

Medical Equipment Related Products



Approach to medical field

At ThreeBond, we offer products that support medical device fields. This includes development of adhesives for a wide variety of conditions and requirements in addition to an ISO 10993-compliant (biological evaluation of medical devices) product lineup.

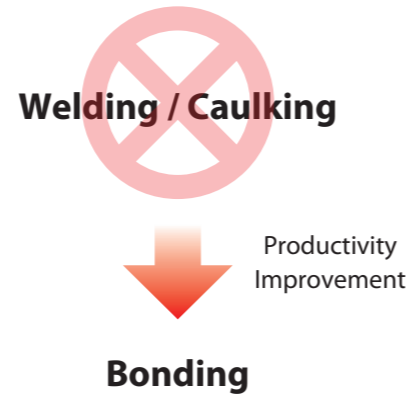
Medical Device Field Background

In recent years, demand for medical devices and other products that enrich medical services, reduce medical facility labor, properly manage inventory and otherwise provide on-site support continues to expand. There has been a massive increase in the manufacture of disposable medical products such as injection needles and catheter tubes, and improvements in line takt continue along with a shift toward adhesive for parts that had once been bonded by caulking or welding.

Development Concept

At ThreeBond, we are planning products and proportion design to be ISO 10993-compliant (biological evaluation of medical devices) using low-irritation and low-toxicity materials. Additionally, as recent years see UV-LED irradiators grow in popularity, we have been engaged in design of products that cure while still conserving energy.

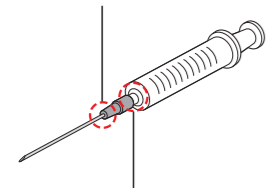
Since ISO 10993 is not a standard for guaranteeing conformity, but a standard indicating guidelines for biological evaluation, the expression "compliance" is appropriate rather than "acquisition / certification".



Adoption in Medical Equipment Fields

Injection Needles

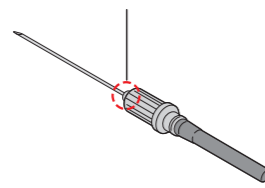
Bonding needles to their bases (TB2202C, TB3042B)



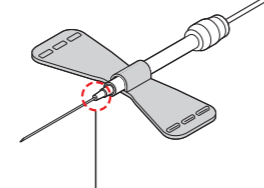
Seals for joint leakage (TB3031J, etc.)

Indwelling and Blood Collection Needles

Bonding needles to their bases (TB3094 Series)

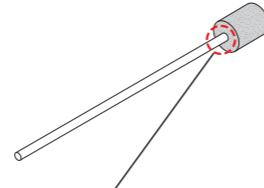


Winged Infusion Needles



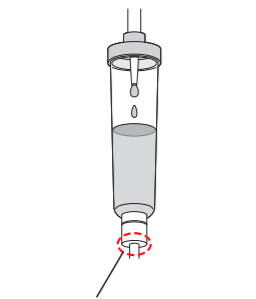
Bonding needles to their bases (TB3094 Series)

Swabs



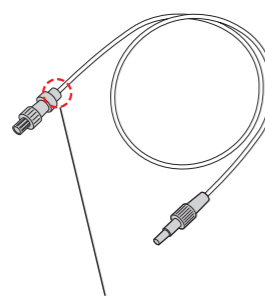
Attaching spindles to sponges (TB1533F, TB1771M, TB7797, etc.)

Drip Tubes



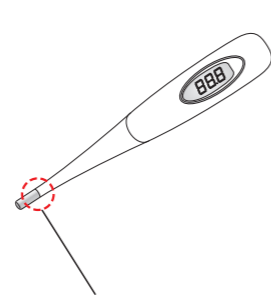
Bonding connectors to tubes (TB1773E)

Medical Tubes



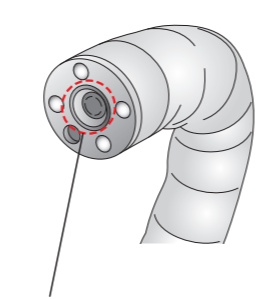
Bonding connectors to tubes (TB3017F, TB3171C, TB3177)

Thermometers



Securing measurement part caps (two-component epoxy adhesive)

Endoscopes



Securing lenses (TB2202C, two-component epoxy adhesive etc.)

