ThreeBond

Electronics related Products Guide

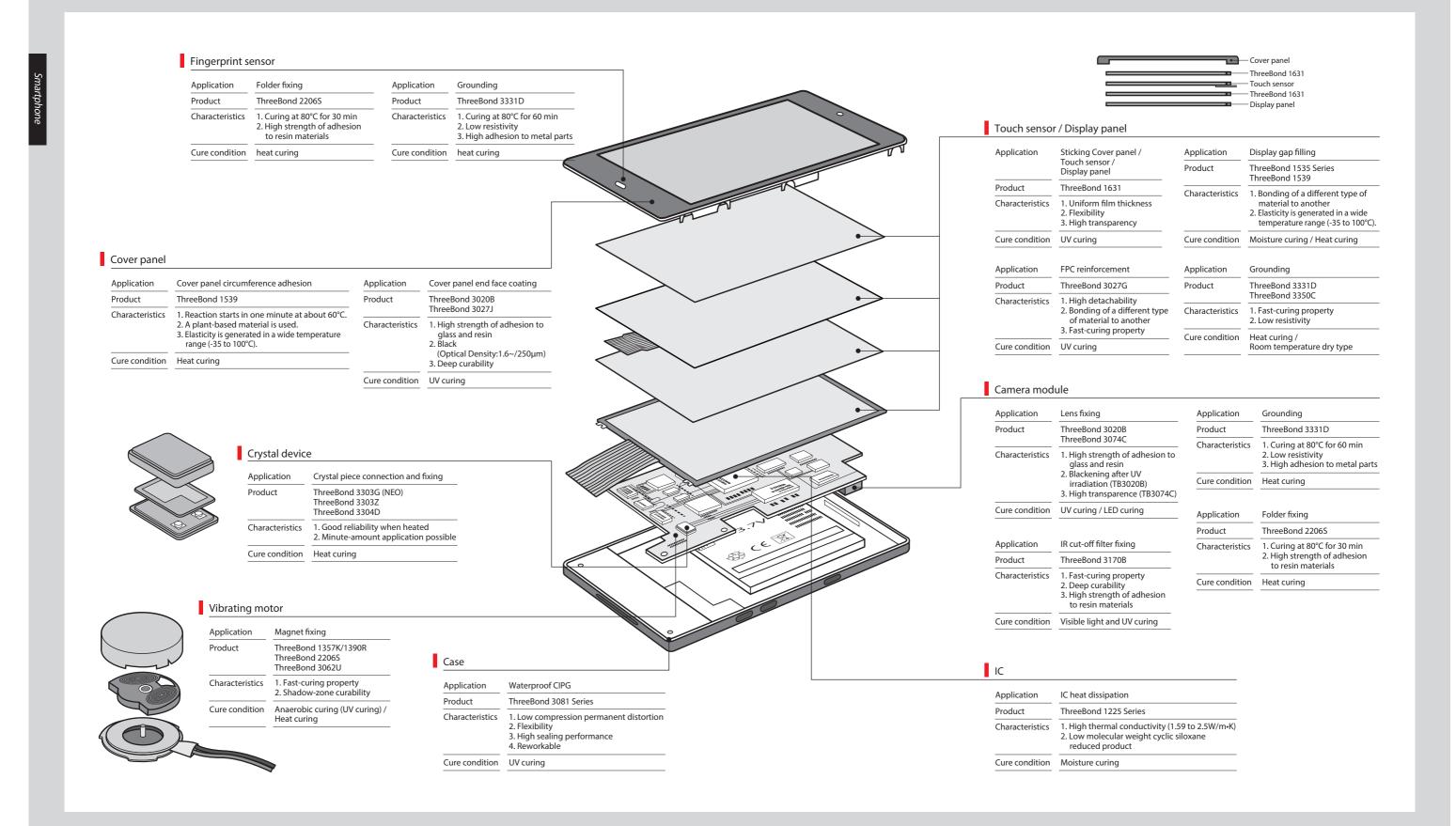


Smart phones that are now essential goods for daily living are composed of a lot of electronic components and modules.

Attachment of a touch sensor to a liquid crystal panel with a UV-curable sheet-like adhesive enables a screen to be easily watched, and use of a low-temperature curable/UV-curable sealant for connection of a cover panel

and case can produce "waterproof and drip-proof" devices.

In addition to the above that ThreeBond's products can do, the company's sealants and adhesives contribute to manufacturing of thinner, lighter, and more highly functional smart phones and their electronic components and modules.

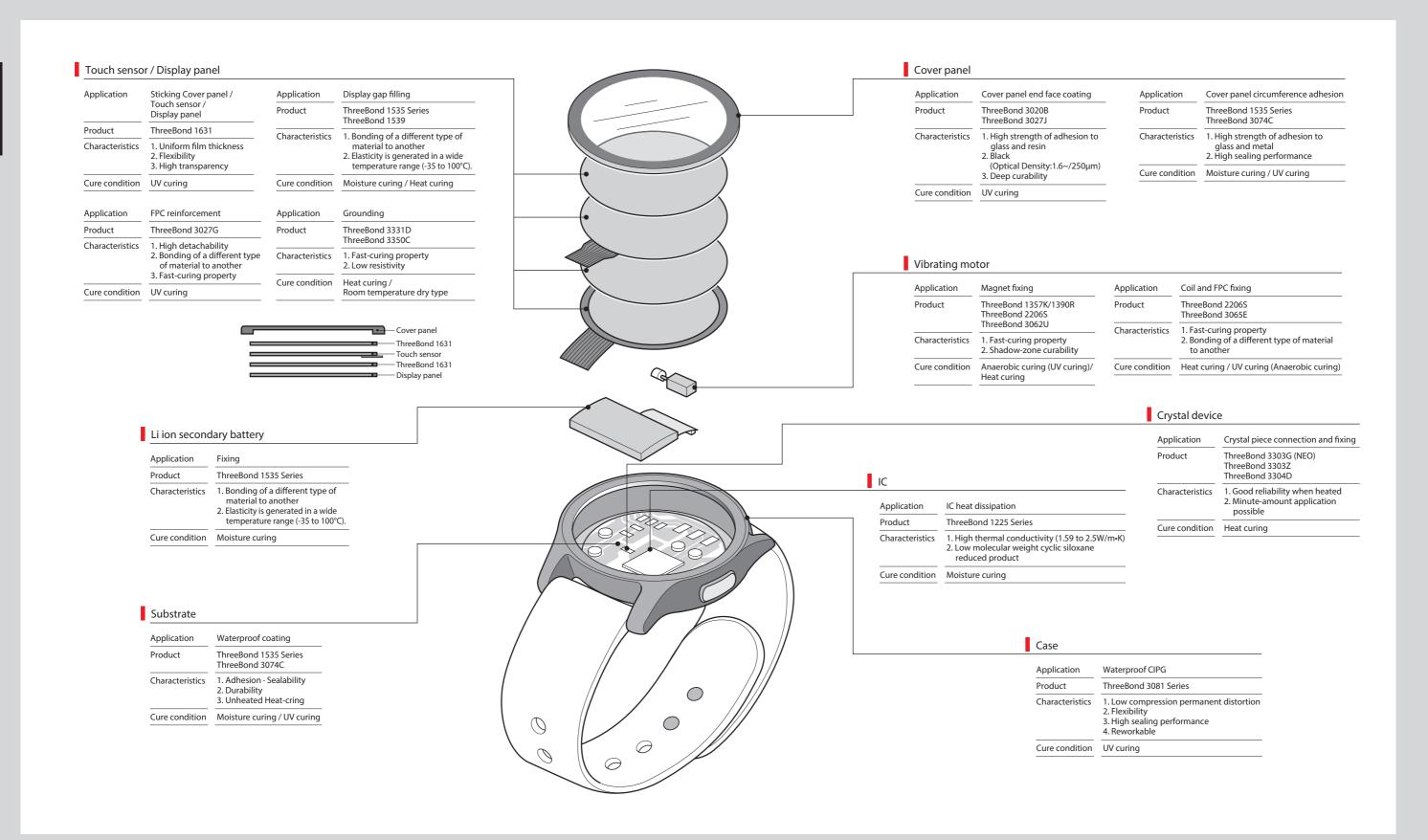


Camera Modu

Smart watches, which are growing in popularity as a next-generation device following on from smart phones and tablets, use a variety of adhesives. Electronic parts and modules that are equipped in smart watches are similar to those for smart phones and tablets, however, needs for adhesives change little by little due to downsizing.

