ELANTAS
Electrical Insulation

Technical Data Sheet

Secondary Insulation

Sterling® Y-663M-2

Single-Component Epoxy Adhesive

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Sterling® Y-663M-2

Product Description

Sterling® Y663M-2 is a low viscosity, heat curable, thermosetting epoxy adhesive in a fast evaporating solvent.

Areas of Application

- Preparing pre-pregs of fibrous cloth or mat
- Structural adhesive or coating for metallic sheet and foil
- B-stage coating of electrical sheet steel for core laminations
- B-stage coating of copper and aluminum foil for subsequent lamination to printed circuit boards

Features and Benefits

- Excellent electrical properties
- High peel and tensile shear strength
- 6-month B-stage shelf life
- Up to 180°C operating temperature

Application Methods

- Dip
- Spray
- Brush
- Roll-through

Transportation / Storage

Store below 25°C / 77°F in a dry controlled environment out of direct sunlight. This material should be suitable for use stored under these conditions in the original sealed containers for six (6) months from the date of shipment.

Keep containers tightly sealed to minimize evaporation.

Mix thoroughly before use

Health / Safety

Refer to the Material Safety Data Sheet.

Typical Properties of Material as Supplied

Property	Conditions	Value	Units
Viscosity	25°C / 77°F	75 – 225	cP
Non-Volatiles	0.5 g – 3 hr – 110°C	34 – 38	%
Weight per Gallon	25°C / 77°F	7.7 – 7.9	pounds
Flash Point	ASTM D93	< -7 < 19	°C °F
Reducing Solvent		Methyl Ethyl Ketone (MEK)	

Curing Schedule

Non B-staging Applications

Optimum physical and electrical properties can be obtained using a cure cycle of 1½ - 2 hours at 175°C / 350°F. In most cases, contact pressure is sufficient to ensure bonding. A laminating pressure of 100-150 psi is suggested for heavy substrates or where intimate contact is desired.

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Curing Schedule

B-staging Applications

The time and temperature used for B-staging is not especially critical. B-staging can be achieved at temperatures of 115 – 138°C / 240 – 280°F for 5 - 20 minutes.

Film thickness and porosity of the substrate will determine actual solvent removal time and temperatures. For thicker coatings it may be necessary first to remove the bulk of the solvent at a lower temperature of 65 – 93°C / 150 - 200°F.

Final cure after B-staging requires 1 – 1½ hours at 175°C / 350°F

Cure schedule is based on time after the unit reaches the specified temperature

Typical Mechanical Properties

Specimen cured 1½ hours at 150°C / 302°F

Property	Conditions	Value	Units
Tensile Shear Strength Aluminum – Aluminum	25°C / 77°F 100°C / 212°F	4100 690	psi psi
Tensile Shear Strength Glass cloth – Glass cloth	25°C / 77°F 100°C / 212°F	4200 1300	psi psi
Tensile Shear Strength Steel - Steel	25°C / 77°F 100°C / 212°F	4250 2000	psi psi

Typical Electrical Properties

Specimen cured 1½ hours at 150°C / 302°F – 5-ply glass laminate

Property	Conditions	Value	Units
Dissipation Factor	60 Hz – 25°C / 77°F 60 Hz – 60°C / 140°F 60 Hz – 100°C / 212°F 60 Hz – 125°C / 257°F	0.001 0.01 0.02 0.17	

The above properties are typical values and are not intended for specification use.