



TECHNICAL DATA SHEET

DOLPHON CC-1118/LV CLASSE H

DESCRIPTION

DOLPHON CC 1118/LV is a one part, thixotropic epoxy compound for vacuum impregnation of devices where high voltage, low corona, superior chemical resistance and excellent electrical insulation properties at elevated temperatures are required.

DOLPHON CC-1118/LV impregnates and encapsulates at the same time, as it grants a very good penetration and coating.

Some outstanding advantages of DOLPHON CC-1118/LV are:



- Excellent moisture resistance – Motors processed in DOLPHON CC-1118/LV have passed Navy total submersion testing according to MIL-M-1760E standards (200 hours operating in salt water)
- Excellent electrical properties at high temperatures;
- Thixotropic – high and low viscosity with the same resin;
- Low viscosity – penetrates multiple layers of mica tape;
- High viscosity – complete encapsulation, minimal drain.
- Superior corona resistance;
- Exceptional tank stability – cooling not required.

Recommended uses

DOLPHON CC-1118/LV is especially formulated for vacuum impregnation cycles. It may also be used in dip cycles without vacuum.

DOLPHON CC-1118/LV is also recommended for wet winding or laminating and may be used for dipping or brush encapsulating over conventional varnishes.

DOLPHON CC-1118/LV is recommended for use on:

Stators	Generators
Low and high speed rotating equipment	Form wound and random wound devices
Armatures	Transformers

CHARACTERISTICS

Physical properties

Specific gravity at 25°C	1160±50gr. /lt.
Viscosity Brookfield RVT/25°C/Sp3/RPM 2,5 ASTM D 445	4000-8000 Cps
Viscosity in Ford Cup n. 8 a 25°C	95-120"
Hardness, Shore D a 25°C ASTM D-676	85
Tensile Strength, ASTM D-638	10.100 psi
Tensile Modulus, ASTM D-638	4,72 x 10 ⁴ psi
Flexural Strength, ASTM D-790	11.200 psi
Flexural Strength, ASTM D-790	0,68 psi



Elongation at Break,, ASTM D-790	2,1%
Coefficient of Expansion, ASTM D-696	76×10^{-6} cm/cm/°C
Shrinkage, Bar Test	0,01 cm/cm
Impact Strength, izod ASTM D-256	0,68
Moisture Vapor Transmission, ASTM E-96	0,01 gms/sq. Ft/24 h.
Gel-Time 140°C	9-16'
Gel-Time 120°C	30-50'
Thermal conductivity	W/ mK 0,16

Electrical properties

	25°C	55°C	90°C	105°C	130°C	155°C
Volume Resistivity, ASTM D-257	$7,9 \times 10^{15}$		$6,8 \times 10^{14}$	$5,1 \times 10^{12}$		
Dielectric Constant – ASTM D-150 60 Hz	2,82	2,98	3,00	3,71	3,87	4,73
Dielectric Constant – ASTM D-150 120 Hz	2,81	3,00	3,00	3,69	3,95	4,91
Dissipation Factor – ASTM D-150 60 Hz	0,0031	0,0053	0,0079	0,063	0,091	0,117
Dissipation Factor – ASTM D-150 120 Hz	0,0031	0,0051	0,0070	0,071	0,093	0,118
Dielectric Strength – ASTM D-115	2000 Volts /mm. 0,025					
Surface Resistivity – ASTM D-257	$6,5 \times 10^{14}$					
CTI – IEC 60112	600M					

USE AND APPLICATION

The following cycle is recommended as a starting point for vacuum pressure impregnation. Adjustments may be required to obtain desired results.

1. Preheat the unit to a temperature of 120 - 130°C;
2. Place the unit in the vacuum chamber and apply dry vacuum for 20-30 minutes at approximately 1 mm Hg pressure;
3. Cool the unit to 40-50°C, and in the meantime mix the resin in the reservoir.
4. Immediately after mixing, transfer the resin to the vacuum chamber, allowing it to flow up from the bottom of the chamber to cover the unit by a depth of some cm. Maintain vacuum for 30-60 minutes. Larger units will require a longer time under vacuum.
5. Release vacuum, apply pressure of 2-5 atm. for 30-60 minutes and release pressure. Remove the unit slowly from the resin. A rate of 4" per minute is recommended. Suspend the unit at an angle rather than level during drain. Allow a period of 1-2 hours after drain for maximum resin retention during cure cycle.
6. Cure using one of the following cycles:

8 - 10 hours at 150°C	5 - 6 hours at 160°C or overnight (for max chemical resistance)
(Time required for full cure after unit reaches the baking temperature)	

Devices requiring a superior corona effect resistance must be only impregnated with a VPI cycle. Pre-heating must be effected carefully, to completely eliminate moisture.



Vacuum must be brought to 25-50 mbar and applied for a time long enough, according to the unit size and to the winding and tape compactness.

The resin should flow from the bottom of the chamber, always under vacuum, and the vacuum must be hold until the complete impregnation of the unit.

Compatibility

DOLPHON CC-1118/LV is compatible with all insulating materials and has a good adhesion on iron, steel, aluminum, copper and magnet wire without any corrosive effect.

Storage and stability

DOLPHON CC-1118/LV has storage life of 1 year at room temperature (max 30°C). The thixotropic and viscosity of DOLPHON CC-1118/LV will not be adversely affected by routine processing units at 40-45°C. In tank with fresh material added periodically, the pot-life can be extended indefinitely.

N.B.: Tutte le informazioni e le istruzioni per l'impiego del materiale sono basate su specifiche tecniche da ritenersi affidabili e sono fornite a titolo orientativo e in base all'esperienza nell'uso. Esse non costituiscono garanzia alcuna, ma rappresentano una base indicativa soggetta a variazioni in funzione all'impiego e al tipo di materiale da trattare. Prima dell'impiego del prodotto, l'utilizzatore deve determinare l'appropriatezza per l'uso che ne intende fare assumendosi tutti i rischi e le responsabilità di qualunque cosa accada in relazione a tale uso. Il produttore e/o venditore non è ritenuto responsabile per nessun incidente, perdita o danno, diretto o conseguente che derivi dall'impiego o dalla incapacità di usare i suddetti prodotti. La Albesiano Sisa Vernici S.r.l. si riserva il diritto di variare/cambiare in qualsiasi momento e senza alcun preavviso, le specifiche tecniche del prodotto contenute in questo stampato.

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