Among them, "fine application to small-size electronic parts", "heating prevention" and "waterproofing and drip-proofing" can be named as needs.

With our technology and products that have been cultivated over many years, Threebond's sealants and adhesives can meet all needs.

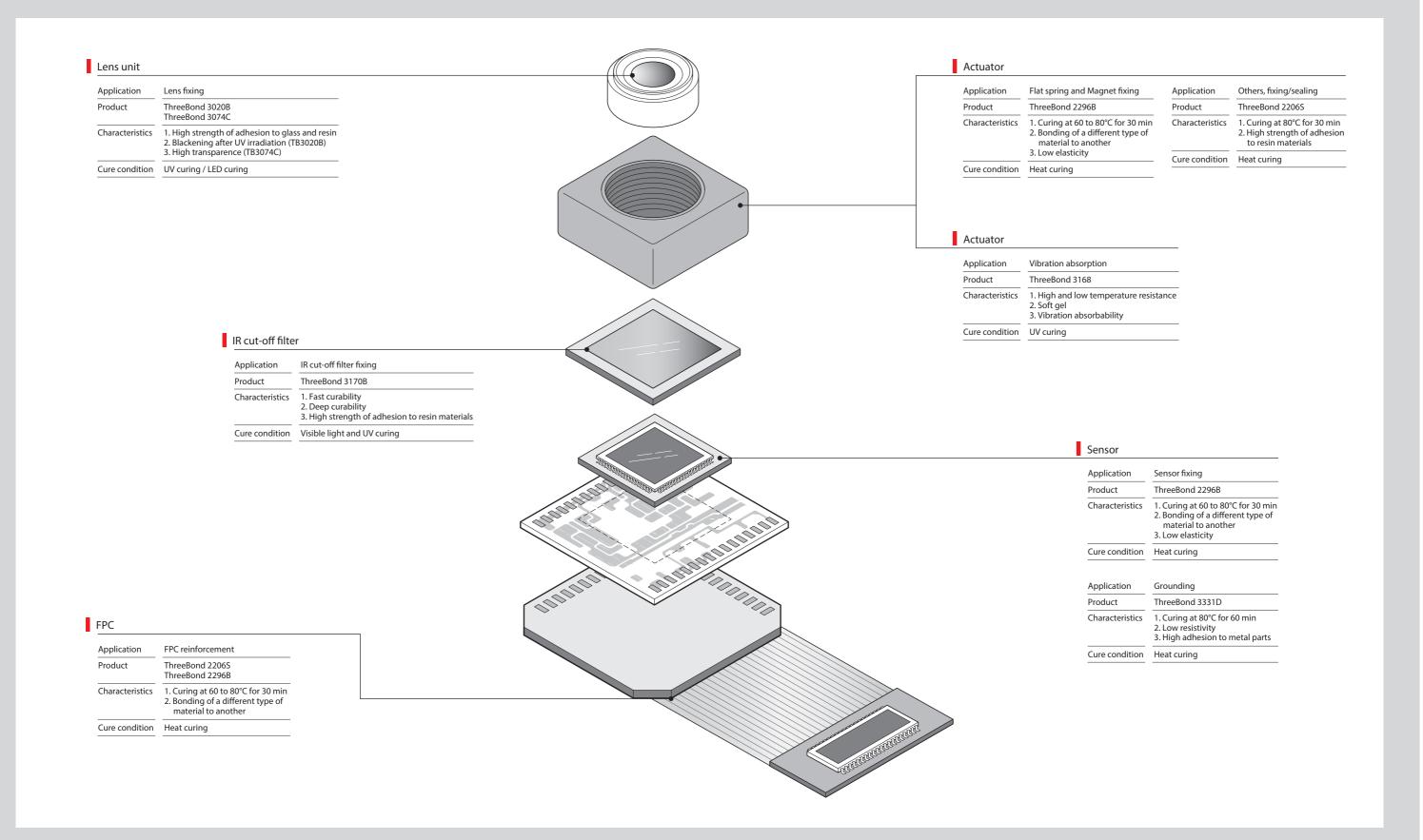


A lot of adhesives are used for small-size camera modules installed in smart phones and tablet terminals.

Since the number of manufactured small-size camera modules is large, adhesives that cure fast at low temperature are needed to shorten

manufacturing processes.

ThreeBond provides a lineup of products, each of which is suitable to a desired location, to meet customer needs.



A lot of adhesives are used for the mechanical components of cameras including a single lens reflex camera. As the design of a camera becomes smaller and thinner,

LED light source-curable adhesives are needed in order to bond a different

type of material to another, to reduce the amount of heat applied to materials, and to reduce power consumption in camera manufacturing processes.

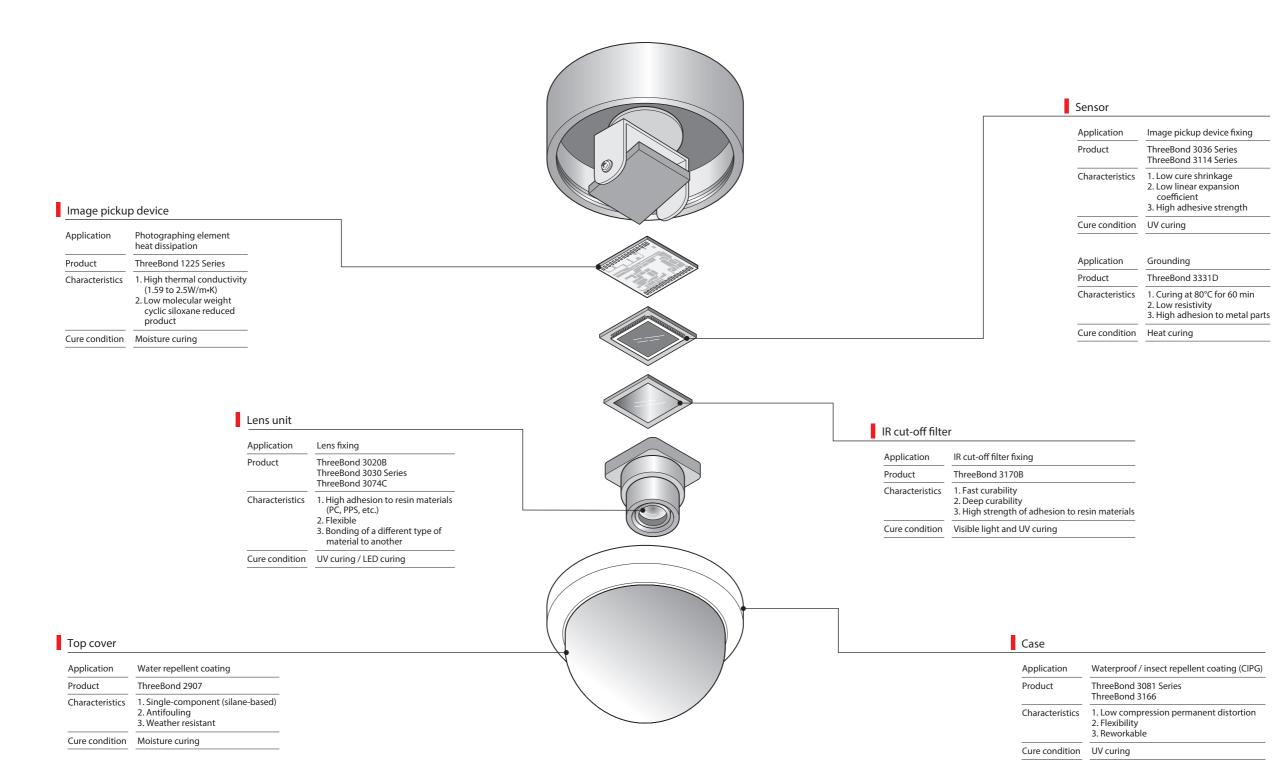
ThreeBond develops and manufactures adhesives that are the most appropriate to a customer's manufacturing processes and provide such products on a global basis.

