

Epoxy Casting Resin 9002GA-TS/GB-3 for FBT

I. Component

- A: Epoxy Resin , Filler, Additive
- B: Acid Anhydride, Accelerator



II. Characteristics

- a) Excellent workability
- b) Excellent penetrating
- c) The exothermic peak is relatively low, high reliability of encapsulated products
- d) Flame resistance (UL-94, V-0)
- e) Excellent electronic properties
- f) Environmental-friendly

III. USE

Casting for Flyback Transformer and other electronic parts

IV. Packing

- A: 33kg or 250kg
- B: 22kg or 220kg

V. Transportation

This product does not belong to dangerous article . It can be transported in the way as common chemical do .

VI. Storage

- a) Completely packed, preferably between 15°C and 25°C
- b) Free from direct sunlight
- c) Free from humidity
- d) Free from fire
- e) Shelf life A: 6 months B: 6 months

VII. Product property

Items	Standard data		Testing standard
Before cure			
Appearance	A	White liquid	Visual estimation
	B	Light yellow liquid	
Viscosity (40°C, mPa · s)	A	$(1.0\sim 1.5) \times 10^4$	GB/T2794
	B	15~23	
	A+B	≤ 550	
Specific gravity	A	1.72-1.78	GB/T4472

(25℃, g/ml)	B	1.18~1.21	
	A+B	1.55~1.63	
Mixing ratio(WT%)	A: B=100: 29-32		/
Pot life(40℃, h)	>3.5		/
Gel time (80℃, min)	100~120		/
After cure			
Hardness (25℃, D)	>87		Shore-D
Glass transition (℃)	>108		DSC
Flexural strength (25℃, N/mm ²)	>74		/
Impact strength (KJ/cm ²)	>2.5		GB/T1043
Coefficient of liner thermal expansion (℃-1) (below T _g)	<4.5 × 10 ⁻⁵		GB/1036-70
Thermal conductivity (25℃, W/mk)	>0.48		GB3399-82
Volume resistivity (25℃, Ω · cm)	>3.9 × 10 ¹⁵		GB/T1410
Surface resistivity (25℃, Ω)	>5.8 × 10 ¹⁴		
Dielectric constant (25℃, 10KHz)	3.8±0.1		GB/T1409
Dissipation factor (25℃, 10KHz)	<0.008		
Water absorption (23℃, 24h, %)	<0.15		GB/T1304
Breakdown voltage (25℃, KV/mm)	>25		GB/T1048
Flammability (UL-94, 6mm)	V-0		GB/T4069

VIII. Potting Condition

		Temperature (℃)	Vacuum (τ)	Time (h)
Predegassing	A	65±5	<2	4~12
	B	35±5	<2	4~12
Potting	Coil preheating	Temperature (℃)	105±5	
		Time (h)	>1.5	
	Mixing temperature (℃)	40~45		
	Prevacuum pressure	Vacuum (τ)	<2	
	Potting	Vacuum (τ)	<5	
	Post vacuum pressure	Vacuum (τ)	<5	
Time (s)		>20		
Curing	75℃/2.5h+75~110℃/0.5h+110℃/2.5h			

IX. Cautions

1. Cautions in use

- Part A should be agitated before use to disperse sufficiently the settled filler.
- Part B may be crystallized when it is stored at low temperature, in this case, heat it to 40-50℃ until it is completely dissolved.
- Weigh both A and B respectively, into specified amounts and mix them uniformly.