* ThreeBond is abbreviated to TB.

Epoxy Resins

Epoxy resins boast powerful adhesive strength and chemical resistance. ThreeBond offers a lineup with a variety of types, such as high thermal adhesion and low temperature curing.

[Product Outline / Lineup]

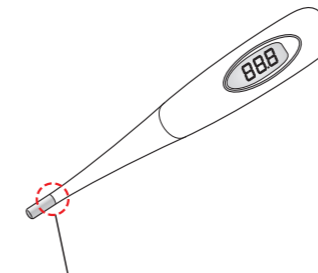
1. Resins boast high adhesive strength, as well as excellent chemical resistance and mechanical strength.
2. Types include single-component heat-curing and two-component room temperature curing.



Product	Color	Viscosity	Hardness	Volume	Features
TB2086M	Light yellow	(base agent) 13Pa·s (curing agent) 10Pa·s	11Pa·s D85	50g, 200g set	Two-component type that cures quickly at low temperature
TB2087	Light yellow	(base agent) 13Pa·s (curing agent) 30Pa·s	21Pa·s D70	90g set	Two-component type for structural bonding
TB2088E	Yellowish brown	(base agent) 40Pa·s (curing agent) 4Pa·s	24Pa·s D82	100g set	Two-component type for high thermal adhesion (approx. 200°C)
TB2202C	White	31Pa·s	D89	1kg	ISO 10993-compliant product single-component type that cures at low temperatures
TB2235L	Black	80Pa·s	D92	1kg	Single-component type with high heat resistance and a low linear expansion coefficient

[Applications]

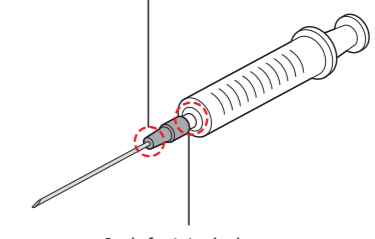
Thermometers



Securing measurement part caps

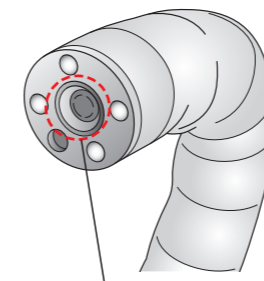
Injection Needles

Bonding and securing needles to their bases



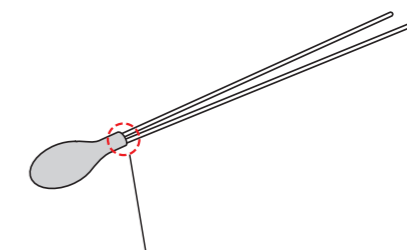
Seals for joint leakage

Endoscopes



Securing lenses and tip parts

Thermistor Sensors



Precise securing of tip parts

Instant Adhesives

ThreeBond instant adhesive is solvent free and uses cyanoacrylate as its main ingredient. It's single-component bonds and secures in just a few seconds for incredible workability. We also offer primers with UV curing or bonding to polypropylene and other materials that are difficult to bond with.



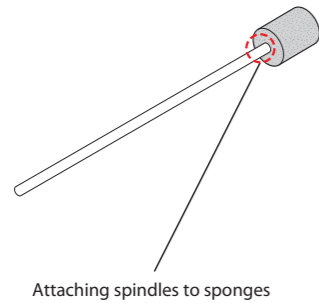
[Product Outline / Lineup]

1. Curing and securing in anywhere from several seconds to several minutes is possible.
2. Single-component with excellent workability that bonds well to metal, plastic, rubber and a variety of other materials.