Strobe Application Strobe periphery fixing ThreeBond 1533 Series Product ThreeBond 3164D Good impact resistance
 Bonding of a different type of Characteristics material to another 3. Shadow-zone curing possible Cure condition Moisture curing / UV curing Pentaprism Application Pentaprism fixing ThreeBond 3030 Series Product Image pickup device 1. High adhesion to resin materials (PC, PPS, etc.) Image pickup device fixing 3. Bonding of a different type of material to another ThreeBond 3036 Series ThreeBond 3114 Series Product Cure condition UV curing 1. Low cure shrinkage Characteristics Low linear expansion coefficient
 High adhesive strength Cure condition UV curing Application Photographing element heat dissipation ThreeBond 1225 Series Product ThreeBond 2955 Series Characteristics 1. High thermal conductivity (1.59 to 4.8W/m•K) Glass and resin lens 2. Low outgassing (TB 2955 Series) 3. Low molecular weight cyclic siloxane Bonding of lenses Application reduced product Product ThreeBond 3017 Series Cure condition Moisture curing ThreeBond 3020B ThreeBond 3074C Characteristics 1. High strength of adhesion to materials difficult to bond (olefin-based) Case / Lens mount 2. Good surface curability 3. Less distortion (TB 3017 Series) Waterproof CIPG Application Cure condition UV curing / LED curing Product ThreeBond 3081 Series ThreeBond 3166 1. Low compression permanent distortion Characteristics 2. Flexibility 3. Reworkable Cure condition UV curing Image stabilizer unit Vibration absorption Application AF sensor Product ThreeBond 3168 Application AF sensor fixing 1. High and low temperature resistance Characteristics Product ThreeBond 1533 Series 3. Vibration absorbability ThreeBond 3017 Series 1. Good impact resistance Cure condition UV curing Characteristics 2. Bonding of a different type of material to another 3. Shadow-zone curing possible (TB 1533 Series) Cure condition Moisture curing / UV curing / LED curing

In recent years, increasing awareness of global security has been accompanied by spreading adoption of surveillance cameras as a deterrent to crime and terrorism.

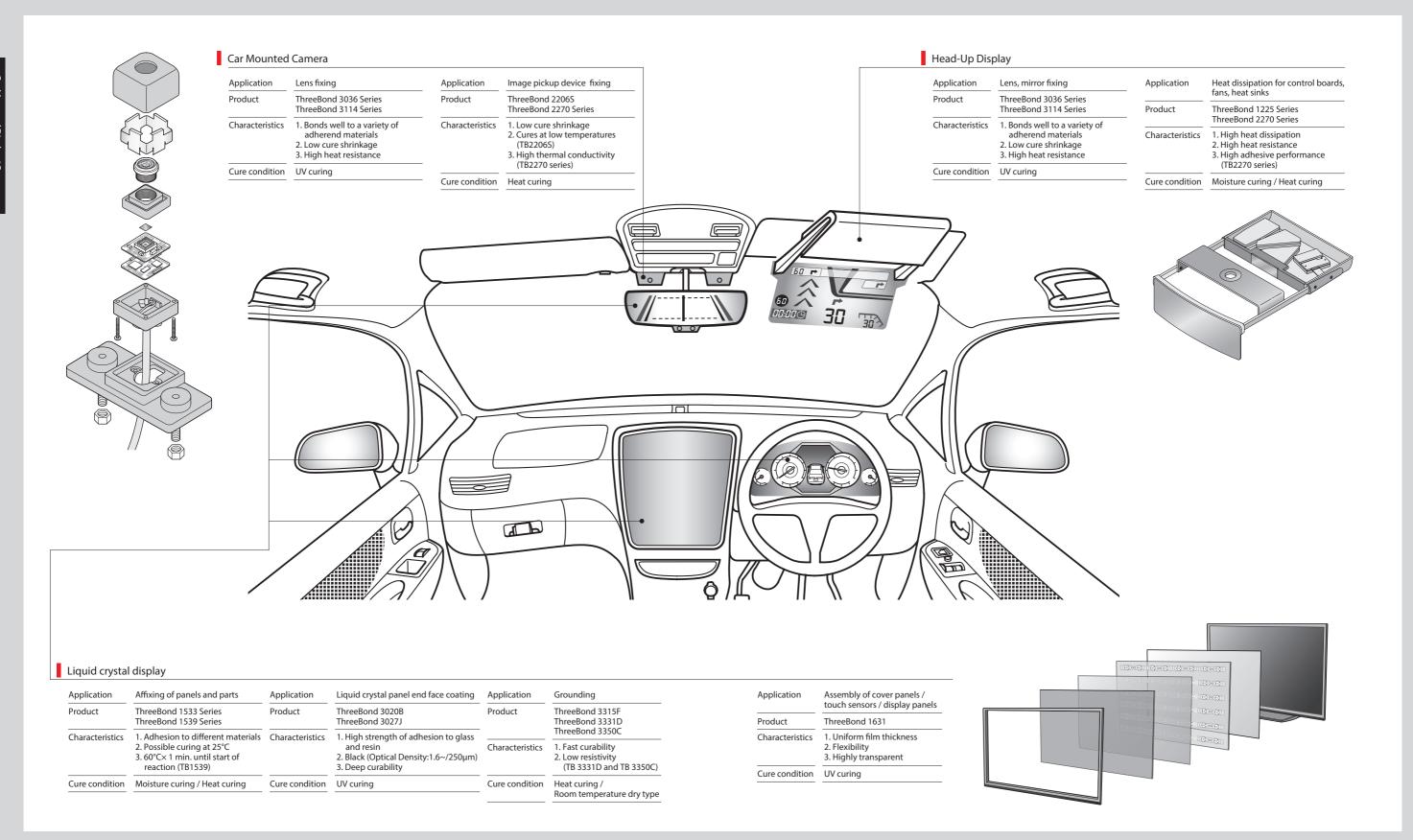
For many years, our UV-curable resin has contributed to security cameras,

mainly to the adhesive application for optical parts. Increasing numbers of pixels in recent years have brought an increasing need for "heat dissipating agents" as protection against overheating, and for "sealants" as waterproofing and protection from insects.



Car Mounted Display / Camera

The number of on-board automobile displays and cameras has continued to increase as automotive electronics and safety performance improve. In the automotive field, heat resistance and reliability must be higher than for general electronic equipment. ThreeBond utilizes our accumulated know-how to develop and produce adhesives and sealants that contribute to technological innovation in the automotive industry.



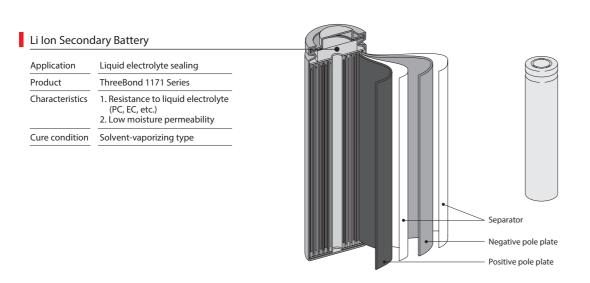
Battery

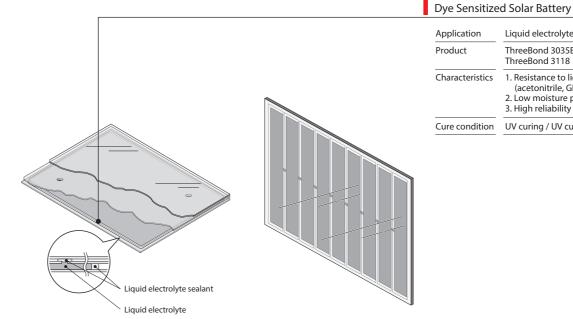
ThreeBond has commercialized a lot of sealants that are applied to the junction surface of various types of flanges, screws, etc. of transportation equipment and industrial equipment to air-tighten and seal the inner fluid. Also in the battery field, the company uses its know-how about sealants to thereby provide sealants for various types of batteries including alkaline batteries. Furthermore, in recent years, ThreeBond's sealants have been contributing to fuel cells and dye-sensitized solar cells that are paid attention to as the next-generation energy.

