Low Temperature Varnish
SCBltv
Product Data Sheet

Former known as GE or IMI 7031 varnish. It's an air drying varnish (12-15 min) with excellent bonding properties and good electrical and chemical resistance. It's also for securing and thermally anchoring wires at cryogenic temperatures.

Product Description

IMI 7031 is a clear, modified phonetic insulating varnish and adhesive. It will air dry and can also be baked to a tough, thermosetting resin. It is electrical and bonding properties combined with its chemical resistance and good saturating properties make it an excellent varnish to use where good adhesion, heat aging, moisture and oil resistance and high hot bonding strength are desired. As an adhesive, IMI 7031 bonds in a wide variety of materials, has fast tack time and may be air dried or baked. It is an excellent adhesive for laminating many types of materials. IMI 7031 adhesive may applied to parts to be bonded; then either baked shortly after applying or allowed to air dry and then be baked hours, days or even weeks after the parts have been assembled or stored. When air dried films of 7031are baked, the resin melts fuses and converts to a strong, thermoset adhesive.
As an insulating varnish, IMI 7031 is excellent as finish coat over other varnishes and for treating small motors, transformers and other components where excellent moisture resistance is required.
When thinned to a low viscosity, 150 cps or less, IMI 7031 varnish is excellent for coating printed circuits where protection is desired against moisture, oil, dirt etc. It is being used for sealing oil filled capacitors in place of soldered seams.
It has also found wide usage as an insulating adhesive at liquid helium temperatures in the field of cryogenics.

Applications

As an adhesive, IMI 7031 has been used with metals, various synthetic and treated rubbers, glass, cellulose, phonetic and other laminates and moulded parts in a wide variety of porous and non porous materials. Because of its high temperature resistance when baked, IMI 7031 adhesive is especially useful in bonding the layers of large and small field coils, and for bonding laminations.

Specifications

Percent solids by weight; avg	8-20
Viscosity 77°F / 25°C (Brookfield; cps, avg	1300
Specific gravity at 77°F / 25°C; avg	0.88
Rash Point (Pensky-Martens closed up); °F/°C	24 / -4.4
Air drying time 1 mil / 0,25mm flim, tack free; min, avg	5-10
Dry time at 257°F / 125°C (ASTM D115);min, avg	2.5
Reducing solvent	IMI 9424

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Product Characteristics - Typical Cured Film	
Dielectric strength-dry (ASTM D115); V/mil / kV/mm	3000 / 118
Dielectric strength-24hrs in water; V/mil / kV/mm	1500 / 59
Bond strength at room temperature, helical coils, baked 4 hrs at 212°F / 100°C; lbs / kg, avg	9.7 / 4.4
Lap shear at room temperature, 1"/25mm overlap, Al panels, 1mil / 0,25mm film; lbs / kg, avg	600 / 270
Thermal conductivity in the range of 4K to 10K; W/cmK	7.104

Product Storage

Keep containers away from heat sources such as steam pipes and direct sunlight. Store at room temperature.

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