



# TECHNICAL DATA SHEET

**JOHN C. DOLPH COMPANY**

P.O. Box 267  
320 New Road  
Monmouth Junction, NJ  
08852

Ph: (732) 329-2333  
Fax: (732) 329-1143  
info@dolphs.com  
www.dolphs.com

## **DOLPHON<sup>®</sup> CC-1105 HTC**

### **High Flash Point, Solventless Polyester Resin With High Thermal Conductivity**

#### **PRODUCT DESCRIPTION**

CC-1105 HTC offers both superior fill and build to maximize thermal conductivity and chemical resistance.

#### **FEATURES & BENEFITS**

- High flash point (over 200° F)
- Solventless
- Superior thermal conductivity
- Included in UL-Approved Systems up to 220° C
- Exceptional high bond strength
- 100% reactive—Low emissions
- Excellent penetration and fill without vacuum
- Superior chemical resistance
- Moisture resistant (passes Test 0000)
- Refrigerant Resistant (123 & R134a)
- Exceptionally fast-processing solventless product
- Excellent tank stability
- Reduces noise
- Low odor
- High film build
- Precatalyzed

#### **TYPICAL APPLICATIONS**

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

#### **TYPICAL PROPERTIES**

##### **Physical**

<b>Color/Appearance</b>	<b>Yellow Orange</b>
<b>Density @ 77°F (25°C), Lbs/gal</b>	<b>10.4 - 10.8 lbs.</b>
<b>Viscosity, Brookfield Model HBF #1 Spindle @ 77°F (25°C), cps</b>	<b>10 RPM</b>
	<b>1 RPM</b>
	<b>900 -1500</b>
	<b>1900 - 4100</b>
<b>Flash Point, °F,</b>	<b>&gt; 200</b>
<b>Gel Time @ 275 °F, minutes</b>	<b>10 - 15</b>
<b>Film build, mils/side</b>	<b>1.5 - 2.5</b>
<b>VOC, ASTM D-6053, lbs/gal</b>	<b>1.0</b>
<b>Thermal Conductivity, BTU-in./hr-ft<sup>2</sup>-°F</b>	<b>0.97</b>

All statements, technical information and recommendations related to Sellers' products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before using the product, the user should determine the suitability of the product for its intended use. The user assumes all risks and liabilities whatsoever in connection with such use. The statements contained herein are made in lieu of all warranties, expressed or implied. Seller shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use or inability to use its products. The sole liability of John C. Dolph Co., Inc. for any claims arising out of the manufacture, use or sale of its products shall be for the buyer's purchase price.

## Mechanical Properties

Coils baked 1 hour @ 350°F

Bond Strength, Helical Coil Method, lbs to break	@ 23°C	42
	@ 150° C	20

## Electrical Properties

Dielectric Strength, ASTM D-115, volts/mil Dry	3,000
--	-------

## THERMAL CLASS (UL1446)

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

## APPLICATION AND CURE

Following is a suggested dip and bake cycle.

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 130°-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

### Suggested Bake Cycles\*

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 HTC in VPI systems. Adjustments may be required to obtain desired results with your specific application*

- 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.
- 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.
- Maintain vacuum for 20-60 minutes.
- 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.
- Remove the unit slowly from the resin. A rate of 4 inches per minute is recommended.
- Better drain will be obtained if the unit is suspended at an angle rather than level.
- Bake at suggested bake cycles listed above

**VACUUM and VPI APPLICATIONS.** For these applications, baking cycles depend on the size of the unit.

**FLEXIBLE COIL APPLICATIONS:** For flexible form wound coil applications, cure part 20 minutes at 235° 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 HTC 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

AUTHORIZED DISTRIBUTOR