Li Ion Secondary Battery / Alkaline Battery

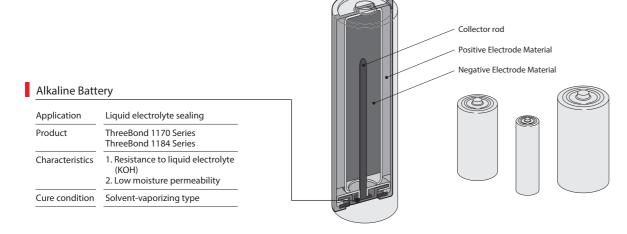
Dye Sensitized Solar Battery / Fuel Battery

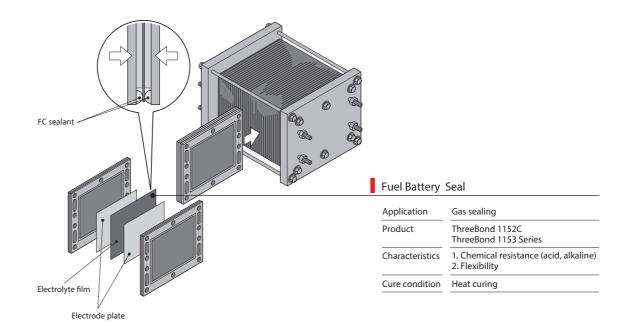
Liquid electrolyte sealing





Product ThreeBond 3035B ThreeBond 3118 Characteristics 1. Resistance to liquid electrolyte (acetonitrile, GBL, PC, 3-MPN, etc.) 2. Low moisture permeability 3. High reliability Cure condition UV curing / UV curing + Heat curing





Adhesive selection table by material

Tensile shear bond strength

Curing		Product Name	TB1220G	TB2082C	TB2087	TB2088E	TB3921/TB3926	TB3955	TB7737	TB7781
method	Materials	Conditions Unit				25°C	×24h			
	AL		1.0	12.8	3.7	3.1	1.3	2.0	20.4	14.9
	SUS304		1.0	20.4	15.4	9.4	18.2	6.2	18.2	12.2
	Ni		2.7	14.6	13.6	10.4	17.1	3.5	26.8	13.3
ature	Cu		1.0	14.7	15.6	9.9	8.3	2.9	20.3	12.7
At normal temperature	LCP	MPa	1.0	5.0	4.8	4.2	1.7	2.2	-	1.2
rmal t	PC	IVIFA	1.4	3.8	4.7	3.7	0.4	1.2	6.2	6.9
Atno	PPS		1.3	2.8	2.3	1.8	1.5	1.3	3.2	1.9
	PBT		1.8	2.7	2.7	2.0	1.7	1.4	2.4	4.3
	66 Nylon		1.3	3.8	4.9	2.6	2.1	2.3	11.9	13.1
	Glass		1.2	4.2	6.5	7.9	6.2	4.9	6.2	6.1

Curing		Product Name	TB1539	TB2202C	TB2206S	TB2212Q	TB2222P	TB2235L	TB2237J	TB2247D
method	Materials	Conditions Unit	60°C×90min	120°C×10min	80°C×30min	80°C×90min	100°C×60min	140°C×30min	120°C×60min	150°C×30min
	AL		4.3	4.3	5.2	2.5	13.0	12.4	15.0	3.2
	SUS304		2.7	15.0	12.2	9.1	25.9	20.3	24.0	28.1
	Ni		2.8	12.1	13.4	9.5	23.1	13.4	25.8	26.4
	Cu		3.3	12.6	11.4	8.1	18.1	17.9	18.0	26.0
Heating	LCP	MPa	2.2	7.3	6.1	7.8	7.7	6.2	8.0	6.4
Неа	PC	IVIPA	1.5	1.0	1.1	2.5	1.5	1.9	2.1	2.6
	PPS		1.9	3.7	2.5	2.9	5.5	3.9	5.3	5.2
	PBT		2.4	3.5	3.3	3.9	3.7	5.0	3.7	6.1
	66 Nylon		0.7	4.4	3.6	2.4	6.1	4.2	2.8	3.6
	Glass		3.5	5.9	3.9	2.4	5.2	6.5	6.0	6.0

Curing	Makadala	Product Name	TB3013Q	TB3017B	TB3017F	TB3020B	TB3027G	TB3027J	TB3033B	TB3036
method	Materials	Conditions Unit		30kJ/m² UV		60kJ/m ² UV		30kJ/	m² UV	
	AL/Glass		3.2	6.5	3.0	7.0	3.5	0.8	5.5	10.0
	SUS304/Glass		4.4	6.8	3.6	8.6	5.7	3.6	7.8	9.4
	Ni/Glass		8.5	7.8	4.2	4.9	5.1	6.4	8.4	7.5
	Cu/Glass		5.4	8.0	4.0	4.2	6.1	3.2	8.8	7.1
U	LCP/Glass	MPa	2.4	5.6	3.3	5.3	4.1	4.0	4.6	5.1
V	PC/Glass	мРа	3.6	4.0	2.7	7.1	4.3	6.3	7.5	6.4
	PPS/Glass		2.9	6.3	3.6	3.8	5.8	4.6	5.4	6.6
	PBT/Glass		1.9	4.5	2.7	4.0	4.2	2.9	2.6	3.8
	66 Nylon / Glass		4.6	6.4	3.3	3.2	3.7	4.3	5.8	4.8
	Glass/Glass		6.8	7.1	4.5	6.6	6.0	5.2	6.9	7.7

 $^{{}^*\}textit{The values shown in the characteristics table are examples from actual measurement values, not guaranteed values.}\\$

Curing	Materials	Product Name	TB1354	TB1357K	TB1533	TB1533F	TB1535	TB1535B	TB1535C	TB1535D	TB1537		
method	thod Unit		25℃	×24h		23℃×50%×168h (7day)							
	AL		0.5	0.5	5.7	1.4	5.7	5.0	8.7	3.9	0.8		
	SUS304		5.0	5.9	4.5	3.3	4.5	4.1	5.7	3.6	3.8		
	Ni		8.6	11.8	4.0	3.8	4.0	4.9	7.4	3.8	4.1		
ature	Cu		6.1	16.1	4.4	3.1	4.4	4.0	5.6	3.5	3.8		
At normal temperature	LCP	MPa	-	-	2.8	2.5	2.8	2.2	2.2	1.8	1.1		
rmal t	PC	IVIFA	-	-	3.1	3.9	3.1	2.9	5.5	1.4	2.0		
Atno	PPS		-	-	3.0	1.9	3.0	2.2	1.7	3.1	0.8		
	PBT		-	-	1.0	2.7	1.0	0.8	0.7	0.7	1.0		
	66 Nylon		-	-	3.8	4.0	3.8	3.3	4.0	2.9	3.7		
	Glass		-	-	4.3	3.1	4.3	3.5	3.8	2.9	3.4		

