



## Technical Data

March 22, 2001  
Three Bond Co., Ltd.

### ThreeBond 1530C

#### One-part moisture-curing elastic adhesive (clear)

##### 1. Outline

ThreeBond 1530C is a non-solvent one-part moisture-curing elastic adhesive. Its main component is a silyl-radical-based special polymer. It reacts with a trace amount of moisture in the air to cure. Unlike existing adhesives, it shows strong tackiness about 7 minutes (at 23°C and a relative humidity of 50%) after application. If a part is bonded at this stage, it is unnecessary to temporarily secure the part with a jig. Even if a part is bonded immediately after the adhesive is applied in the same manner as when an existing adhesive is used, the bonding strength will become higher with time.

The adhesive is applicable to parts for which existing RTV silicones (sealing and potting agents) are used. Since it does not contain low-molecular cyclic siloxane, it will not cause electric contact failure.

##### 2. Features

- (1) Non-solvent and environmentally-friendly
- (2) Less odor
- (3) One-part and quick-curing
- (4) Not requiring light or heat curing equipment
- (5) Initial tackiness eliminating the necessity of temporary securing
- (6) Elastic adhesive excelling in peel strength, vibration and impact stress relaxation and adhesion between different materials
- (7) Excellent adhesion to wide range of materials, including metals, plastics, rubbers, wood materials and inorganic materials
- (8) After curing, the adhesive is clear, and overflow is unnoticeable.

##### 3. Uses

Bonding (universal bonding), sealing, casting and potting of various materials

## 4. Properties and characteristics

### 4.1 General properties

Item	Unit	Property	Test method	Remarks
Main component	-	Silyl-radical-based special polymer	-	
Appearance	-	Clear	3TS-201-02	
Nonvolatile content	%	98	3TS-217-02	80°C × 2h
Viscosity	Pa·s (P)	100 (1000)	3TS-210-02	
Specific gravity	-	1.31	3TS-213-02	
Skimming time	min	7	-	

### 4.2 Characteristics of cured resin (after curing at 23°C and 50%RH for 7 days)

Item	Unit	Characteristic	Test method	Remarks
Tensile strength	MPa (kgf/cm <sup>2</sup> )	4.1 (42)	3TS-320-01	
Elongation	%	200	3TS-320-01	
Hardness		A55	3TS-215-01	

Note: No.3 dumbbell. 2 mm thick. The parenthesized value is given for your reference.

### 4.3 Tensile shear bond strength (MPa (kgf/cm<sup>2</sup>)) (3TS-301-13)

Item		Characteristic	Remarks
Metals	Aluminum	4.3 (44)	Cohesion failure
	Iron (SPCC-SB)	3.5 (36)	Cohesion failure
Plastics	Acrylic	3.8 (39)	Cohesion failure
	PPO (polydimethyl phenylene oxide)	4.7 (48)	Cohesion failure
	ABS	2.4 (24)	Cohesion failure
	Nylon 66	3.2 (33)	Cohesion failure
	PC (polycarbonate)	4.5 (46)	Cohesion failure
	Polystyrol	2.5 (26)	Interfacial failure
	Phenol	4.3 (44)	Cohesion failure
	PPS (polyphenylene sulfite)	1.3 (13)	Interfacial failure
	PBT (polybutylene terephthalate)	1.1 (11)	Interfacial failure
Other	Lauan plywood	4.0 (41)	Cohesion failure

### 4.4 Peel strength (kN/m (kgf/25 mm)) (3TS-304-23)

Item	Characteristic	Remarks
Aluminum	1.9 (5.0)	Cohesion failure
Canvas	1.6 (4.2)	Cohesion failure

Note: Application to both sides. Open time (time before bonding after application): 5 min  
Curing at 23°C and 50%RH for 7 days, and bonding of substrates of each material

