

# ThreeBond

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ThreeBond Co., Ltd.

## Technical Data

### ThreeBond 1217M

Single component, room temperature vulcanizing, silicone sealant (Improved oily surface adhesion)

#### 1. Product description

ThreeBond 1217M is an oily surface adhering, room temperature curing (RTV) silicone sealant. After curing, becomes an excellent elastomeric rubber with heat resistance, cold resistance and oil resistance. (Hereinafter, ThreeBond is abbreviated as TB).

#### 2. Features

- (1) Excellent adhesion to oily surfaces
- (2) Excellent heat resistance and engine oil resistance
- (3) After curing, excellent follow-up displacement softness
- (4) Non-sag oxime type

#### 3. Applications

Sealing for engine oil pan, chain case, etc.

#### 4. Properties

**Table 1. Properties of TB1217M**

Test item	Unit	Property value	Test method	Remarks
Appearance	-	Black	3TS-201-02	-
Viscosity	Pa·s	280	3TS-210-08	SOD (23°C)
Specific gravity	-	1.37	3TS-213-02	23°C
Slump	-	Non-flow	3TS-212-01	-
Tack-free time	min	7	3TS-219-04	*1
Thick film curability	mm	2.0	3TS-222-94	*2

\*1 Environment conditions: (23°C, 50%RH)

\*2 Environment conditions: (23°C, 50%RH) Curing time: 24h

## 5. Cured properties

### 5.1 Cured properties

**Table 2. Cured property for TB1217M**

Test item	Unit	Property value	Test method	Remarks
Hardness	-	A45	3TS-215-01	Durometer A
Tensile strength	MPa	2.5	3TS-320-05	-
Elongation at break	%	500	3TS-320-05	-
Lap shear strength	MPa	1.6	3TS-301-23	Al/Al*

Test piece preparation conditions: (23°C, 50%RH) x 7 days

\* Al : A1050P, Adhesive thickness: 1 mm

### 5.2 Oily surface adhesion strength

**Table 3. Oily surface adhesion strength for TB1217M**

Oil concentration (wt%) *1	Unit	Property value	Test method	Remarks
0 (Degreased surface)	MPa	1.6	3TS-301-23	Al/Al *2
1		1.6		
3		1.5		
5		1.5		
7		1.4		
10		1.2		
15		1.2		

Test piece preparation conditions: (23°C, 50%RH) x 7 days

Test piece preparation method: After dipping the test piece in solution \*1, assemble at room temperature and dry for 30 minutes

\*1 Engine oil diluted with solvent      Engine oil: SM 5W-30

\*2 Al : A1050P, Adhesive thickness: 1 mm

### 5.3 Oil resistance

**Table 4. Oil resistance for TB1217M**

Test item	Unit	Property value	Test method	Remarks
Hardness	-	A18	3TS-215-01	Durometer A
Tensile strength	MPa	2.5	3TS-320-05	-
Elongation at break	%	530	3TS-320-05	-
Lap shear strength	MPa	1.5	3TS-301-23	Al/Al

Test piece preparation conditions: (23°C, 50%RH) x 7 days

Test oil : Engine oil (SM 5W-30)      Immersion conditions: 150°C×240h

## 5.4 Thermal resistance

**Table 5. Thermal resistance of TB1217M**

Test item	Unit	Property value	Test method	Remarks
Hardness	-	A45	3TS-215-01	Durometer A
Tensile strength	MPa	2.8	3TS-320-05	-
Elongation at break	%	420	3TS-320-05	-
Lap shear strength	MPa	2.0	3TS-301-23	Al/Al

Test piece preparation conditions: (23°C, 50%RH) x 7 days

Durability conditions: 150°C×240h

## 6. Usage method

- (1) Remove oil, moisture and other contaminants completely from the bonding surface.
- (2) After application, assemble parts as soon as possible.
- (3) Use the entire content as soon as possible after opening the container.

## 7. Usage precautions

- (1) Harmful to health. Do not touch directly nor inhale vapor.
- (2) Harmful to health. Do not inhale nor swallow.
- (3) While handling, use suitable protective equipment (respirator, safety glasses, protective gloves, protective clothing, etc.).
- (4) Use in a well ventilated area.
- (5) Combustible. Keep away from fire.
- (6) Keep out of reach of children.
- (7) If in eyes, rinse with clean water for at least 15 minutes, and seek medical attention.
- (8) If on skin, wipe off with cloth or paper, and thoroughly wash the affected area with soap and water.
- (9) If any bodily abnormalities occur, discontinue use and get medical attention.
- (10) Before using, sufficiently confirm whether the method of application and the purpose are appropriate.
- (11) Ascertain in advance whether or not the bonding surface will be affected. If any problem occurs, discontinue use.
- (12) Contains harmful materials. Do not use for drinking water or hot water supply piping.
- (13) For hazard and toxicity information not mentioned herein, see the material safety data sheet (MSDS).

## 8. Storage method

To prevent deterioration and foreign matter contamination, seal cap tightly. When storing, avoid direct sunlight and store in a low humidity environment at -5 to 25°C.

**9. Disposal method**

Dispose as industrial waste.

**10. Precautions**

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

This product was developed for general industrial use. Before using this product, the user must agree with the following conditions.

- The technical data described in this report are based on our company's test method specifications. These values do not represent guaranteed values.  
Also, there are no guarantees that the uses presented in this report do not infringe on any third party's intellectual property rights.
- Regarding safety validation, the user bears all responsibilities and risks associated for confirming prior to use. Absolutely do not embed this product into body by injection or as residue from medical implant applications.
- Three Bond accepts no responsibility for injuries and damages caused by improper handling of this product. If the user is uncertain about properties of this product and/or how to use it, absolutely do not use.
- Information contained herein is subject to change at our discretion.