ThreeBond

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ThreeBond Co., Ltd.

Technical Data
ThreeBond 3331D
Epoxy-based Heat-curing Electrically Conductive Adhesive

1. Product description

ThreeBond 3331D is an epoxy-based heat-curing conductive adhesive. It can bond at a low temperature (80ºC).
This product is a low halogen content material. The total chlorine content and total bromine content are less than 900 ppm each, and the sum of total chlorine content and total bromine content is less than 1500 ppm.

Hereinafter, ThreeBond is abbreviated to TB.

2. Features

(1) Single component, heat-curing conductive adhesive.
(2) Bonding at 80ºC in 60 min.
(3) Solvent-free.
(4) Syringe type.

3. Applications

Grounding and conductive bonding of electronic components

4. Properties

4.1 Properties of liquid

Table 1 Properties of TB 3331D

Item	Unit	Result	Test method	Remarks
Appearance	-	Silver	3TS-2100-020	-
Viscosity	Pa·s	25	3TS-2F00-007	Shear rate: 10.0 [s^{-1}] (25ºC)
Structural viscosity ratio	-	4.0	3TS-2F10-007	Shear rate: 1.0 [s^{-1}] / 10.0 [s^{-1}] (25ºC)

4.2 Flow curve

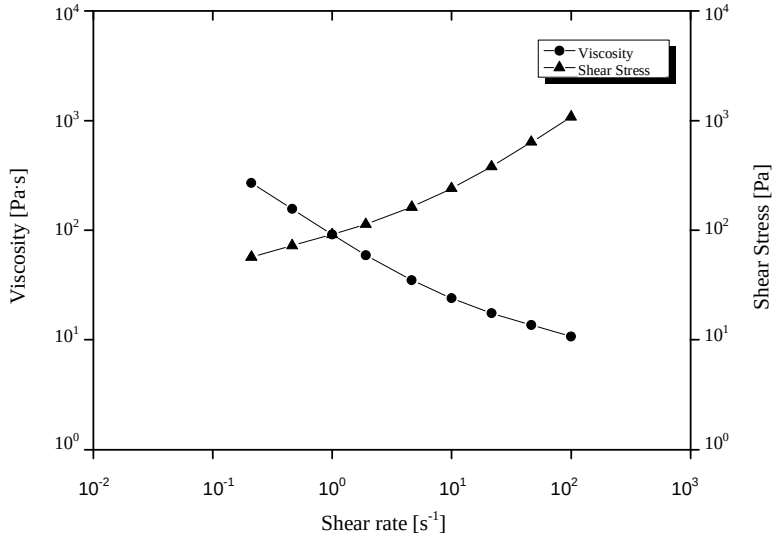

Fig.1 Flow curves of TB 3331D
Measuring temperature: 25ºC
Measuring conditions: 3TS-4200-001
Measuring device: MARS III Cone: C35/2

4.3 Temperature-viscosity curve

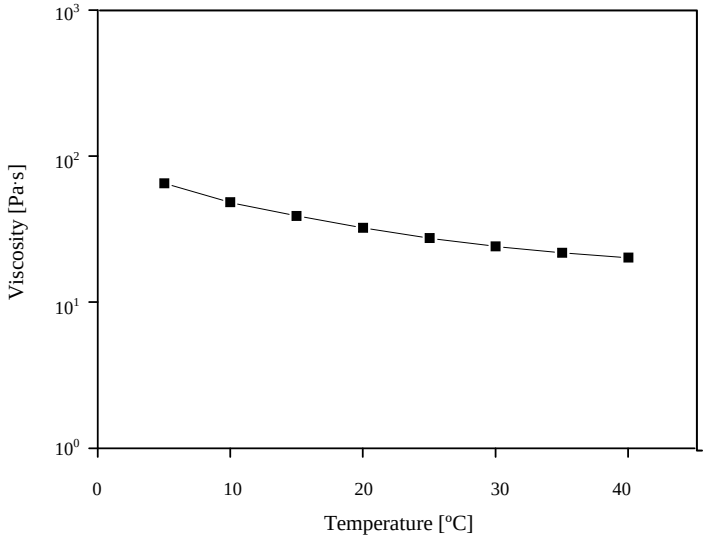

Fig. 2 Temperature-viscosity curve of TB3331D
Shear rate: 10.0 [s^{-1}]
Measuring conditions: 3TS-4200-003
Measuring device: MARS III Cone: C35/2

5. Characteristics

Characteristics of cured resin

Table 2 Characteristics of TB3331D after curing

Test item	Unit	Result	Test method	Remarks
Volume resistivity	Ω·m	0.5×10^{-5}	3TS-5100-002	-
Chip bonding strength	MPa	15	3TS-4180-002	2Φceramic chip/ Ni plated sheet

Standard curing conditions: 80ºC x 60 min (with use of hot-air drying oven)

6. Usage

(1) Application
Use an applicator. Furthermore, use a nozzle with an inner diameter greater than 0.29 mm (25G).

(2) Curing
Apply adhesive to fix the substrate, and heat cure at 80ºC for 60 minutes using a hot-air drying oven.
However, the above curing conditions are not guaranteed values. Curing conditions may change depending on the usage environment and material.

7. Directions for use

(1) To prevent dew condensation, unseal the container after it returns to room temperature.
(2) The effects on the bonding point should be confirmed in advance. If there are any problems, do not use.
(3) Keep out of the reach of children.
(4) Before using, sufficiently confirm whether the method of application and the purpose are appropriate.
(5) Combustible. Keep away from fire.
(6) Do not dilute or mix with any organic solvent or any other substance.
(7) Use of this product may cause substrate degradation.
The effects of the resin on the substrates must be confirmed by the operator in advance. Refrain from using the resin if any detrimental effects are observed.
(8) Use of this product may cause substrate degradation.
(9) Do not burn the product. It may generate toxic gas when burnt.
(10) It is harmful to the health. Do not touch it directly or inhale its vapors.
(11) If in eyes, rinse with clean water for at least 15 minutes, and get medical attention.
(12) If on skin, wipe away with a cloth, and wash the skin with soap.
(13) Persons with allergies or sensitive skin should avoid using it.
(14) If any bodily abnormalities occur, discontinue use, and get medical attention.
(15) For hazard and toxicity information not mentioned herein, see the SDS (safety data sheet).

8. Storage

Store it tightly sealed in a freezer (-40ºC to -20ºC) avoiding direct sunlight.

9. Disposal

Ask an authorized industrial waste disposal contractor to dispose of the product as industrial waste.

10. Product configuration

Musashi Engineering, Inc., 10-cc syringe (10 g x 5 pcs.)

11. Precautions

For Industrial Use Only (Do not use for household purposes.)

This product is developed for general industrial use. Before using this product, the user must accept the following terms:

- The technical data given herein are not guaranteed values, but examples of experimental values obtained by our specified test methods. We do not guarantee that the uses described herein do not conflict with any intellectual property right.
- Before using this product, confirm the appropriateness and safety of the use for the application in question, and bear all responsibilities and risks involved in the use. Never embed or inject into bodies nor use as a medical implant that may be left in the body.
- We are not liable for personal injury or property damage caused by improper handling of this product. If the properties or usage of the product to be used are unclear, never use it.
- For detailed safety information of the product, see the Safety Data Sheets (SDS). To obtain the SDS, contact our sales office or customer service center.
- Information in this document is subject to change at our own discretion.

12. Registered trademark