Technical Data Sheet

Resin

PERMAFIL® 73514

- **Excellent Dielectric Strength and Thermal Stability**
- **Low Power Factor over a Wide Temperature Range**
- **Very Low Viscosity is Outstanding for Impregnation or Potting**

Description
PERMAFIL® 73514 resin is a 2-part, very low viscosity, semi-rigid baking resin. This resin provides excellent dielectric strength and thermal stability, plus low water absorption. These features, coupled with low power factor over a wide temperature range, make this resin outstanding for impregnation or potting of coils, capacitors, and transformers.

Application
PERMAFIL® 73514 is suggested for the impregnation or potting of coils, capacitors, transformers, and other electronic components where good penetration or very low power factor is important.

Processing
PERMAFIL® 73514 is suggested to use the following Vacuum/Pressure Impregnation cycle. For maximum electrical properties of coils and capacitors, the vacuum/pressure method is suggested. The components should be preheated 1-2 hrs at 100-125 C to drive off moisture. Cool to 75 C maximum and then impregnate with G-E 73514 Permafil resin and hold at 29 inches vacuum for 15-20 minutes. Apply pressure cycle for 15 minutes at pressures up to 50 lbs. using an inert gas. Then drain parts and if necessary, rinse in acetone, ethylene dichloride, or trichlorethylene and then bake as suggested.

For potting or imbedding-73514 may be used in the clear state or inert pigment such as mica, slate, flour, or talc may be added to lower cost and shrinkage. If maximum electrical properties are desired, the vacuum/pressure technique described above should be used, otherwise a simple cycled bake will complete the operation.
The addition of fillers will generally shorten the gel time tank stability. Gel time measurements should be taken more frequently with a mineral-filled material than with the unfilled material.

It is suggested to use the following back cycles, for curing the impregnated coils, capacitors, or other small electronic components, a two-stage curing cycle of 12-18 hrs. at 90°C -110°C (194°F-230°F) plus 6-8 hrs. at 125°C (257°F) is suggested. For potting and casting the following cycle is suggested: 2-8 hrs. at 90°C -110°C (194°F-230°F) plus 2-4 hrs. at 125°C (257°F).

73514 Permafil is compatible with most materials present in transformers, coils, and capacitors. Rubber, sulfur, sulphur containing compounds, under cured phenolics, nitrocellulose type lacquers, bare copper, lead, and zinc should be avoided. Vinyl compounds, well cured phenolics, and cellulose acetate lacquers are not affected by and have no effect on the cure of Permafil 73514. It is possible to cure the Permafil in the presence of copper, zinc, and lead by avoiding excess contact time between these metals and the uncured Permafil. After the Permafil has been cured, there are no deleterious effects from having the above-mentioned metals and the Permafil in contact with each other.

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Physical Properties	Test norm	Unit	Value
Viscosity Brookfield, 25°C (77°F)*		cps	< 50
Gel Time, 100°C	1% 3332 catalyst	minutes	22 – 35
Total weight		lb/gal	7.9
Flash Point	Pensky Martins Closed Cup	°C (°F)	60 (150)
Mix Ratio (Resin:Catalyst)	73514:3332		100:1
Mechanical Properties	**Test norm**	**Unit**	**Value**
Temperature Shock	Reinforced with fillers	°F	-65 – 185
Water Absorption	24 hr immersion at 25°F	%	0.01 – 0.025
Shrinkage	liquid to solid	%	9.5 – 10.0
Electrical Properties	**Test norm**	**Unit**	**Value**
Volume Resistivity	25°C	ohm/cm	4.16×10^{15}
Volume Resistivity	100°C	ohm/cm	3.20×10^{14}
Volume Resistivity	125°C	ohm/cm	1.37×10^{14}
Dielectric Strength	200 mil thick disc	volts/mil	485

Storage conditions – Shelf life
The shelf life for PERMAFIL® 73514 resin can be expected to stay within its specified gel time limits when stored for up to 3 months at 77ºF (25ºC) or up to 6 months when stored under refrigeration, 45°F (7.2°C).

Health and safety
Safety Data Sheets defining the known hazards and describing safety precautions appropriate for this product are available upon request from Von Roll USA, Inc., Schenectady, NY, (518) 344-7100 and/or www.vonroll.com. Similar information for solvents and other chemicals to be used with this product may be obtained from the appropriate supplier and used accordingly. We recommend following all hygiene and safety standards while processing material.

Liability

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