Curing	Materials	Product Name	TB2270J	TB2285	TB2296B	
method	materials	Conditions Unit	100°C×40min	120°C×60min	80°C×30min	
	AL		6.7	4.8	3.9	
	SUS304		8.8	18.1	18.3	
	Ni		5.4	17.7	21.8	
	Cu		7.0	15.3	21.3	
Heating	LCP		8.0	7.3	4.6	
Heal	PC	MPa	1.0	1.5	3.1	
	PPS		4.0	4.9	2.0	
	PBT		4.4	5.1	1.9	
	66 Nylon		2.1	5.7	3.0	
	Glass		3.3	7.1	7.3	

Curing		Product Name	TB3301W	TB3303G (NEO)		
method	Materials	Conditions Unit	120°C×60min	180°C×60min	80°C×60min	
	Au		19.2	3.3	16.5	
	AL		2.8	1.8	7.6	
Heating	Cu	MPa	13.6	2.5	18.3	
Ĭ	SUS		12.1	3.6	13.0	
	Ni		18.7	3.4	16.1	

^{*} Chip bond strength (ceramic chip)

Curing	Makadala	Product Name	TB3036G	TB3056F	TB3062U	TB3065E	TB3074C	TB3114	TB3114J	TB3164D	TB3170B
method	Materials	Conditions Unit					30kJ/m² UV				
	AL/Glass		4.7	0.3	4.7	0.4	2.6	2.5	1.7	-	7.0
	SUS304/Glass		6.2	2.7	7.3	7.9	5.4	7.8	4.1	2.6	9.9
	Ni/Glass		7.9	3.7	8.2	9.0	4.7	6.4	4.4	-	10.1
	Cu/Glass		7.4	0.9	8.4	8.6	5.8	5.8	2.6	2.1	10.0
U	LCP/Glass	MPa	4.6	3.1	3.9	4.0	5.5	3.5	5.4	1.4	6.4
V	PC/Glass	INIPA	4.0	3.6	7.1	8.3	3.9	6.1	2.1	3.1	7.4
	PPS/Glass		5.2	3.6	6.6	5.1	6.1	4.8	4.6	3.4	7.0
	PBT/Glass		3.9	3.1	2.8	2.9	3.9	6.7	4.8	2.4	4.5
	66 Nylon/Glass		6.0	3.7	5.0	7.5	3.0	5.1	1.5	2.9	3.7
	Glass/Glass		7.3	2.1	9.8	7.0	6.7	7.7	4.2	5.8	1.2

For Smart Phones and Smart Watches

Product name	Volume	Characteristics
ThreeBond 1225B	250g	White/18Pa•s/Moisture-curable heat-radiating resin 1.59W/m•K
ThreeBond 1225C	250g	Gray/70Pa-s/high reliability heat dissipating resin 2.5W/m-K
ThreeBond 1354D	250g	Blue/For fitting adhesion/1.0Pa•s/With UV curing added
ThreeBond 1357K	250g	Blue/Interview wear/10Pa+s/UV curing imparted, fluorescent agent (blue imparted), low halogen product
ThreeBond 1359G	50g • 250g	Blue/For surface adhesion/23Pa•s/With UV curability added
ThreeBond 1390R	500ml	Blue-greenish transparent/Curing accelerating agent for anaerobic sealing adhesives (ethanol type)
ThreeBond 1530C	150g • 430g	Translucent/100Pa·s/Elastic adhesive/ISO 10993 Compliant
ThreeBond 1535	170g	White/75Pa-s/Elastic adhesive Tin-free product
ThreeBond 1535B	170g	Black/90Pa-s/Elastic adhesive Tin-free product
ThreeBond 1535C	120g	Colorless transparent/30Pa•s/Elastic adhesive Tin-free product
ThreeBond 1535D	150g	Gray/25Pa•s/Elastic adhesive Tin-free product
ThreeBond 1539	100g • 440g	Black/100Pa-s/Single-component elastic adhesive that cures by heat fast at low temperature, plant-based (castor oil) polymer
ThreeBond 1539B	440g	White/100Pa-s/Single-component elastic adhesive that cures by heat fast at low temperature, plant-based (castor oil) polymer
ThreeBond 1631 (30μm~)	1,320mm×200m	Colorless transparent/From 30 µm/UV-curable, flexibility, visible light-transmissive, light resistance
ThreeBond 2206S	30g • 1kg	Black/15Pa+s/Curing at 80°C for 30 min, low halogen product
ThreeBond 2296B	10g	Black/18.5Pa•s/Curing at 60°C for 30 min, low-halogen product
ThreeBond 3020B	30g	Pale yellow/3.5Pa+s/Formation of black cured product after irradiation with ultraviolet (365 nm), Low halogen product
ThreeBond 3027G	1kg	Light yellow/1.8Pa•s/For FPC reinforcement, flexibility, low water absorption
ThreeBond 3027J	1kg	Black/2.4Pa+s/Light blocking type, fast-curing type, low halogen product
ThreeBond 3062U	250g	Light yellow to brown/1.0Pa+s/Flexibility, adhesion of a different type of material to another
ThreeBond 3065E	250g	Light yellowish transparent/7.0Pa•s/For surface adhesion (3 sec when set in combination with ThreeBond 1390F)
ThreeBond 3074C	30g	Colorless/7.0Pa•s/non yellowing ultraviolet curable resin, refractive index 1.517, low halogen type
ThreeBond 3081L	370g	Gray white/70Pa-s/elastic sealant, heat resistance/good cold resistance, suitable for UV-CIPG applications
ThreeBond 3081P	350g	Light yellow/400Pa•s/elastic sealant, heat resistance/good cold resistance, suitable for UV-CIPG applications
ThreeBond 3170B	50g	Light yellow/1.8Pa+s/For bonding optical components, visible light-curable, acrylic resin-based
ThreeBond 3303G (NEO)	50g	Single-component heat-curable adhesive/For quartz oscillators, Au electrode, Ag electrode, good adhesion, slow-drying type, silicone-based
ThreeBond 3303Z	40g	Single-component heat-curable adhesive/For quartz oscillators, Extra thin coatability, silicone type
ThreeBond 3304D	50g	Single-component heat-curable adhesive/For quartz oscillators, Extra thin coatability, silicone type
ThreeBond 3331D	10g	Silver/25Pa-s/one-component thermosetting conductive resin, cured at 80°C for 60 minutes, low halogen product
ThreeBond 3350C	30g	Conductive silver paint/room temperature dry type, low resistance type

For Camera Modules

Product name	Volume	Characteristics
ThreeBond 2206S	30g • 1kg	Black/15Pa+s/Curing at 80°C for 30 min, low halogen product
ThreeBond 2296B	10g	Black/18.5Pa+s/Curing at 60°C for 30 min, low-halogen product
ThreeBond 3020B	30g	Pale yellow/3.5Pa-s/Formation of black cured product after irradiation with ultraviolet (365 nm), Low halogen product
ThreeBond 3074C	30g	Colorless/7.0Pa•s/non yellowing ultraviolet curable resin, refractive index 1.517, low halogen product
ThreeBond 3168	500g	White/15Pa-s/damper agent
ThreeBond 3170B	50g	Light yellow/1.8Pa+s/For bonding optical components, visible light-curable, acrylic type
ThreeBond 3331D	10g	Silver/25Pa+s/one-component thermosetting conductive resin, cured at 80°C for 60 minutes, low halogen product

