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Three Bond 2217H

Syringe Application, Single Component Epoxy Resin

Outline

Three Bond 2217H is a single component epoxy developed for bonding electronic chips, which can cure when heated at 80°C. Its properties are designed to allow the resin to be applied onto parts by syringe application.

Features

• Syringe application	Excellent stability in application
• Excellent thixotropic property	Able to maintain the shape after application
• Low temperature cure	Curing at temperature of 80°C and above
• Rapid cure	Curing at temperature of 120°C and above
• Excellent bonding ability	Excellent adhesion to various metals and plastics

Applications

- Fixing of chip onto PCB, chip-bonding (syringe application)
- Bonding, fixing and sealing of electronic parts
- Bonding and sealing of various metal and plastic types

Properties

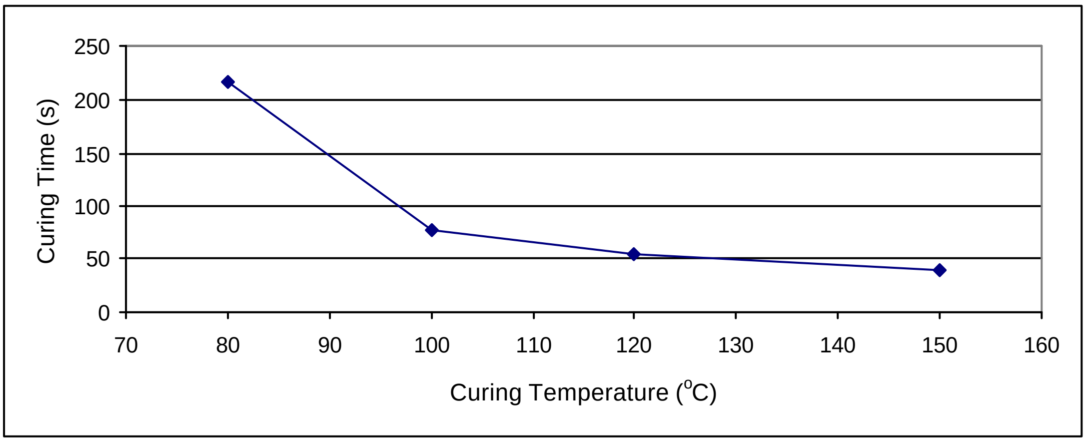
Before Cure

Item	Units	2217H	Test method	Remarks
Appearance		Red paste	3TS-201-01	Visual inspection
Viscosity	Pa・s {P}	196 {1960}	3TS-210-02	Rotor 7, 20rpm
Thixotropic Index		2.9	3TS-211-03	4/20 rpm
Specific Gravity		1.25	3TS-213-02	Density cup
Curing Speed	s {min}	217 {3.62}	3TS-220-08	@80°C
		79 {1.31}		@100°C
		55 {0.92}		@ 120°C
		38.7 {0.65}		@ 150°C

※ Curing condition may change depending on the thermal capacity of the parts surrounding the bonding site. It is important to confirm the suitable curing condition before using on actual parts.

※ The above values are our testing results and may not be used as guarantee values or specification.

Effect of Temperature on Curing Speed



After Cure

Item	Units	2217H	Test method	Remarks
Shear Strength	MPa {kgf/cm^2}	25.2 {257}	3TS-301-11	Fe/Fe: SPCC-SD
Hardness		89	3TS-215-01	JIS-D
Glass Transition Temperature	°C	99	3TS-501-05	3°C/min
Coefficient of Thermal Expansion	/°C	7.7 x 10^{-5}	3TS-501-05	Room Temperature ~ Tg
Rate of Water Absorption	%	+ 0.62	3TS-233-02	Boiling for 1h