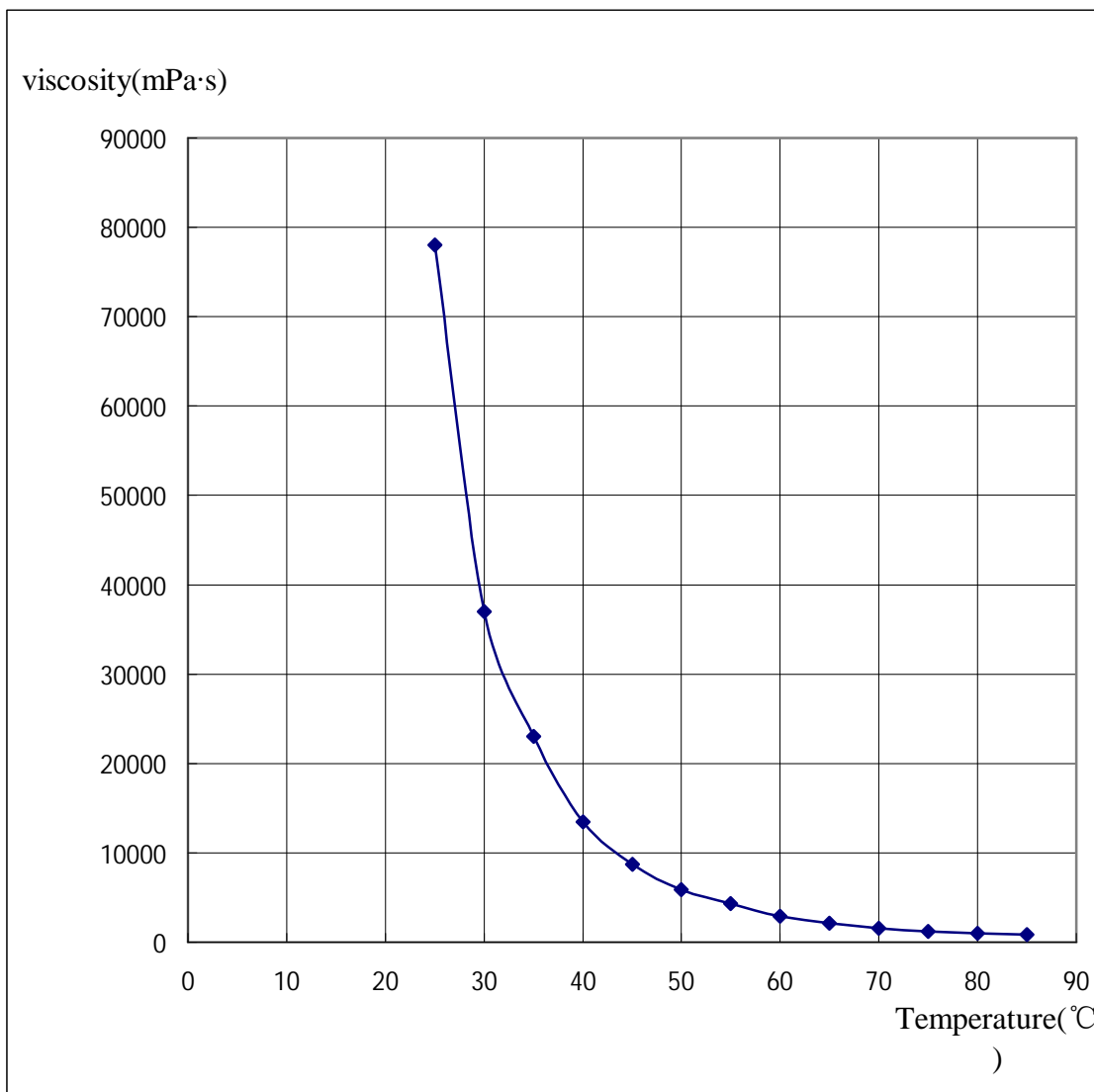
2. Cautions in handling

- a) Work place should provide a ventilator for performing sufficient ventilation
- b) Protective garments, gloves, goggles are necessary to workers to avoid direct contact of the materials.
- c) In the event of the agent contacting the skin wash it off immediately with warm water and alkali-free soap. Medical treatment is needed if skin is seriously irritated.
- d) Avoid breathing vapors, which can cause respiratory damage.