For Digital Cameras

For Digital Carrieras		
Product name	Volume	Characteristics
ThreeBond 1225B	250g	White/18Pa-s/Moisture-curable heat-radiating resin 1.59W/m•K
ThreeBond 1225C	250g	Gray/70Pa+s/high reliability heat dissipating resin 2.5W/m+K
ThreeBond 1533	150g	White/100Pa-s/Elastic adhesive, DBT-free product
ThreeBond 1533C	150g	Translucent/100Pa+s/Elastic adhesive, DBT-free product
ThreeBond 1533D	150g	Gray/22Pa•s/Elastic adhesive, DBT-free product
ThreeBond 1533F	150g	Gray/180Pa•s/Elastic adhesive, DBT-free product
ThreeBond 1535	170g	White/75Pa-s/Elastic adhesive, Tin-free product
ThreeBond 1535C	120g	Colorless transparent/30Pa+s/Elastic adhesive, Tin-free product
ThreeBond 2955P	250g	Gray/120Pa•s/Moisture-curable heat-radiating resin 4.8W/m•k
ThreeBond 2955Q	250g	Gray/103Pa-s/Moisture-curable heat-radiating resin 4.5W/m-k
ThreeBond 3017D	250g	White/13Pa-s/Lens fixing, soft type, speedy curing, LED-curable, low-halogen product
ThreeBond 3017E	250g	White/25Pa-s/Good adhesion to materials difficult to bond, LED-curable, low-halogen product
ThreeBond 3017F	250g	White/7.5Pa+s/Good adhesion to materials difficult to bond, LED-curable, low-halogen product
ThreeBond 3020B	30g	Pale yellow/3.5Pa-s/Formation of black cured product after irradiation with ultraviolet (365 nm), low halogen product
ThreeBond 3030	330ml • 1kg	Milky white/16.5Pa+s/for bonding optical components, flexible
ThreeBond 3033B	333ml	Milky white/35Pa-s/Flexibility, heat cycle resistance, high adhesive strength
ThreeBond 3036	500g	Gray white/35Pa•s/for bonding optical components, low linear expansion, acrylic type
ThreeBond 3036G	250g	White/29Pa-s/Suitable for adhesion to various plastics, LED-curable
ThreeBond 3074C	30g	Colorless/7.0Pa+s/non yellowing ultraviolet curable resin, refractive index 1.517, low halogen product
ThreeBond 3114	250g	Gray white/26Pa-s/for bonding optical components, low curing shrinkage, epoxy type
ThreeBond 3114J	1kg	White/25Pa-s/for bonding optical components, low curing shrinkage, heat resistance LED-curable, epoxy type
ThreeBond 3164D	330ml	Pale white/10Pa+s/UV- and moisture-curable silicone, potting agent
ThreeBond 3168	500g	White/15Pa-s/damper agent

For Surveillance Camera

Product name	Volume	Characteristics
ThreeBond 1225B	250g	White/18Pa-s/Moisture-curable heat-radiating resin 1.59W/m•K
ThreeBond 2907	1kg	Colorless to light yellow/one-component water repellent coating agent, drying time within 90 minutes
ThreeBond 3020B	30g	Pale yellow/3.5Pa+s/Formation of black cured product after irradiation with ultraviolet (365 nm), low halogen product
ThreeBond 3030	330ml • 1kg	Milky white/16.5Pa•s/for bonding optical components, flexible
ThreeBond 3033B	333ml	Milky white/35Pa-s/flexibility, heat cycle resistance, high adhesive strength
ThreeBond 3036	500g	Gray white/35Pa-s/for bonding optical components, low linear expansion, acrylic type
ThreeBond 3036G	250g	White/29Pa-s/Suitable for adhesion to various plastics, LED-curable
ThreeBond 3074C	30g	Colorless/7.0Pa•s/non yellowing ultraviolet curable resin, refractive index 1.517, low halogen type
ThreeBond 3081L	370g	Gray white/70Pa-s/elastic sealing agent, heat resistance/good cold resistance, suitable for UV-CIPG applications, acrylic type
ThreeBond 3081P	350g	Light yellow/400Pa•s/elastic sealant, heat resistance/good cold resistance, suitable for UV-CIPG applications, acrylic type
ThreeBond 3114	250g	Gray white/26Pa-s/for bonding optical components, low curing shrinkage, epoxy type
ThreeBond 3114J	1kg	White/25Pa-s/for bonding optical components, low curing shrinkage, heat resistance, LED-curable, epoxy type
ThreeBond 3166	330g	Blue/330Pa-s/elastic sealant, good heat resistance/moisture resistance, suitable for UV-CIPG applications, silicone type
ThreeBond 3170B	50g	Pale yellow/1.8Pa-s/for bonding optical components, visible light curing property, acrylic type
ThreeBond 3331D	10g	Silver/25Pa•s/one-component thermosetting conductive resin, cured at 80°C for 60 min, low halogen product

For Car Mounted Display / Camera

1 of cal Moantea Display		
Product name	Volume	Characteristics
ThreeBond 1225B	250g	White/18Pa-s/Moisture-curable heat-radiating resin 1.59W/m•K
ThreeBond 1225C	250g	Gray/70Pa•s/high reliability heat dissipating resin 2.5W/m•K
ThreeBond 1530C	150g • 430g	Translucent/100Pa•s/Elastic adhesive/ISO 10993 Compliant
ThreeBond 1535	170g	White/75Pa+s/Elastic adhesive Tin-free product
ThreeBond 1535B	170g	Black/90Pa+s/Elastic adhesive Tin-free product
ThreeBond 1535C	120g	Colorless transparent/30Pa-s/Elastic adhesive Tin-free product
ThreeBond 1535D	150g	Gray/25Pa•s/Elastic adhesive Tin-free product
ThreeBond 1539	100g • 440g	Black/100Pa-s/Single-component elastic adhesive that cures by heat fast at low temperature, plant-based (castor oil) polymer
ThreeBond 1539B	440g	White/100Pa+s/Single-component elastic adhesive that cures by heat fast at low temperature, plant-based (castor oil) polymer
ThreeBond 1631 (30µm~)	1,320mm×200m	Colorless transparent/From 30 µm/UV-curable, flexibility, visible light-transmissive, light resistance
ThreeBond 2206S	30g • 1kg	Black/15Pa•s/Curing at 80°C for 30 min, low halogen product
ThreeBond 2270J	1kg	White/150Pa-s/Single-component heat-curing heat dissipating resin 4.2W/m-k, heat resistance, high adhesive strength
ThreeBond 3020B	30g	Pale yellow/3.5Pa+s/Formation of black cured product after irradiation with ultraviolet (365 nm), Low halogen product
ThreeBond 3027G	1kg	Pale yellow/1.8Pa•s/For FPC reinforcement, flexibility, low water absorption
ThreeBond 3027J	1kg	Black/2.4Pa+s/Light blocking type, fast-curing type, low halogen product
ThreeBond 3036	500g	Gray white/35Pa+s/for bonding optical components, low linear expansion, acrylic type
ThreeBond 3036G	250g	White/29Pa+s/Suitable for adhesion to various plastics, LED-curable
ThreeBond 3114	250g	Gray white/26Pa+s/for bonding optical components, low curing shrinkage, epoxy type
ThreeBond 3114J	1kg	White/25Pa-s/for bonding optical components, low curing shrinkage, heat resistance, LED-curable, epoxy type
ThreeBond 3315F	1kg	Conductive carbon resin/Low temperature-curable, spot bonding, flexibility
ThreeBond 3331D	10g	Silver/25Pa•s/one-component thermosetting conductive resin, cured at 80°C for 60 min, low halogen product
ThreeBond 3350C	30g	Conductive silver paint/room temperature dry type, low resistance type

For Batteries

Product name	Volume	Characteristics
ThreeBond 1152C	330ml	Milky white/650Pa+s/Heat-curable olefin-based sealant/Gas barrier property/Good moisture permeability
ThreeBond 1153C	330ml	Gray/1700Pa-s/Heat-curable olefin-based sealant/Gas barrier property/Good moisture permeability
ThreeBond 1153D	330ml	Gray/560Pa+s/Heat-curable olefin-based sealant/Gas barrier property/Good moisture permeability
ThreeBond 1171F	15kg	Black/1.8Pa•s/Lithium battery sealant
ThreeBond 1171G	1L	Colorless transparent/600mPa-s/Lithium battery sealant *Scheduled to be released in 2019
ThreeBond 1184E	1kg	Black/8.5Pa+s/Black of ThreeBond 1184
ThreeBond 3035B	100g	White/51Pa+s/Dye-sensitized solar cell sealant
ThreeBond 3118	100g	White/86Pa-s/Dye-sensitized solar cell sealant