※ Curing Condition: 120°C x 10 min

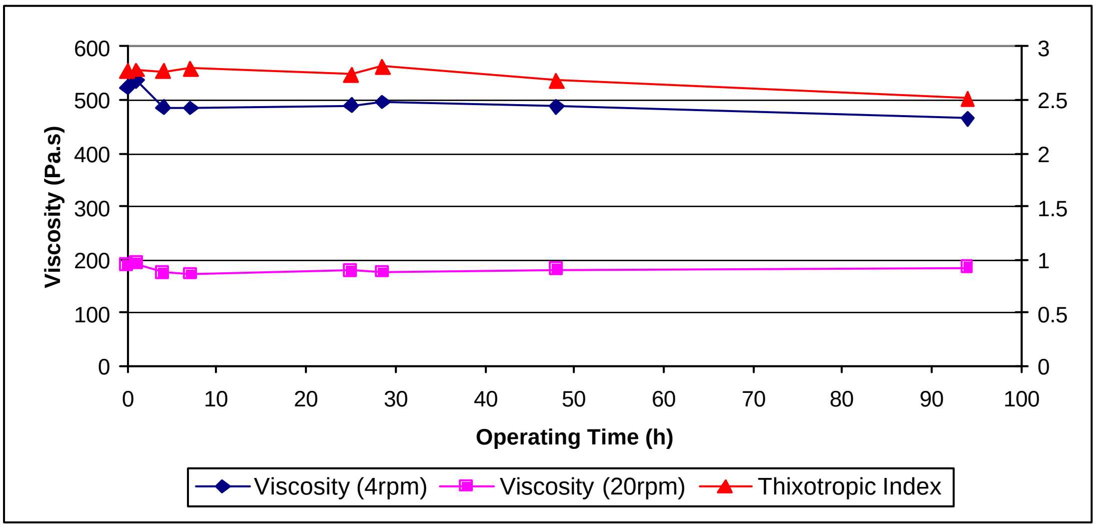
※ Curing condition of 2217H changes with the thermal capacity of the parts surrounding the bonding site, application and amount applied. It is important to determine the suitable curing condition before using on actual parts.

※ The above values are our testing results and may not be used as guarantee values or specification.

Electrical properties

Item	Units	2217H	Test method	Remarks
Surface resistivity	Ω	9.2 x 10^{13}	3TS-402-01	
Volume resistivity	Ω·m	1.7 x 10^{14}	3TS-401-01	
Dielectric constant		3.40	3TS-405-01	200Hz
		3.41		1kHz
		3.26		1MHz
Dielectric breakdown voltage	kV/mm	24	3TS-406-01	

Effect of Operating Condition (35°C) on Stability of Product



Handling Precautions

1. The curing condition is subjected to the type, size and thermal capacity of adherents. Hence, the curing condition cannot be fixed uniformly. Please confirm the optimum curing condition before use.
2. It is important to remove moisture, dirt, grease, oil, rust, paint and old oxide film from the surfaces, which are to be bonded by degreasing, polishing and/or acid etching. This will ensure that optimal bonding can be achieved. Bonding must be done as soon as the surface is prepared.
3. This is a single component epoxy adhesive. Storing at high temperature over a long period is not advised, as it will result in the increase in viscosity, sedimentation of filler and reduction in the curing ability.
4. This compound may cause inflammation when come into contact with sensitive skin for a prolonged period. If the compound comes into contact with skin, wipe off with paper towel or cloth. Wash affected area with warm, soapy water.
5. Harmful. Do not ingest. In the event that this product is ingested, consult a physician immediately.
6. If curing a large amount of this product or for a long time, it is compulsory to ventilate the area well.
7. In case of eye contact, do not blink or rub eyes. Wash under running water for about 15 minutes. Consult a physician immediately.
8. In case of abnormal reaction, stop using the product and consult a physician.
9. Do not use on human body.
10. Persons with allergies or who are sensitive should not use this product.
11. In case of contact with skin, wipe with a dry cloth and wash affected area with soap and warm water.
12. Please read direction and brochure carefully before use.

13. If the product is transferred to another container and is not completely used, do not return unused portion into original container.
14. Keep away from children.
15. Avoid direct sunlight; store at low temperature (5 ~ 10°C).
16. Close lid tightly after use, then store.
17. Do not incinerate, emits poisonous gas. Hazardous waste disposal professionals should handle disposal.
18. This product is flammable. Please take the necessary precautions in storage and handling (refer to MSDS).
19. For industrial use only.

Packing

Three Bond 2217H	20 ml, 30ml barrel, 1 kg tin can, 370g cartridge

Shelf Life

Three Bond 2217H	6 months at 5 ~ 10°C

Disclaimer

For Industrial Use Only

(Do not use for household purposes)

- The data contained in this report are obtained from experimental results, based on out test method. We cannot assume absolute responsibility for accuracy and safety. Before using this product, use your own judgement to determine whether or not this product meets the requirements of the application and objectives. This includes the burden of responsibility and hazardous danger. The extent of the guarantee provides replacement for products, which are clearly unsatisfactory.
- We assume responsibility for neither injury nor property damages resulting from the misuse of this product.
- We do not assume responsibility without written notice or contract.