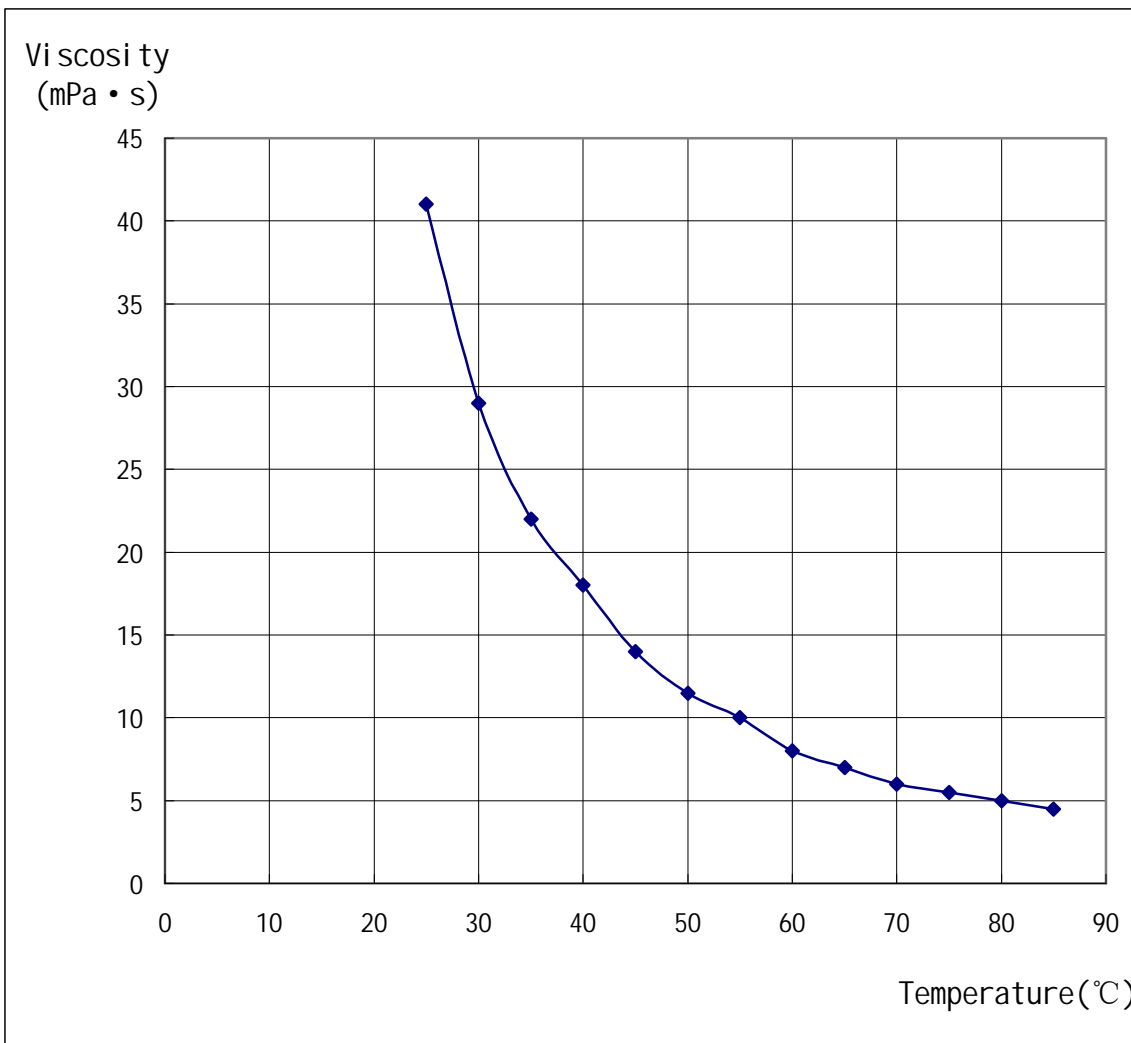
3. Cautions in Storage

- a) Store it at the cool and dark place (preferably between 15°C and 25°C)
- b) Seal the products to avoid mixing of water into the products.
- c) Keep to the first-in first-out
- d) Once the container is opened, the material should be used as fast as possible, to prevent properties from deterioration by foreign substance and moisture absorption

