



DOLPHON CC-1120 Elastomeric Magnet Filling Compound

DESCRIPTION

DOLPHON CC-1120 is a uniquely new, two package, room temperature curing, magnet filling compound with low viscosity and easy pourability. It is formulated from quality controlled synthesized organic polymers utilizing advanced "state of the art" chemistry specifically developed to produce a high grade potting and filling compound for large electromagnets, magnetic chucks and other electrical and electronic devices. Unlike the older class of magnet compounds, this system is not price or quality dependent on naturally occurring materials. It has a long pot life (workable time) to allow all voids to be filled or a vacuum impregnation process to be utilized.

DOLPHON CC-1120 displays the following advantages in its use:—

1. Convenient mix ratio.
2. Easily mixed.
3. Low viscosity for easy pouring.
4. Long pot life (working time) for easier handling and efficient void and cavity filling.
5. Capable of being utilized with vacuum impregnation for more efficient void filling.
6. Cures at room temperature with no exotherm.
7. Displays extremely low shrinkage.
8. Easily removed or repaired.
9. Displays excellent electrical properties (high insulation resistance, low dielectric constant and low dissipation factor) at low or elevated temperatures.
10. Able to operate at 150°C. and for short intervals at 180°C.
11. Highly resistant to degradation by heat or pressure.

CHARACTERISTICS

PHYSICAL PROPERTIES

	MIXED COMPOUND	
	Uncured	Cured
Specific Gravity @ 70°F.	0.92	
Viscosity, Brookfield Model RVT @ 80° F. #1 Spindle, cps.	2,000	
Hardness, Shore A		32
Shrinkage		0.2%
Coefficient of Linear Thermal Expansion, in./in./°C.	4.0 x 10 ⁻⁶	
Thermal Conductivity (cal./sec./cm ² /°C./cm)	4.0 x 10 ⁻⁵	
Gel Time @ 123°F., minutes, approx.		25

ELECTRICAL CHARACTERISTICS

Dielectric Strength, Short Time, Volts/mil	620
Surface Resistivity, Ω	3.12 x 10 ¹³
Volume Resistivity, Ω-cm	1.2 x 10 ¹⁴
Dissipation Factor—60 Hz (ASTM D-150)	0.035

APPLICATION

PREPARATION OF UNIT

1. Drying Unit
Since the insulating materials on the magnet coil may be somewhat damp from high humidity, coil should be excited so as to generate a low heat to drive out any moisture.
2. Some units such as transformers require impregnation with a varnish to bond and moisture proof the coil, or prebonding with a wet winding type resin is required. For this application we would suggest the use of DOLPHON CC-1115-LV, 1 package, low viscosity, high thixotropic solventless varnish (see data sheet on CC-1115-LV for details). Vacuum pressure impregnation of the coil or assembled coils may be assured using DOLPHON CC-1115-LV for best penetration or retention of a solventless varnish to the coil.

MIXING

1. The compound should be mixed 100 parts of CC-1120-A to 20 parts of CC-1120-B Hardener by volume. Materials should be measured carefully to maintain the proper ratio. Pot life of mixture is approximately 70 minutes, so material should be poured as soon as possible after mixing. Mix only enough material as can be poured in this period. The mixing ratio on weight basis is 100 pbw of CC-1120-A to 25 pbw of CC-1120-B.

USE

1. The compound should be poured slowly and carefully.
2. Pour down one side of unit so material flows to the bottom of the container and fills from the bottom up allowing minimum of bubble formation.
3. Allow to set until well gelled.
4. If level of compound is lower than required, topping with fresh material can be done at any time.

CURE

Material hardens in approximately 3 hours at room temperature. Compound cures in 24 - 26 hours at room temperature to the consistency of art gum.

HIGH TEMPERATURE CHARACTERISTICS

This material can be used continuously at temperatures up to 150°C. and intermittently at temperatures up to 180°C.

STORAGE

The cure of these materials can be affected by moisture and it is important that they be stored under the following conditions:—

1. Tightly closed containers.
2. Room temperature.
3. Dry location.

Shelf life of CC-1120-A and CC-1120-B stored under the above conditions is at least 6 months @ 70°F.