For General Purposes Related to Electrics and Electronics

Product name	Volume	Characteristics
ThreeBond 1220G	100g	Milky white/65Pa-s/alcohol-releasing type
ThreeBond 1234B	330ml	Gray/400Pa-s/Single-component heat-curable silicone, high adhesion, high durability
ThreeBond 1537	200g	White/55Pa-s/Elastic adhesive/UL94 V-0 certified product
ThreeBond 1771E	50g	Yellow/2.0mPa+s/Light curability added type instantaneous adhesive
ThreeBond 1773E	20g • 500g	Yellow/150mPa•s/Light curability added type instantaneous adhesive
ThreeBond 2081D	200g SET	Main agent: Light yellowish white/Curing agent: Brownish transparent, for bonding soft vinyl chloride materia
ThreeBond 2082C	200g SET	Main agent: White/Curing agent: Brownish transparent, for high shearing adhesion
ThreeBond 2086M	50ml SET 200g SET	Main agent: Colorless and transparent/Curing agent: Light yellowish transparent, low-viscosity fast-curing typ
ThreeBond 2087	90g SET	Main agent: Light yellow/Curing agent: Light yellow, normal-temperature-curing type for structures
ThreeBond 2088E	100g SET	Main agent: Yellowish transparent/Curing agent: Yellowish brown and transparent, High thermal adhesivenes
ThreeBond 2202C	1kg	White/27Pa-s/Low-temperature curable type/ISO 10993 Compliant
ThreeBond 2212B	1kg	Black/25Pa•s/Curing at 80°C for 30 min, for potting
ThreeBond 2212C	1kg	Reddish brown/25Pa•s/Curing at 80°C for 30 min, for potting
ThreeBond 2212Q	1kg	Black/15Pa•s/Low-halogen product
ThreeBond 2222P	1kg	Black/45Pa-s/Curing at 100°C for 60 min, impact-resistant type
ThreeBond 2235L	1kg	Black/80Pa-s/Curing at 140°C for 30 min, high heat resistance, low linear expansion
ThreeBond 22371	1kg	White/115Pa-s/Curing at 120°C for 60 min, high heat resistance, high adhesive strength
ThreeBond 2247D	3kg	Milky white/45Pa-s/Curing at 150°C for 30 min, high peel strength
ThreeBond 2285	1kg	Milky white/140Pa-s/Curing at 120°C for 60 min, heat resistance
ThreeBond 3013Q	1kg	Blue/23Pa-s/Potting of electric and electronic components, rubber elasticity, heat resistance, oil resistance
ThreeBond 3017B	500g	
	-	Milky white/16Pa-s/Good adhesion to materials difficult to bond, good moisture resistance
ThreeBond 3042B	1kg	Colorless and transparent/500mPa+s/General-use type, good transparency, fast curing
ThreeBond 3042C	250g	Colorless and transparent/1500mPa•s/General-use type, good transparency, fast curing
ThreeBond 3056F	350g	Greenish transparent/6.0Pa·s/With moisture-curability added, suitable for bonding and sealing
ThreeBond 3056K	333ml	Greenish transparent/3.6Pa·s/With moisture-curability added, suitable for bonding and sealing
ThreeBond 3161	330ml	Light yellow/3.0Pa+s/UV- and moisture-curable silicone
ThreeBond 3177	20g	Yellowish transparent/1.2Pa-s/With moisture-curability added, moisture resistance, good heat resistance, ISO 10993 Complian
ThreeBond 3301F	200g	Single-component heat-curable adhesive/diluted-solvent type of ThreeBond 3301E, epoxy-based
ThreeBond 3301W	200g	Single-component heat-curable adhesive/Silver/35Pa•s/Curing at 120°C for 60 min
ThreeBond 3380	60g SET	Two-component normal-temperature-curable adhesive/Silver paste, epoxy-based
ThreeBond 3381	500g SET	Two-component normal-temperature-curable adhesive/Nickel paste, acrylic resin-based
ThreeBond 3921	250g • 1kg	Red/5.1Pa-s/Less-odor acrylic resin-based structural adhesive main agent, good adhesion to a wide variety of materials
ThreeBond 3923	1kg	Pale white/3.0Pa+s/Honeymoon-type acrylic resin-based structural adhesive main agent, good heat resistance
ThreeBond 3926	250g • 1kg	Blue/5.1Pa-s/Less-odor acrylic resin-based structural adhesive curing agent, good adhesion to a wide variety of material
ThreeBond 3928	1kg	Green/3.0Pa•s/Honeymoon-type acrylic resin-based structural adhesive curing agent, good heat resistance
ThreeBond 3955	50ml SET	Agent A, Agent B/Two-component low-elasticity fast-curing acrylic resin/high heat resistance, high moisture resistance
ThreeBond 7721	20g	Colorless to light yellowish transparent/5.0mPa•s/Non-whitening type
ThreeBond 7737	20g	Light yellowish transparent/2.0Pa-s/Extremely high peel strength, impact-resistant type
ThreeBond 7738	20g	Light yellowish transparent/5.0Pa-s/Extremely high peel strength, impact-resistant type
ThreeBond 7741	20g	Light yellowish transparent/2.0mPa+s/Standard type
ThreeBond 7781	20g	Light yellowish transparent/2.0mPa+s/Extremely-fast-curing type
ThreeBond 7782	20g	Light yellowish transparent/15mPa+s/Extremely-fast-curing type
ThreeBond 7784	20g	Light yellowish transparent/160mPa+s/Extremely-fast-curing type
ThreeBond 7785	20g	Light yellowish transparent/500mPa•s/Extremely-fast-curing type
ThreeBond 7786	20g	Light yellowish transparent/1.0Pa-s/Extremely-fast-curing type
ThreeBond 7789	20g	Light yellowish transparent/Gel/Extremely-fast-curing type
ThreeBond 7796	100ml	Curing accelerating agent/Faint-odor type
	_	

Application Equipment Sector

TB1100,1200 series

- A lineup of devices that can handle small-amount and large-amount sealants and
- -They are suitable for the bead application of solvent-volatilization-type and moisture-curable-type liquid gaskets.
- Dispensers that can apply a fixed quantity of a sealant and an adhesive without
- A unit that can reduce the amount of a remaining liquid agent in a pail is available as an option. (Some conditions must be met.)

TB1300 series

- Lineup of products for improvement of productivity and workability
- -The RTM and RTM-H Series enable products that meet customer requirements to be designed and manufactured.
- * RTM...Rotary Transfer Motor
- * RTA-H...Rotary Transfer Air-motor by Hand

Tube





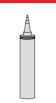
Air gun for tubes

When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible.



Tank for tubes Dispenser for tanks (Minicoater C5)

The amount of injection is adjusted by injection time and tank pressure. Automatic application by the machine is possible.





Cartridge pump (ACB-20) Pen-shaped manual open/close valve (pencil gun)

This dispenser is excellent in high-speed injection and operability as the result of combination of a high pressure-feeding cartridge pump and a pencil gun. Automatic application by the machine is impossible.



Cartridge pump (PCB-20)

This is a high-pressure feeding pump for automatic application. When it is combined with the robot, uniform linear application is possible. Automatic application by the machine is possible.



Liquid agent injection valve dedicated for surface application. RV-SN Series

This is a liquid agent injection valve for applying an agent in a surface or belt form.
Automatic application by the machine is possible.

1-kg can





Tank for a 1-kg can (PT-01) Pen-shaped manual open/close valve (pencil gun)

This dispenser is for a low-viscosity When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible.



Tank for a 1-kg can (PT-01) Needle-type automatic open/close valve (HPNV-50) Controller for the pressure feed section (Coater S4) Desktop three-orthogonal-axis robot (RT7-20)

This device pressure-feeds a liquid agent from a tank and applies the agent by controlling the open-close yalve of the nozzle section. When the dispenser is combined with the robot, it applies the agent appropriately to a programed position. Automatic application by the machine is possible.