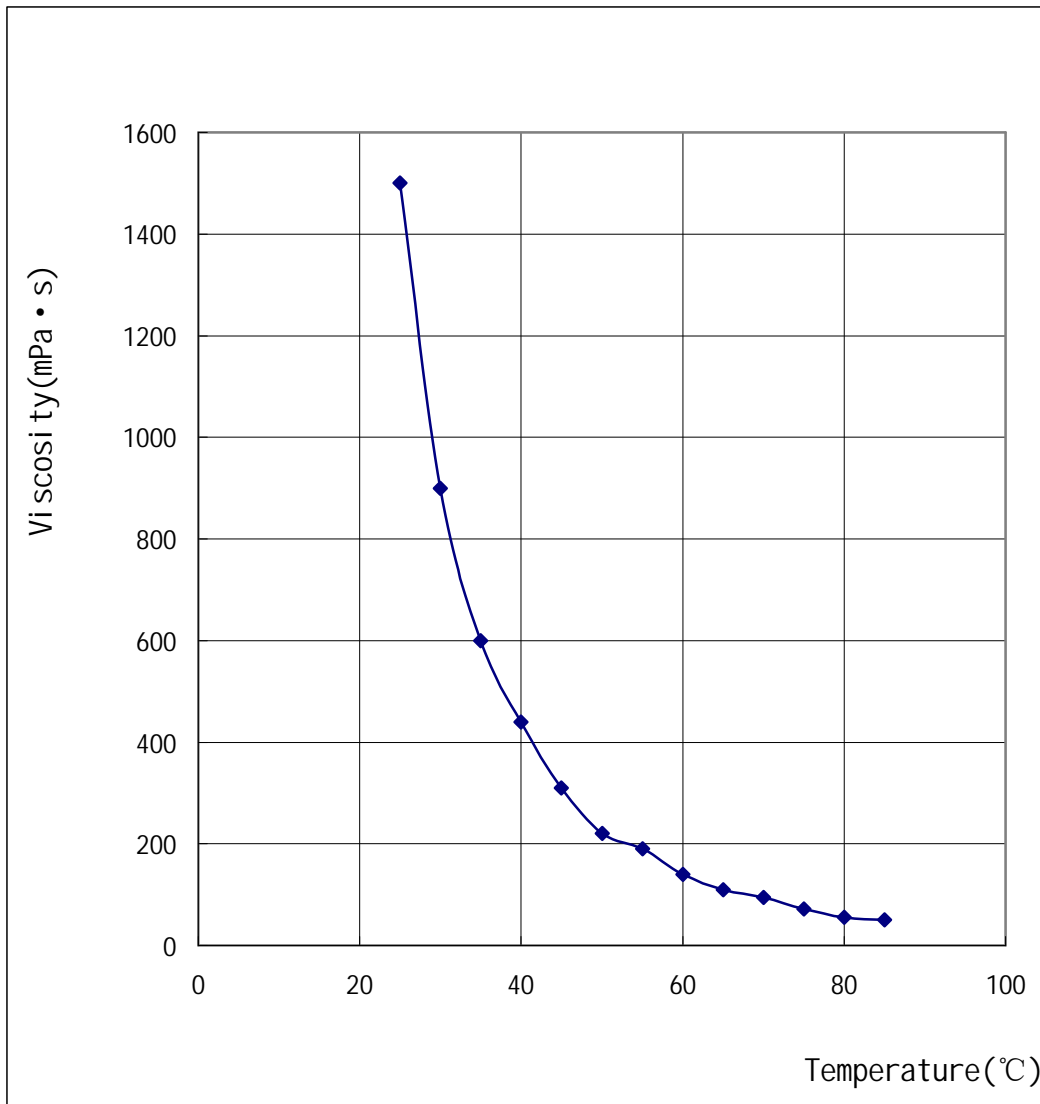
Viscosity Vs. Temperature of 9002GA-TS



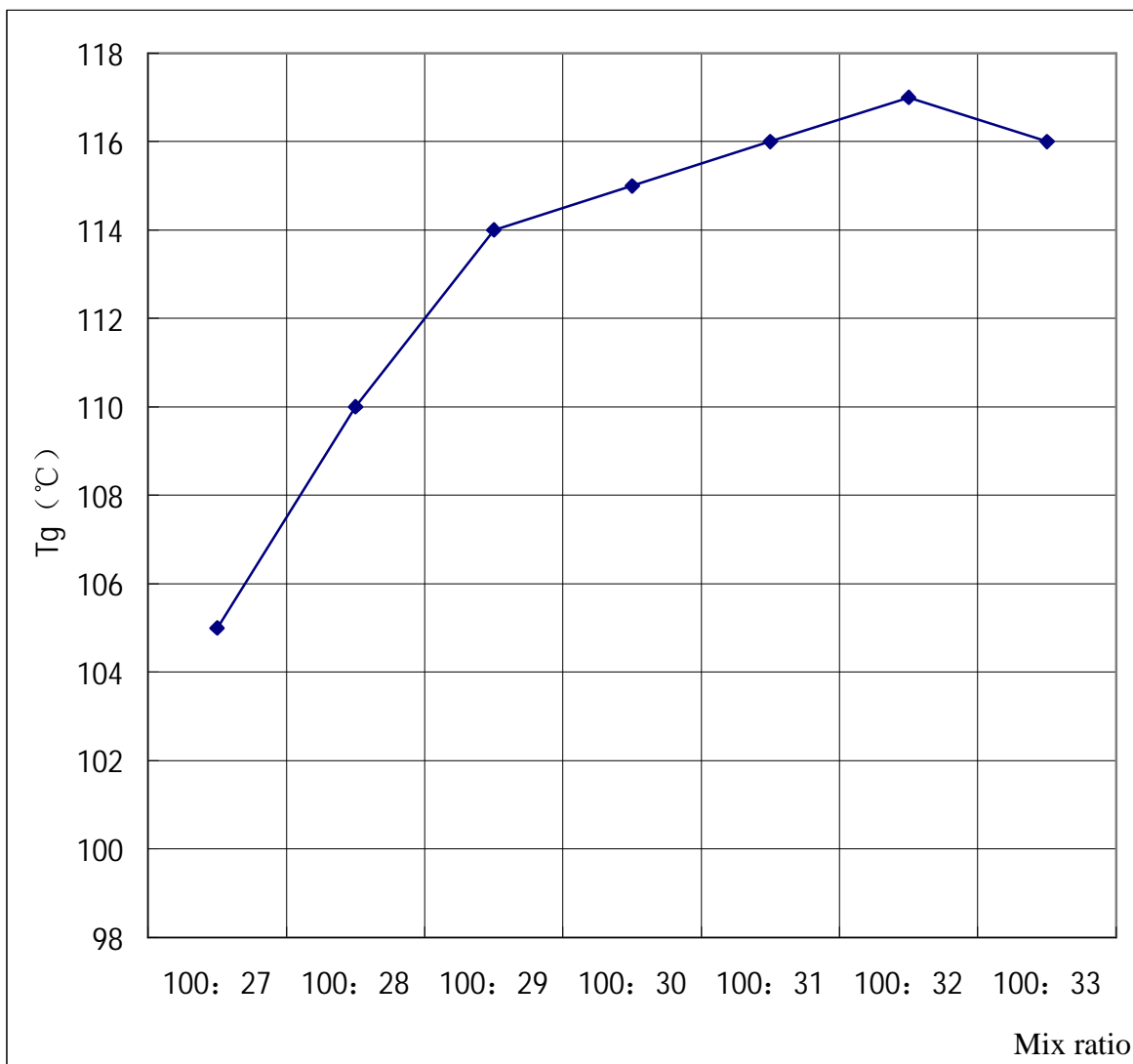
Viscosity Vs. Temperature of 9002GB-3



