



-TECHNICAL DATA SHEET -

DOLPHON CC-1305/503-D POLYESTER RESIN

DESCRIPTION

DOLPHON CC-1305/503-D is a one package, 100% solids, tough and resilient polyester resin recommended when a good coating and protection of the lamination is required. Some of the outstanding features of DOLPHON CC-1305/503-D are the following:

- Non flammable – flash point over 140°C;
- Very low weight loss;
- High build – excellent moisture and chemical resistance;
- Long pot-life and stability in the tank;
- Low odor in the work environment;
- Resilient – flexible also in thick sections;
- U.L. Recognized resin for insulating systems in classes 130, 155 and 180;
- Solventless, superior fill and heat dispersion;
- High Bond Strength – noise reduction in transformers.

Recommended uses

DOLPHON CC-1305/503-D was especially developed for applications under vacuum and vacuum pressure impregnation of stators, rotors, D.C traction coils, form wound coils, high voltage coils and transformers. The low viscosity of this resin also enables its use in atmospheric dip tanks. For the maximum filling and retention of resin, coils should be wrapped in porous tape.

CHARACTERISTICS

Physical properties	
Color	Transparent- yellow
Specific gravity at 25°C	1120±50 g./l
Viscosity, Brookfield Model RVT/Spindle 1/Rpm 5 at 25°C	1000 – 1400cps
Viscosity Ford Cup n. 8 at 25°C	35-45"
Flash Point, SETA Cup	over 140°C
Build Up, D.F.T.	0,050 mm.
Gel-time at 110°C	40-55 min
Gel-time at 135°C	5-8 min.

Mechanical properties	
Bond Strength: Helical Coil method ASTM D-2519 at 25°C	Kg. to break 18,5
Bond Strength: Helical Coil method ASTM D-2519 at 155°C	Kg. to break 7,0

(Test performed on Amide-Imide over coated polyester wire - coils baked 1h. at 175°C)

Electrical Properties	
Dielectric strength	3500 Volts/ 0,025 mm.
Dielectric constant, ASTM D-150 - 1KHz, 50% R.H., 23°C	3,9
Dissipation factor, ASTM D-150 - 1KHz, 50% R.H., 23°C	0,01
Volume resistivity, ASTM D-257, 50% R.H., 23°C	1,2X10 ¹⁶ ohm/cm
Surface resistivity, ASTM D-257, 50% R.H., 23°C	2,5X10 ¹⁴ ohms



APPLICATION GUIDELINE

I) The following typical atmospheric dip cycle is suitable as a starting point in the treatment of most units, but may be changed to fit the requirements of the individual applications:

1. Preheat units to 110°C-120°C
2. Cool to 50-60°C
3. Dip into the resin until bubbling stops
4. Drain for 20-30 minutes
5. Place in the oven already heated at the selected temperature and bake for:

2 - 3 hours at 165°C	4 - 5 hours at 150°C
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(Time must be taken after units reach the curing temperature).

II) The following cycle is suitable as a starting point in vacuum pressure impregnation of most units, but it may be changed to fit the requirements of the individual applications:

1. Preheat units to a temperature between 110 and 120°C, and allow it to cool to 50-60°C. The required time will depend on the size of the unit. If using mica tapes, they must be compatibles and porous, to allow the impregnation.
2. Place the unit in the vacuum chamber and apply dry vacuum for 20 minutes at approximately 4 mm Hg. pressure.
3. Transfer the resin to the vacuum chamber. It is better to have the resin flowing up around the units from the bottom of the chamber. A 10 cm./minute speed is recommended. Allow the resin to cover the unit completely and maintain vacuum for 20-60 minutes. Larger units will require a longer time under vacuum. The degree of impregnation can be improved by releasing the vacuum, allowing the chamber to return to atmospheric pressure and repeating the vacuum cycle.
4. Release vacuum, apply a pressure of 6-8 atm. for 30-120 minutes.
5. Release the pressure and let the resin flow down slowly from the chamber. A better drain will be obtained if the unit is suspended at an angle rather than in an horizontal position.
6. Put into the oven already heated at the selected temperature and bake for:

2 - 3 hours at 165°C	4 - 5 hours at 150°C
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(Time must be taken after units reach the curing temperature).

STORAGE AND STABILITY

DOLPHON CC-1305/503-D is supplied pre-catalyzed. The shelf-life is over 18 months at room temperature (max. 30°C) in original closed containers.

It is recommended, therefore, not to store the CC-1305/503-D at temperatures over 30°C.

The stability of the product in the tank can be indefinitely extended with the regular additions of fresh resin. We suggest to send to our laboratory, every six months, a sample (300 gr. Minimum) of the product of the tank for a viscosity and gel-time control.

DOLPHON CC-1305/503-D reacts with bare copper, copper alloys and natural rubber. For these reasons, it is advisable not to use these materials in the impregnating plant constructions.

Warning: All the information and application instructions concerning this product are based on technical specifications that we consider reliable, and are provided by way of example, according to our application experience. They do not establish any guarantee but only represent a starting point subject to alterations, according to the application and the kind of material to be treated. Before using the product, the user must determine the suitability for the intended use undertake all risks and responsibility for whatever may happen in connection with the application. The producer and/or seller will not be considered responsible for any accident, loss or damage (immediate or consequent) originating from the use and/or the inability to use the concerned product. Albesiano Sisa Vernici srl reserves the right to change or modify at any time and without any notice the technical specifications of the product described in this data sheet.

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