATURES & BENEFITS**

- Low viscosity —good impregnation
- High bond strength
- Medium build
- Versatile—can be used in dip, vacuum or VPI
- Resilient - will not crack in thick sections
- Reduces noise
- Included in UL-approved Systems up to 220° C
- Excellent corrosion resistance

#### **TYPICAL APPLICATIONS**

- Rotors
- Stators
- Sealed systems
- Random wound coils
- Armatures
- Coils
- DC traction coils
- Form wound coils
- Transformers
- Motors & generators

### **TYPICAL PROPERTIES**

#### **Physical**

<b>Color/Appearance</b>	<b>Clear/Amber</b>
<b>Density @ 77°F (25°C), lbs/gal</b>	<b>8.7 - 9.1</b>
<b>Viscosity, Brookfield Viscometer @ 77° F(25° C) cps</b>	<b>300 - 700</b>
<b>Gel Time, min,</b>	<b>212°F 100 - 150 230°F 25 - 45</b>
<b>Flash point, °F,</b>	<b>130</b>
<b>Film build, mils/side</b>	<b>1.5 – 2.5</b>
<b>Vapor Pressure @ 20° C, mm Hg</b>	<b>1.2</b>

#### **Mechanical**

<b>Bond Strength, Helical Coil Method, lbs to break</b>	<b>25°C 35 150°C 10</b>
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## Electrical

Dielectric Strength, ASTM D115, volts/mil	3,500
Dielectric Constant, ASTM D150 1 kHz, 50% RH, 25° C	3.3
Dissipation Factor, ASTM D150, 1 kHz, 50% RH, 25° C,	0.01
Volume Resistivity, ASTM D257, 50% RH, 25° C ohm-cm	$2.8 \times 10^{15}$
Surface Resistivity, ASTM D257, 50% RH, 25° C ohms	$1.5 \times 10^{14}$

## Thermal Class (UL-1446)

Twisted Pair	MW16	220
	MW28	130
	MW76	180

## RESIN PREPARATION

This version of CC-1133 is a pre-catalyzed system. There is no need to add any catalyst or other promoters. Simply pour into the tank and begin to process units.

## APPLICATION AND CURE

### Dip and bake cycle.

1. Preheat parts to 250-325°F to remove moisture.
2. Note: If thermoset tapes are used, preset tapes according to tape manufacturer's recommendations.
3. Cool to 130°-140°F
4. Dip until bubbling stops (15-30 minutes).
5. Drain between 5-20 minutes
6. Bake in a preheated oven at recommended time and temperature

#### Suggested Bake Cycles\*

1 hour @ 325°F

1 - 2 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-1133 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. For form wound coils, apply pressure for 15 minutes per half lap of tape. Release pressure.
5. Remove the unit slowly from the resin. A rate of 4 inches per minute is recommended.
6. Better drain will be obtained if the unit is suspended at an angle rather than level.
7. Bake at suggested bake cycles listed above
8. See Suggested Bake Cycles above

## **EQUIPMENT RECOMMENDATIONS AND PRECAUTIONS**

CC-1133 will 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. Chillers may be necessary on reservoir.

## **STORAGE AND SHELF LIFE**

Shelf life is six months 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.
3. Keep away from heat, sparks and open flame.

## **SAFETY ENVIRONMENT**

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