Viscosity Vs. Temperature of 9002GA-TS/GB-3

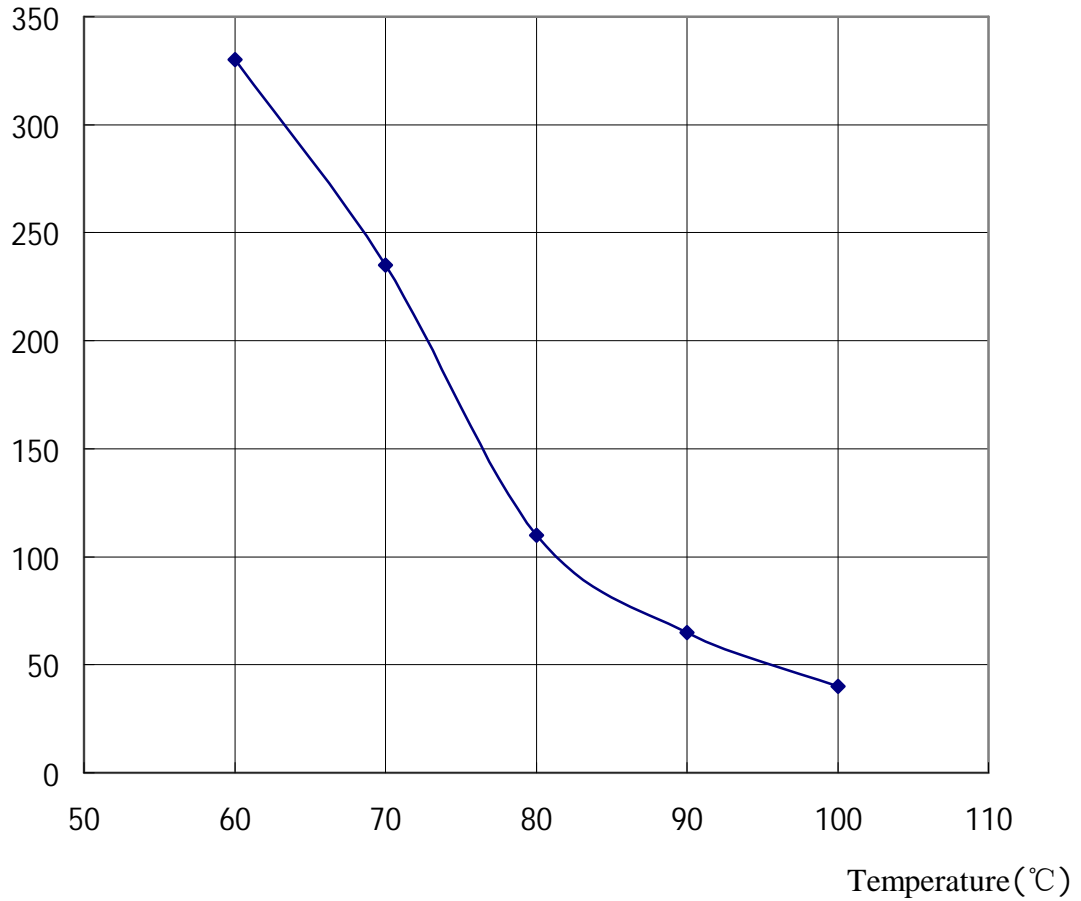


9002GA-TS/9002GB-3Tg VS Mix ratio (75°C/2.5+75-110°C/0.5h+110°C/2.5h)



