

## TECHNICAL DATA

### ThreeBond 3042

### Ultraviolet Hardening Adhesive

**Three Bond 3042**, developed by our original technology, is a single-liquid solvent-free photostetting resin. It is designed as a highly efficient industrial material for binding and is used for electric, electronic and optical instruments as well as for various applications in other broad industrial fields.

Three Bond 3042 is drawing keen attention as a cost-effective product. Ultraviolet rays of wavelengths 300~400 nm, when irradiated from ultraviolet-ray irradiator, polymerise and set the resin to form a strong hardened substance that excels in flexibility, adhesive strength, chemical resistance, heat and cold resistance, electric properties, etc.

The single-liquid solvent-free Three Bond 3042, which sets in several seconds, does not pollute the working environment and readily automates and speeds up production processes thereby realising drastic curtailment of operation cost.

### Features

- Single liquid type resin and non-existent pot life saves working time.
- Low viscosity allows thin coating.
- Good sealing on metals.
- Excellent moisture resistance.

### Applications

- Coating material.
- To prevent stepping motor burrs.

### Characteristics

#### Before Hardening

Item	Units	Results	Remarks
Appearance	-	Clear, transparent liquid	Visual
Viscosity	mPa·s	20	25°C
Specific Gravity	-	1.07	25°C
Flash Point	°C	114	-
Ignition Point	°C	Above 200	-

All recommendations and statements are based on our research and we believe them to be reliable. We cannot guarantee the results obtained through the use of our products. All products are sold and samples are given without warranty, expressed or implied, of fitness for any particular purpose or otherwise. The user shall make his own tests to determine the suitability of the product for his purpose. No agency or representative or employee of this company is authorised to change this provision.

## After Hardening

Item	Units	Results	Remarks
Hardness	-	85	Shore 'D'
Coefficient of Thermal Expansion	$\times 10^{-5}/^{\circ}\text{C}$	21	-
Tensile Strength	MPa	59 {600}	JIS Class 2
Young's Modulus	{kgf/cm <sup>2</sup> }	590 {6000}	Dumbbell tensile
Elongation	%	5	Strength 10mm/min
Shear Strength	MPa {kgf/cm <sup>2</sup> }	3.7 {38}	PC/PC
		2.0 {20}*	AC/AC
		4.0 {41}*	Glass/Glass
		4.0 {41}*	Glass/Glass epoxy
		2.1 {21}	Glass/ABS
		1.1 {11}*	Glass/PBT
Volume Resistivity	$\Omega\cdot\text{m}$	$2.3 \times 10^{13}$	-
Water Absorption	%	+1.2	2 hr immersion
Dielectric Constant	-	3.48	1 MHz

\* Material Failure

UV illumination: 15 kJ/m<sup>2</sup>

Irradiation Time: 15 s.

Surface: Tack free

## Directions for Use

- Thoroughly wipe off foreign matter from the surface.
- Apply a proper quantity of the resin directly from the container nozzle in a manner that no air bubbles may enter. When transferring the resin to another container, avoid exposing the resin to sunlight. Transfer only the quantity that covers the day's requirement. Avoid the use of metallic containers. Opaque polyethylene or polypropylene containers are recommended.
- Irradiate with 300 to 400 nm ultraviolet rays to set the resin. Extruded resin will also set completely. There are various types of light sources. The high voltage mercury lamp is very effective for its illuminance and ultraviolet rays. Three Bond offers a wide variety of such energy-saving ultraviolet-ray irradiators and precision automatic liquid dischargers.

## Handling Precautions

1. The curing speed varies depending on the type and distance of light source.
2. Harmful. Do not inhale or ingest. In the event that this product is ingested, consult a physician immediately.
3. If using a large amount of this product or using for a long time, it is compulsory to ventilate the area well. If necessary, use mask, non-permeable gloves, and protective glasses. Ventilate well with local exhaust equipment.
4. In case of eye contact, do not blink or rub eyes. Wash under running water for about 15 minutes. Consult a physician immediately.
5. In case of abnormal reaction, stop using, consult a physician.
6. Do not use on human body.

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7. Persons with allergies or who are sensitive should not use this product.
8. In case of contact with skin, wipe with a dry cloth and wash affected area with soap and warm water.
9. Please read direction and brochure carefully before use.
10. The product colour may change upon storing or upon curing.
11. The product may react and solidify in the presence of metal, in the case of those products that has anaerobic properties, hence, do not use metal containers or nozzle.
12. If the product is transferred to another container and is not completely used, do not return unused portion into original container.
13. Depending on the material of the mating surfaces, the surface may deteriorate. Hence, confirm the effect of the product before use.
14. Keep away from children.
15. Avoid direct sunlight; store at low temperature (10 ~ 25°C).
16. Close lid tightly after use, then store.
17. Do not incinerate, emits poisonous gas. Disposal should be handled by hazardous waste disposal professionals.
18. This product is flammable. Please take the necessary precautions in storage and handling (refer to MSDS).
19. Clean the bonding area before use.
20. For industrial use only.

## Packaging

250g plastic containers with nozzle  
1 kg wide-mouthed plastic container

## Shelf Life

9 months when stored at 10 ~ 35°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 our test methods. 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.

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