Reciprocating pump for pails (AP-30) High-pressure flow gun (H-FLG)

This dispenser is excellent in high-speed injection and operability as the result of combination of a high-pressure feeding pump for pails and a high-pressure flow gun. Automatic application by the machine is



Single-acting pump for pails (PBIII-30/45)

This is a high-pressure feeding pump for automatic application. When it is combined with the robot, uniform linear application is possible. Automatic application by the machine is possible. Individual catalog number #8



Constant-speed injection head (fixed-quantity booster) Desktop three-orthogonal-axis robot (RT7-30)

When a high-pressure feeding pump for automatic application and a constant-speed injection head are combined with the robot, high-precision and uniform linear application that is not affected by changes in the environmental temperature is possible. Automatic application by the machine is possible.

Bottle







Transcription-type simple coating machine (Coater R)

Push the screw bolt section lightly against the circumference of the rotating rotor and coat the screw section.
Automatic application by the machine is impossible.



Dispenser for a syringe

The amount of injection is adjusted by injection time and air pressure. Automatic application by the machine is possible.



Manual rotary coating machine (RTA-H)

This is a rotary coating machine for coating the inside of a cylinder with a liquid agent manually. Automatic application by the machine is impossible.

(Individual catalog number #12)



This is a rotary coating machine for coating the inside of a cylinder with a liquid agent automatically.

Automatic application by the machine is possible.



Automatic rotary coating machine (RTM2)

* ThreeBond is abbreviated to TB.

21 | Application Equipment Sector

TB1500 series

- Lineup of products for improvement of productivity and workability
- Applicators suitable to a wide range of adhesives, such as solvent-volatilization type, moisture-curable type, and aqueous pressure-sensitive type, can be selected.

TB1700, 7700 series

- Application of an instantaneous adhesive that is difficult to handle is automated, which enables a work environment and application quality to be improved.

* TDV...Triple Diaphragm Valve





Air gun for tubes (PG-100T)

When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible.



Tank for tubes Dispenser for tanks (Minicoater C5)

The amount of injection is adjusted by injection time and tank pressure. Automatic application by the machine is possible.

Cartridge





Air gun for tubes (PG-100C)

When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible.



Cartridge-type tank (LVCT-AC) Diaphragm-type automatic open/close valve (HPNV-50) Controller for the pressure feed section

(coater S4)
Desktop three-orthogonal-axis robot (RT7-20)

It pressure-feeds a liquid agent from the cartridge and controls the open/close valve to apply the agent. When the controller is combined with the robot, it apply the agent to a programed position. Automatic application by the machine is possible.



Liquid agent injection valve dedicated for surface application. RV-SN Series

Automatic application by the machine is possible.

1-kg can





Tank for a 1-kg can (PT-01) Pen-shaped manual open/close valve (pencil gun)

This dispenser is for a low-viscosity liquid agent.
When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible.



Tank for a 1-kg can (PT-01) Needle-type automatic open/close valve (HPNV-50) Controller for the pressure feed section (Coater S4) Desktop three-orthogonal-axis robot (RT7-20)

This device pressure-feeds a liquid agent from a tank and applies the agent by controlling the open/close valve of the nozzle section. When the dispenser is combined with the robot, it applies the agent appropriately to a programed position.

Automatic application by the machine is possible.





TB 1530 exclusive power booster (DBP-40)

This is a diaphragm pump-method power booster without a sliding part where it comes in contact with the liquid. Therefore, it is possible to stream a liquid agent stably without any sticking or resulting increases in resistance.

Bottle





Tubing pump (TF300mp-S)

This dispenser is suitable to a low-viscosity minute-amount injection. Automatic application by the machine is impossible.



Tank with remaining amount detection (PT-01E)
Minute-quantity and
fixed-quantity valve TDV
Dedicated controller

This is a highly durable and stable dispenser for injecting a minute amount of agent.

Automatic application by the machine is possible.

- Lineup of products for improvement of productivity and workability
- Applicators are available for each of the single-component type and the two-component type.
- The two-component type can be set, according to a mixing ratio.

TB3000, 3100 series

- UV-curing type, anaerobic-curing type, and moisture-curing type
- Applicators for each of the above types are available.
- Auxiliary equipment needed for the process from application to curing is available.
- Equipment suitable for CIPG application (design of a special-purpose machine)

* CIPG...Cured in Place Gasket

Twin cartridge





Hand gun for two-component

This hand gun mixes a two-component liquid agent with its static nozzle and injects it. Automatic application by the machine is impossible. (Individual catalog number #18)

1-kg can





Dispenser for a syringe (Minicoater C5)

The amount of injection is adjusted by injection time and air pressure. Automatic application by the machine is possible.



Tank for a 1-kg can (PT-01) Pen-shaped manual open/close valve (pencil gun)

This dispenser is for a low-viscosity liquid agent.
When the lever of the gun is gripped, an agent is injected. Automatic application by the machine is impossible.



Tank for a 1-kg can (PT-01) Needle-type automatic open/close valve (HPNV-50) Controller for the pressure feed section (Coater S4) Desktop three-orthogonal-axis robot (RT7-20)

This device pressure-feeds a liquid agent from a tank and applies the agent by controlling the open/close valve of the nozzle section. When the dispenser is combined with the robot, it applies the agent appropriately to a programed position.
Automatic application by the machine is possible.



Liquid agent injection valve dedicated for surface application. RV-SN Series

This is a liquid agent injection valve for applying an agent in a surface or belt form.
Automatic application by the machine is possible.



One-component dispenser with a gear pump/ Two-components-mixing dispenser

This dispenser pressure-feeds an agent with its gear pump. It pressure-feeds each of two liquids with the gear pump and mix them with the dynamic mixer to inject the mixture. This is manufactured, according to specifications, such as a mixing ratio and injection speed. Automatic application by the machine is possible.



Pump for 1-kg cans

This is a pump for high-pressure feeding of liquid agents loaded in a 1 kg metal can. 1 kg cans of liquid agent can be opened with a can opener and set to the pump without transferring liquid.







Reciprocating pump for pails (AP-30) High-pressure flow gun (H-FLG)

This dispenser is excellent in high-speed injection and operability as the result of combination of a high-pressure feeding pump for pails and a high-pressure flow gun. gun. Automatic application by the machine is



Single-acting pump for pails (PBIII-30/45)

This is a high-pressure feeding pump for automatic application. When it is combined with the robot, uniform linear application is possible.

Automatic application by the machine is possible.





Dispenser for a syringe (Minicoater C5)

The amount of injection is adjusted by injection time and air pressure.
Automatic application by the machine is possible.

250-g/1-kg bottle





Tank for a 1-kg can (PT-01) Pen-shaped manual open/close valve (pencil gun)

This dispenser is for a low-viscosity liquid agent.
When the lever of the gun is gripped, an agent is injected.
Automatic application by the machine is impossible. Individual catalog number #3

Cartridge





Air gun for tubes (PG-100C)

When the lever of the gun is gripped, an agent is injected. Automatic application by the machine is



Cartridge-type tank (LVCT-AC) Diaphragm-type automatic open/close valve (HPNV-50)

Controller for the pressure feed section (coater S4)
Desktop three-orthogonal-axis robot (RT7-20)

It pressure-feeds a liquid agent from the cartridge and controls the open/close valve to apply the agent. When the controller is combined with the robot, it apply the agent to a programed position. Automatic application by the machine is possible.



Liquid agent injection valve dedicated for surface application. RV-SN Series

This is a liquid agent injection valve for applying an agent in a surface or belt form.

Automatic application by the machine is possible.

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.
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A global network to meet customer needs in 60 locations including: Mexico, Brazil, France, the UK, Germany, Italy, the Czech Republic, Singapore, Thailand, Malaysia, the Philippines, India, Indonesia, China, Taiwan, Korea, Australia, and Japan.

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