Gel Time VS. Temperature of 9002GA-TS/GB-3 mixture

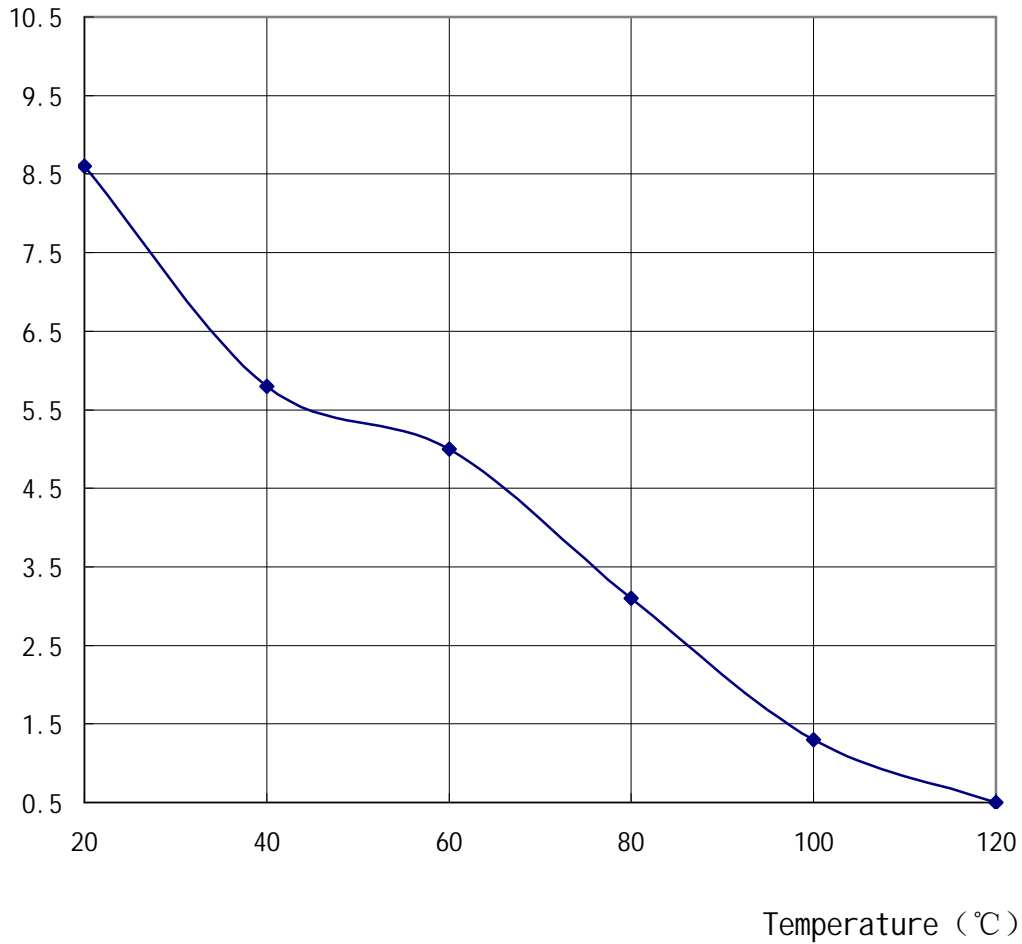
Gel Time(mi n)