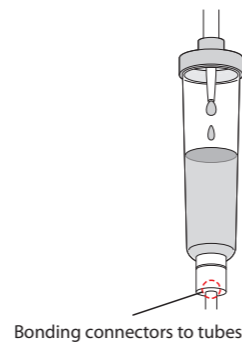
Product	Color	Viscosity	Hardness	Volume	Features
TB1771M	Light yellow	2mPa·s	D80	50g, 500g	ISO 10993-compliant product with light curing capability
TB1773E	Yellow	150mPa·s	D80	20g, 500g	Bonds well with plastics and has light curing capability
TB3177	Light yellow	1,200mPa·s	D84	20g, 1kg	ISO 10993-compliant product with light curing capability and excellent heat resistance
TB7737	Light yellow	2,000mPa·s	D50	20g, 50g	High performance and ultra-high peel strength
TB7797	Colorless	-	-	100ml	Multi-primer

[Applications]

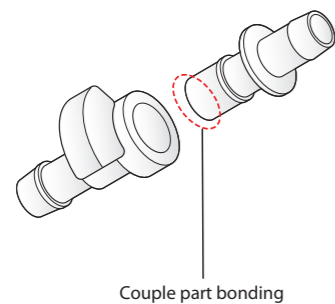
Swabs / Examination Kits



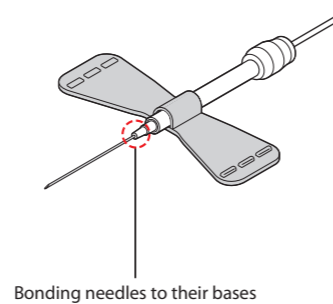
Drip Tubes



Inlet Pipes



Winged Infusion Needles



* ThreeBond is abbreviated to TB.

UV Curing Resins

UV curing resins cure in seconds, making them well-suited for disposables and other products manufactured at high volumes. The product lineup boasts adhesive strength excellent for metals, plastics and a wide range of other materials, with products that are also compatible with UV-LED.



[Product Outline / Lineup]

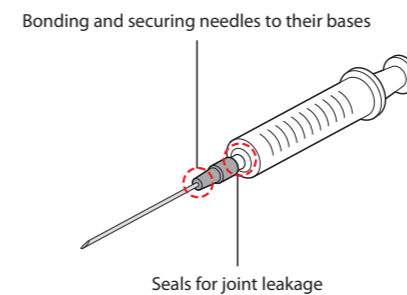
1. These are Single-component solventless type adhesives with curing in several seconds by UV light irradiation.
2. Bonds well with metal, plastic and a wide range of other materials.

Product	Color	Viscosity	Hardness	Curing of deep areas (high pressure mercury/LED)	Volume	Features
TB3017F	White	7,500mPa·s	A58	2.6mm / -	1kg	Suitable for difficult-to-bond-with olefin materials and has excellent UV-LED curability
TB3094	Light yellow	4,600mPa·s	D60	3.1mm / 1.3mm	1kg	ISO 10993-compliant product that cures deep areas well and has excellent UV-LED curability
TB3094B	Blue	150mPa·s	D75	3.6mm / 2.2mm	1kg	Low-viscosity, cures deep areas well and has excellent UV-LED curability
TB3094C	Blue	4,600mPa·s	D60	4.5mm / 1.3mm	1kg	Bonds well with plastics and has excellent UV-LED curability
TB3094F	Light yellow	220mPa·s	D72	3.2mm / 1.3mm	1kg	ISO 10993-compliant product, Bisphenol-free, Excellent UV-LED curability
TB3094G	Light yellow	2,400mPa·s	D66	3.0mm / 1.3mm	1kg	ISO 10993-compliant product, Bisphenol-free, Excellent UV-LED curability
TB3171C	Colorless	210mPa·s	D70	3.6mm / -	1kg	ISO 10993-compliant product with low viscosity that bonds well with plastics

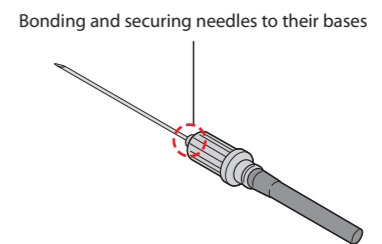
*Curing conditions: 30 kJ/m²

[Applications]

