ThreeBond

3000/3100 Series

UV Curing Resin

3000/3100 Series

UV Curing Resin

These are single-component solventless type adhesives with curing in several seconds by UV light irradiation.
They have excellent adhesion to various materials such as metals, plastics, and glass, and are used for many purposes including bonding, sealing, casting, and coating of electric and electronic devices, automobile parts, optical parts, and, accessories, etc.
There are many variations available including acrylate-based, epoxy-based, and silicone-based products, and there are grades with different curability including visible-light-curing, anaerobic curing, heat-curing, moisture-curing, and primer curing in addition to curing under UV light. Therefore, it is possible to cure portions that do not receive UV light and to bond materials that do not transmit UV light.
There are many grades available according to physical properties including a type that forms a tough cured material with high hardness and a type that forms a flexible cured material with rubber elasticity.

■ Applicable markets

Transportation Equipment | Electrical and Electronics | Industrial Materials and Public Works | Automotive Aftermarket

3013
This is soft with excellent impact strength.
It is used for bonding optical pick-up lenses and optical parts.
There are variations available according to viscosity, curing characteristics, adhesion characteristics, etc.

3013Q
This uses acrylic rubber polymer as the main component and forms a rubber-like elastic body with excellent heat and chemical resistance.
It maintains rubber elasticity in a wide temperature range, and continuous usage is possible at approximately 120°C (Est.).
It has excellent chemical resistance for engine oil and AT oil, so it is used for electrical device adhesion, sealing, etc.

3017
This is soft with high peel-strength adhesiveness.
It has excellent adhesion with difficult-to-bond materials such as PET and PPS, PEN (polyethylene naphthalate), and olefin-based materials.
It forms a cured material with a low water absorption rate and low moisture permeability.
There are grades with different viscosities.

3017D
3017E
3017F
This forms a soft cured material with excellent surface curability.
It has good adhesion with difficult-to-bond materials such as olefin-based materials, and is used for bonding optical parts.
It also has LED curing capability.
This is a low-halogen product.
There are grades with different viscosities.

3020B
This is colored and formed into a black hardened material by ultraviolet radiation.
It is used for exterior coating of electric/electronic parts, and coating or adhesion of parts that require sealing.

3026 Series
This is an exclusive product for sealing of liquid crystal filling ports of LCD panels that has excellent adhesion to glass.
There are variations available according to viscosity, curing characteristics, adhesion characteristics, etc.

3027G
This is an electrode-protection molding grade product with low water absorption.
It is used as a protective agent for ITO electrodes of LCD panels.
The balance of the cured material strength and adhesion was adjusted, and therefore, it can be removed.
We have also low halogen content type, 3027H.

3030
3031J
3034
This has flexibility and has excellent adhesion with plastic materials.
It is used for electric and electronic devices and optical parts.
There are variations available according to viscosity, curing characteristics, adhesion characteristics, etc.

3035B
This is a sealant for dye-sensitized solar cells with low moisture permeability and resistance to liquid electrolytes. It can be used for main sealing and end sealing.

3036G
This forms a cured material with small cure shrinkage and a low linear expansion coefficient.
It is used for fixing optical parts requiring accurate positioning such as optical pick-up parts.
There are variations available according to viscosity, curing characteristics, adhesion characteristics, etc.
It also has LED curing capability.

3042 Series
This has excellent adhesion with glass and metal.
It forms a transparent cured material with excellent surface curability.
There are products with different viscosities and colors available.

3046
This forms a water soluble cured material with strong adhesion to glass.
It is possible to peel using water after bonding, so it is used for temporary fixing during the cutting process for products that use glass and quartz.
There are grades with different viscosities.

3049
It is made in part using resources of biological origin (biomass), and is certified with the Biomass Mark (45% biomass) by the Japan Organics Recycling Association.
It has low viscosity and excellent workability.
It also has LED curing capability. This is an adhesive that can contribute to reducing environmental impact.

3055
This is a type with primer curing property that can be cured in shaded areas, etc. during UV light irradiation by using the primer.
It has excellent adhesion strength and durability.
It is used for bonding motor magnets and fixing of pin lead with LCDs. There are products with different colors available.

3056F
3056K
It is moisture curing ability added type.
It can be cured by moisture in the air even in the shadow area.
It has excellent adhesion with glass, metals, and plastics.
It is used for bonding, sealing, and coating of electric and electronic parts.

