

SOLDER CONNECTION

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QUALITEK® Technical Bulletin

Three Bond TB2217L Low Temperature Curing Chipbonder

DESCRIPTION

Three Bond TB2217L is a single component epoxy resin developed for bonding electronic chips, curing at temperatures of 80°C and above. TB2217L is a version of the popular TB2217H product with reduced viscosity making it ideal for use in temperate regions such as Europe. Its properties are designed for ease of handling to enable use in automated assembly by either syringe or screen print application.

KEY FEATURES

- Ideal viscosity and thixotropic properties for dispensing and screen printing. Maintains shape after application, retains chip well. Even slight vibrations cannot cause the chip to shift.
- No cobwebbing, no dispenser feeding problems, excellent processability. Build up coating on printed circuit boards is possible and there will be no flow.
- Hardens in less than 60 seconds at 150°C.
- Heat curing initiated at just 80°C
- Excellent adhesion to various metals and plastics. The chip will not fall off before reaching the soldering area.
- Excellent heat resistance. Meets the requirements of IPC SM817, TM-650 Method 2.4.42.1: R-1206 on bare FR4 board supported 60 seconds above solder bath at 260°C and dipped for 10 seconds.
- Will not corrode copper pattern.
- Easy to use single liquid system. Excellent storage stability.

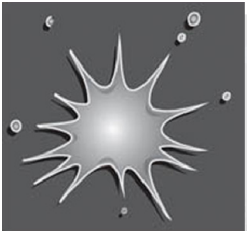
PROPERTIES BEFORE CURING

Properties	Result	Unit	Test Method
Chemical Type	Epoxy		
Appearance	Pink Paste		3TS-201-01
Viscosity at 25°C	154	Pass	3TS-210-02
Specific Gravity	1.25		3TS-213-02
Thixotropic Index	2.9	4/20 rpm	3TS-211-03
Curing Time at:			
	80°C	200-230	Sec
	100°C	70-100	Sec
	120°C	50-80	Sec
	150°C	35-65	Sec
Shelf life at 5°C	7	Months	

PROPERTIES AFTERCURING

Properties	Result	Unit	Test Method
Shore-Hardness	88 D		3TS-215-01
Shear Strength	22.8	Mpa	3TS-301-01
Glass transition Temperature	100	C	3TS-501-05
Coefficient of thermal expansion	4.0 X 10 ⁻⁵	C-1	3TS-501-05
Water absorption (100°C x 1hr)	0.62	%	3TS-233-02

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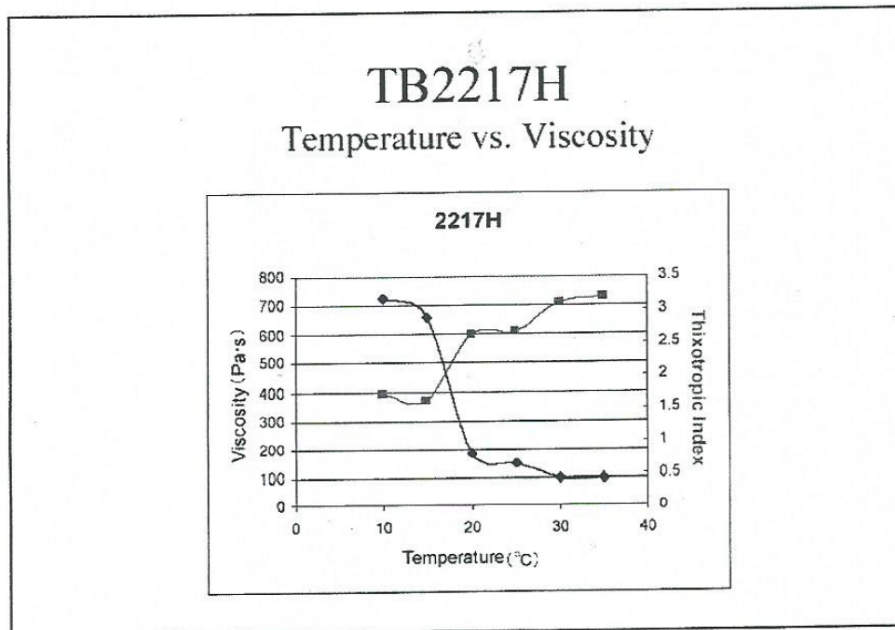
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ELECTRICAL PROPERTIES

Properties	Result	Unit	Test Method
Surface Resistivity	9.2 x 10 ¹³	Ω	3TS-402-01
Volume Resistivity	1.6 x 10 ¹⁴	Ω.m	3TS-401-01
Dielectric Constant (1MHz)	3.26		3TS-405-01
Dielectric Breakdown Voltage	24	kV/mn	3TS-406-01

INSTRUCTIONS FOR USE

- Three Bond TB2217L is supplied de-bubbled in cartridge, for use in a variety of dispensing systems or for transfer to any popular syringe format.
- Keep the product tightly closed in the original container and store it in a dark, dry, sufficiently ventilated - and cool place at 5 ~ 10°C. After storage the product must be allowed to stabilise at room temperature before use, typically 24 hours
- According to the nature of the application, optimise dispense pressure, time, nozzle size and temperature in order to achieve desired dispense quantity of adhesive.
- For optimum results the dispensing temperature should be controlled to 30 ~ 35°C. When a precision resin is used, changes in viscosity versus the ambient temperature are to be verified, especially below 20°C. See example data for comparable product TB2217H.



- The degree of curing varies depending upon the temperature and the duration of the process.
- Resin once transferred into another container should not be returned to the original container. Excess sealant can be easily wiped off with a cloth. Uncured adhesive can be cleaned from boards or machines using butoxy ethanol cleaners or TB2706 degreaser.
- If the product contacts the skin, remove with a cloth and wash the affected area with soap and water. For specific advice consult the relevant Material Safety Data Sheet.

AVAILABILITY

310ML Cartridge
Other formats available on request.

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