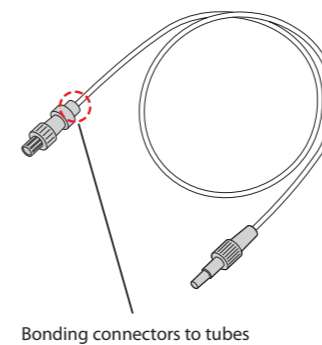
Injection Needles



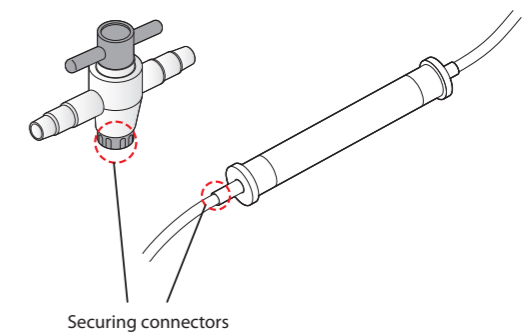
Indwelling and Blood Collection Needles



Medical Tubes



Stopcocks and Blood Filters



Elastomeric Adhesives

Solventless moisture-curing elastomeric adhesive. Single-component and solventless for excellent safety and workability. Product lineup features a variety of products, such as DBT free and even completely tin-free items.

[Product Outline / Lineup]

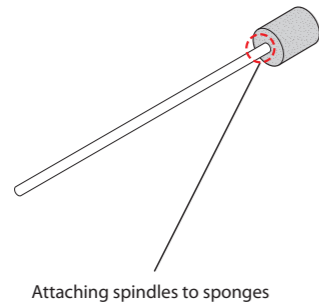
1. These are single-component type solventless moisture-curing elastomeric adhesives.
2. Bonds well to metal, plastic, rubber and a variety of other materials.



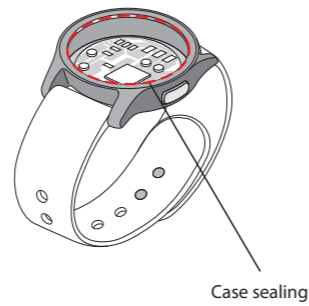
Product	Color	Viscosity	Hardness	Volume	Features
TB1530C	Light yellow	100Pa·s	A55	150g, 430g	ISO 10993-compliant product
TB1533F	Gray	180Pa·s	A25	150g	DBT-free, supports difficult-to-bond-with materials
TB1535	White	75Pa·s	A45	170g, 470g	Tin-free product
TB1535C	Colorless	30Pa·s	A37	120g	Tin-free product
TB1539B	White	100Pa·s	A70	440g	Heat and moisture curing (60°C×90min) × (23°C×80%) ×3days

[Applications]

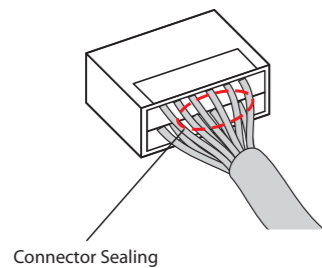
Swabs / Examination Kits



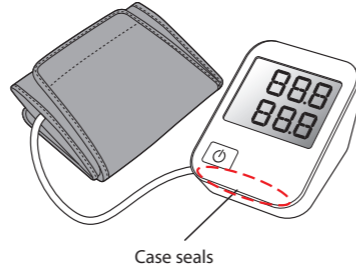
Wearable Equipment



Connector Parts



Measurement Equipment



* ThreeBond is abbreviated to TB.

Applications Equipment

ThreeBond develops and sells adhesives as well as transfer and application equipment to maximize the performance of liquid materials. We are a manufacturer with expert knowledge of adhesives, developing this equipment to reduce cost while improving productivity, product quality and the working environment.

[Product Outline / Lineup]

1. Our lineup of products improves productivity and workability.
2. Supports a variety of single and two-component material types as well as fine coating applications.

Air Dispenser

Minicoater C5



Combining an air pressure controller with a syringe and syringe adapter is the most basic setup for single-component dispense equipment. Compatible with liquid with viscosity ranges from low to high, including epoxy, silicone, UV resins as well as a variety of other adhesives, provide a wide range of use.



Outer dimensions	W190×D136×H72.5mm
Weight	1.7kg
Driving force	Clean Dry Air 0 to 0.7 MPa AC 100 to 240 V, 50 / 60 Hz
Suitable liquids	Compatible with low to high viscosity liquids *Varies by liquid product combination.