Volume Resistivity Vs. Temperature of 9002GA-TS/GB-3



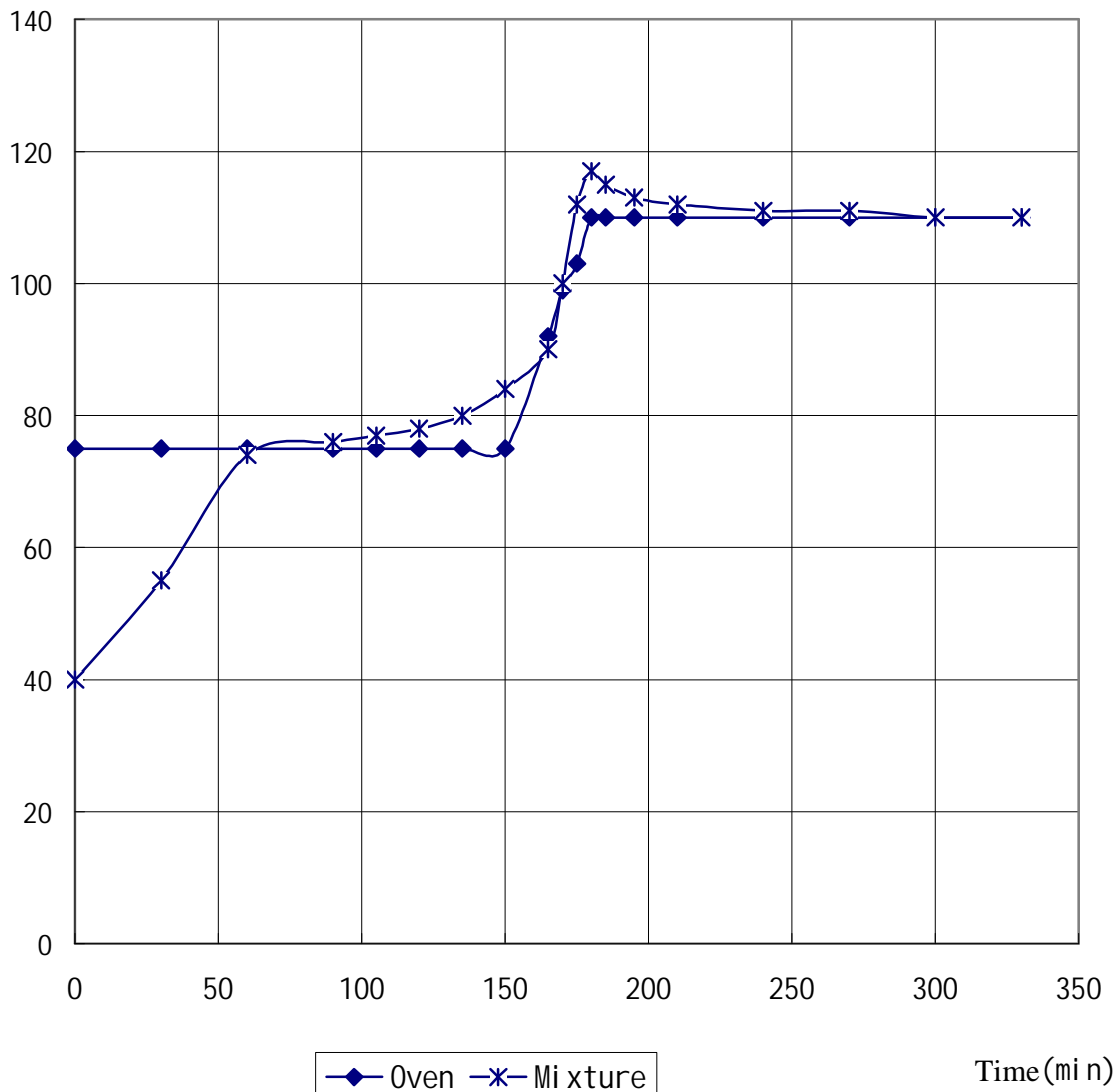
$\times 10^{15} \Omega \cdot \text{cm}$



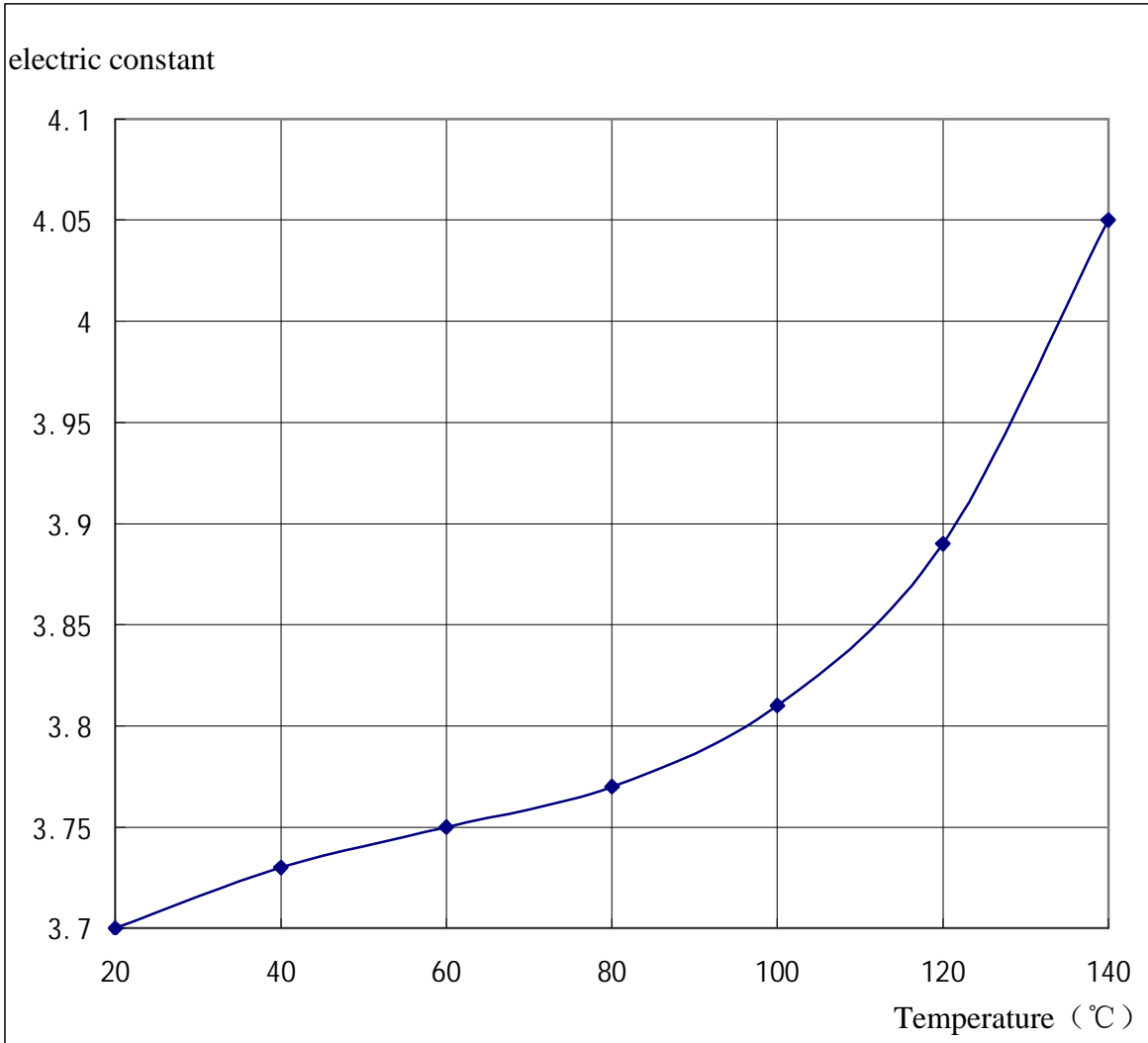
9002GA-TS/9002GB-3

(65g, 75 °C/2.5h+75-110 °C/0.5h+110 °C/2.5h)Temperature thermal peak

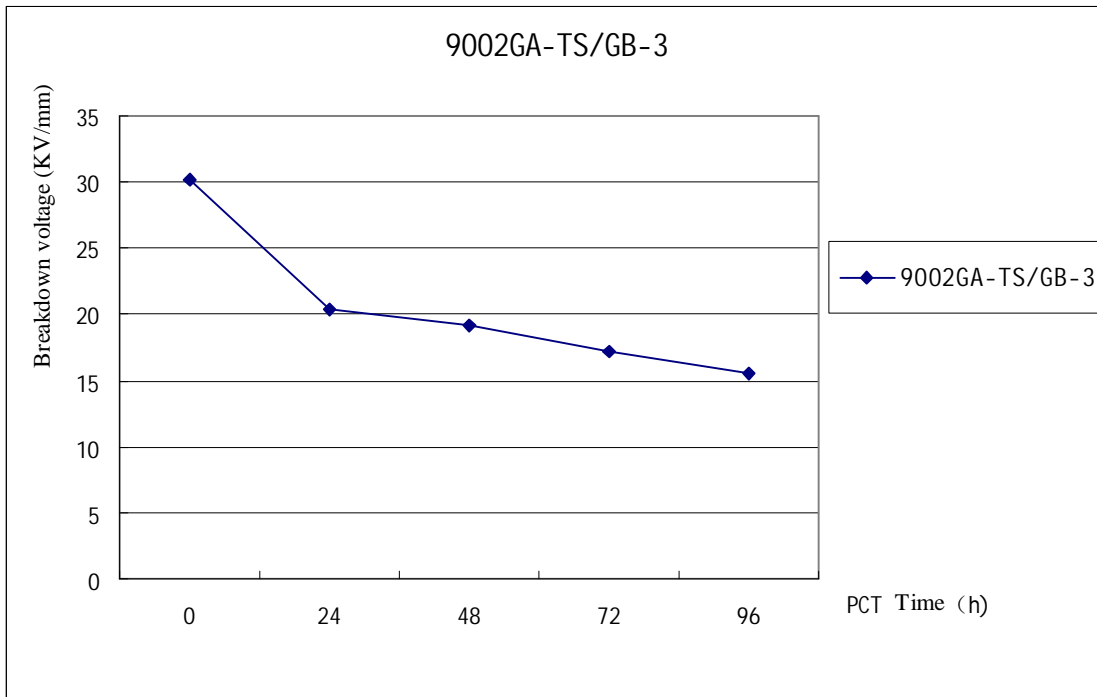
Temperature(°C)



9002GA-TS/9002GB-3 Electric constant VS Temperature



9002GA-TS/GB-3 BDV VS PCT Time



***PCT condition**
121°C/2atm

Material Safety Data

1. Identity: 9002GA-TS

I Material characteristics

Components: BPA type epoxy resin、filler、environmental-friendly、flame retardant、additive

I Physical chemical characteristics:

Appearance: white liquid
Odor: non
Boiling point: non
Specific gravity (H₂O-1): 1.72-1.78
Vapor pressure (mmHg and temperature): non
Melting point: not available
Flash point: 216°C
Solubility in water: negligible

I Hazard data

Health hazard : not available
Fire and explosion hazard: non
Stability: stable
Hazardous decomposition products: carbon monoxide、carbon dioxide、hydrochloric acid

I Control and protective measures

Protective clothing: needed
Protective gloves: needed
Goggles: needed
Work place: provide a ventilator for performing sufficient ventilation

I Treatment of overflowing material

Soak up with cotton waste or saw dust and deposit in plastic-lined bin.

I Emergency treatment

Skin contact : wipe the material from skin with absorbent paper , then wash with warm water and alkali-free soap. Medical treatment is needed when skin is seriously imitated.

Eye contact : deal with running water for 15 minutes, then seek medical treatment.

Inhalation: transfer the sick to outside and keep the air fresh.

I Fire treatment:

Extinguished media: carbon dioxide、 foam.

I Waste disposal methods

Regular procedures approved by local authorities.

2. Identity: 9002GB-3

I Material characteristics

Components: acid anhydride, accelerator

I Physical chemical characteristics:

Appearance: light yellow liquid

Odor: irritative

Boiling point: non

Specific gravity (H₂O-1): 1.20

Vapor pressure (mmHg and temperature): non

Melting point: <-10°C

Flash point: 156°C

Solubility in water: solubility

I Hazard data

Health hazard :

Fire and explosion hazard: non

Stability : stable

Hazardous decomposition products: carbon monoxide carbon dioxide hydrochloric acid

I Control and protective measures

Protective clothing: needed

Protective gloves: needed

Goggles: needed

Work place : provide a ventilator

I Treatment of overflowing material

Soak up with cotton waste or saw dust and deposit in plastic lined bin.

I Emergency treatment

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