#### Surface treatment of test pieces

Metals	Degreasing with xylene
Plastics	Wiping with ethanol

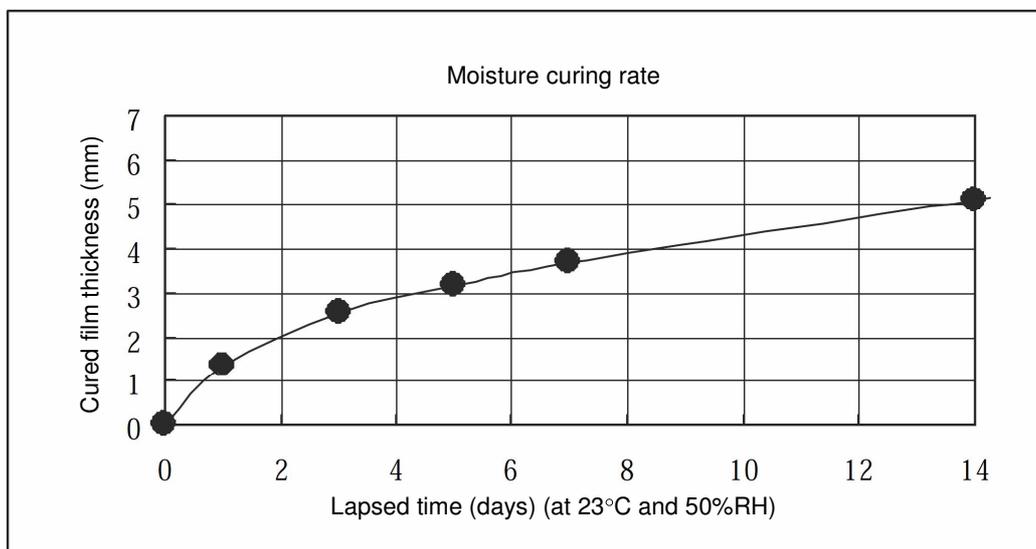
\* Note that the adhesive may not show adhesion to polyethylene, polypropylene, polyacetal or Teflon.

\* For other physical characteristics, see Three Bond Technical Data on TB1530.

## 5. Moisture curing rate (thick film curability)

The moisture curing rate at 23°C and 50%RH is shown below.

The curing rates of deoxime type silicone adhesives under the same conditions are 1.5 to 3.0 mm/day.



## 6. Usage

### (A) Application to both sides

- (1) Sufficiently remove rust, oil and dust from the surfaces to be bonded with sandpaper or alcohol.
- (2) Apply the adhesive thin and uniformly to both sides with a spatula.
- (3) Leave the adhesive for 7 minutes or more (at 23°C and 50%RH), and the adhesive will exhibit strong tackiness like adhesive tape. If the surfaces are bonded at this stage, it is unnecessary to temporarily secure them. The strong tackiness is maintained for the period 7 to 20 minutes after application. If it is left further, it will lose the strong adhesion, and it will be required to reapply the adhesive.

### (B) Application to one side

- (1) Sufficiently remove rust, oil and dust from the surfaces to be bonded with sandpaper or alcohol.
- (2) Apply the adhesive thin and uniformly to one of the surfaces to be bonded.
- (3) Bond the surfaces within 5 minutes. In this case, the adhesive does not have the temporary securing effect of the tackiness. Temporarily secure the surfaces with a jig.



- \* The surfaces will be immobile about 1 to 2 hours after bonding, and the adhesive will solidify in one day.
- \* Note that the initial tackiness will develop later if the adhesive is applied too thick.
- \* If the tackiness is not required, it is allowed to bond the surfaces immediately after applying the adhesive (only when the bonding area is small).
- \* The tackiness development time slightly varies depending on temperature and humidity. Check the tackiness when using the adhesive.

## **7. Instructions for use**

- (1) After using the adhesive, clean the tube tip, and fasten the cap tightly.
- (2) Use and store the product out of reach of children.
- (3) The adhesive is harmful to the health. Do not touch it directly or inhale its vapor.
- (4) If it gets in the eyes, wash them with clean water for more than 15 minutes, and get medical attention.
- (5) If it adheres to the skin, wipe it away with a cloth, and wash the skin with soap.
- (6) Before using it, sufficiently confirm whether the method of application and the purpose of use are appropriate.
- (7) Keep the working environment at an allowable concentration or less using a local exhaust system.
- (8) Store the product avoiding high temperature, high humidity, direct sunlight and heat sources.
- (9) Use the adhesive in accordance with related laws and regulations, such as Labor Safety and Sanitation Law.
- (10) For hazard and toxicity information not mentioned herein, see the material safety data sheet (MSDS).

## **8. Storage**

To prevent deterioration or entry of foreign matter, fit the cap tightly, and store it in a dark dry place at 5 to 25°C away from direct sunlight.

## **9. Disposal**

Dispose of the product as industrial waste.

## **10. Applicable law**

Designation by Fire Defense Law: Non-hazardous material

**11. Product form**

330-ml (430-g) cartridge or 150-g laminated tube in box

**12. Cautions**

For industrial use only
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(Do not use it for household products.)

The data shown in this document are not guaranteed values, but actual measurements obtained by us. Sufficiently examine whether the product is appropriate to your purpose prior to use.

Before using the product, you must accept the following sales terms.

- (1) The technical data given herein are experimental values obtained by our specified test methods. We do not absolutely guarantee the correctness and integrity of the data. Users are asked to examine by themselves whether the product is appropriate to the purpose of use before they use it and bear all responsibilities and hazards involved in its use.
  - (2) We are not liable for personal injury or property damage caused by improper handling of this product.
  - (3) We are not liable for any matter not mentioned herein unless otherwise specified in the contract.
- \* Information in this technical document is subject to change without notice.