Instant adhesive dispenser

Tank with level sensor detection (PT-01E) Low volumes Fixed-quantity valve TDV Exclusive controller



Dispenser for applying difficult-to-handle instant adhesive via a diaphragm valve.



Outer dimensions	W160×D40×H90mm
Weight	650g
Driving force	Clean Dry Air 0.3 to 0.5 MPa
Suitable liquids	Instant Adhesives

Manual dispenser for low viscosity liquids

Tank for 250-g/1-kg bottle or can (PT-005/PT-01) Pen type manually operated valve (pencil gun)



This simple dispenser enables hand-operated pencil gun application of low viscosity liquids via a pressure tank. Coating is easily adjusted via air pressure of the tank and opening or closing of the pencil gun lever. Replacing materials is also simple.



Kind	Tank PT-005	Tank PT-01	Pencil gun
Outer dimensions	W149×D149×H226mm	W162×D162×H247mm	φ12×152mm
Weight	2kg	3.6kg	100g
Driving force	Clean Dry Air 0 to 0.5 MPa		
Suitable liquids	Liquid gasket, moisture-curing sealant, adhesive, single-component epoxy resin, UV-curing resin		

Instant adhesive dispenser

Tubing pump TF300mp-S



Tubing pump discharge prevents sags, leaks, and spills while ensuring liquids are used completely. Adhesive only passes through the special tube, so it can sit for several days without curing and the device can be operated quickly.



Outer dimensions	W210×D200×H87mm
Weight	3.5kg
Driving force	AC100V 50 / 60Hz
Suitable liquids	Instant Adhesives

Information on ISO10993 (biological evaluation of medical devices) compliant products

No.	Product name	Product outline	Biological safety evaluation assessment items						Sterilization resistance	
			Cytotoxicity	Skin sensitivity	Dermal irritation reaction	Acute systemic toxicity	Subacute systemic toxicity	Blood compatibility	Sterilization by UV irradiation ^{*1}	Autoclave sterilization ^{*2}
1	TB1530C	One-part moisture-curing elastic adhesive	—	○	○	—	—	—	—	—
2	TB1771M	Instant adhesive (with light-curing property)	○	○	○	○	○	○	—	—
3	TB2202C	Single Component epoxy compound resin	○	○	○	○	○	○	○	○
4	TB3094	UV curing resin	○	○	○	○	○	○	○	○
5	TB3094F	UV curing resin	○	○	○	○	○	○	○	○
6	TB3094G	UV curing resin	○	○	○	○	○	○	○	○
7	TB3171C	UV curing resin	○	○	○	○	○	○	○	○
8	TB3177	Instant adhesive (with light-curing property)	○	○	○	○	○	○	—	—

“○” in the table above indicates acquired data, “—” indicated data has not been acquired.

Refrain from using/testing products requiring exothermic, burial or blood compatibility in biological safety evaluations.

*1 After irradiating the test piece with an ultraviolet sterilization lamp (containing a wavelength of 253.7 nm in UV-C) at 1.5 W / m² (0.15 W / cm²) for 45 seconds, confirm hardness and tensile shear strength.

*2 After sterilizing the test piece at 121°C for 20 minutes, confirm the hardness and tensile shear adhesion strength.



Web Catalog



Products Video Gallery

For Industrial Use Only

Do not use this product for household purposes

This product was 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.
- Users are asked to examine whether the product is appropriate to the purpose of use and can be used safely before they use it and bear all responsibilities and hazards involved in its use. Never use the product for medical implants that may be embedded, injected or left in the body.
- We are not liable for personal injury or property damage caused by improper handling of this product. If the properties and usage of this product are unknown, never use it.
- For detailed safety information of the product, see the Safety Data Sheet (SDS). To obtain the SDS, contact our sales office or customer service center.
- Information in this technical document is subject to change at our discretion without notice.

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Creating Our Future From a Single Drop

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- With about 100 sales offices and manufacturing plants in Japan as well as 60 sales offices and manufacturing plants that are located outside of Japan, we have established a system to quickly meet the needs of our customers.

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