3057
This is a type with heat-curing property that can be cured in shaded areas, etc., during UV light irradiation.
It has excellent adhesion with metal.
There are grades with different viscosities, and the low-viscosity grade is used as a coating agent for preventing burrs of a stepping motor when grinding.

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3062 / 3064E / 3065E

This is a type with anaerobic curing property that can be quickly cured in the small gap of metal surfaces which is shaded during UV light irradiation.
It has excellent adhesion with glass, metal and plastic, and it is used for bonding motor magnets and electrical parts.
There are many variations available according to viscosity, curing characteristics, and adhesion characteristics, etc.

3074C

This has a great transparency, and forms hardened material with minimal yellowing by heating.
It is suitable to adhesion of optical parts and transparent materials, and protective coating of control boards.
It is of a low halogen grade.

3114 / 3114J

This is a UV curing resin that uses epoxy resin as the main component.
It has small cure shrinkage, and is used for fixing optical parts that require accurate positioning such as optical pick-up parts and CMOS.
There are grades with different characteristics including a low halogen grade.

3118

This is a sealant for dye-sensitized solar cells with low moisture permeability and excellent resistance to liquid electrolytes. It can be used for main sealing.

3075

This forms a soft, transparent cured material with excellent surface curability.
It has excellent crack resistance and is used as a soft coat material for nameplates and accessories.

3081J / 3081L

This forms a rubber-like elastic body, and is used as a precure type CIPG (on-site formed gasket).
It has rubber elasticity over a wide temperature range, and has excellent sealability due to its small compression set.
It also has excellent shape retention during application, and is used for electrical parts.

3121D

This has low cure shrinkage, and forms a soft cured material.
It can bond wide variety of materials such as glasses, metals, plastics, etc., and it is used to fix optical parts such as camera lens parts.

3161 / 3163 / 3164D

This is a UV curing resin that uses silicone resin as the main component.
It cures by UV light irradiation and humidity, forming a rubber-like elastic body.
It has excellent heat resistance, freeze resistance, and heat cycle resistance, and also has excellent adhesion to engineering plastics.
With its low content of low-molecular siloxane, the product is free from contact failures.

3084

This is an exclusive product for correcting the balance of rotating bodies such as motors and polygon mirrors (balancing resins).
It forms a cured material with high specific gravity that has shape retention during application.

3088 / 3088B

This is a two-component type product. In addition to UV light irradiation, it can also be quickly cured by two-component mixture reaction, so there is no need to worry about it being uncured in shaded areas or about thickness restrictions.
It can be used for potting sensors and for coating, etc., in shaded areas.
There is a soft type and a hard type available.

3168E

This is a UV curing resin that uses silicone resin as the main component.
It becomes a soft gel cured material with excellent vibration absorption.
It is suitable as a damping agent for optical pick-up parts and camera module Voice Coil Motor.

3170B

This is a visible-light-curing resin. It can be cured by visible light in addition to UV light, so bonding is possible even with UV-cutting transparent materials.
It has excellent adhesion with glass, metals, and plastics.
It is used for electric and electronic devices and optical parts.
There are grades with different characteristics including a low halogen grade.

3094 / 3094B / 3094F / 3094G

These have great adhesiveness on plastic materials such as polycarbonates, and are used for medical instruments, such as adhesion of a syringe and hub.
They are suited to LED hardening.
3094,3094F and 3094G is a ISO10993 (biological safety evaluation) compliant product.
3094F and 3094G are bisphenol-free products.
3094B is a blue low viscosity type.

3095F

This is a primer for difficult-to-bond materials such as polypropylene.
Through irradiation with UV rays after application, surfaces can be modified and adhesive strength can be improved.
This is a ISO10993 (biological safety evaluation) compliant product.

3176B

This is a single-component solventless elastic resin that uses a silyl-containing special polymer as its main component.
Triggered by UV irradiation with wavelengths of 300 to 365 nm, it starts curing by reacting with traces of moisture in the air.
This low-halogen product has a total chlorine content of less than 900 ppm, a total bromine content of less than 900 ppm, and combined chlorine and bromine content of less than 1,500 ppm.

3177

This is a UV curing resin and instant adhesive hybrid type product.
It cures by visible light, and has excellent adhesion for a wide range of materials including metals, plastics, and rubber.
It has excellent moisture resistance and heat resistance, so it can be used outdoors.
ISO10993 (biological safety evaluation) compliant product.

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UV Curing Resin

Property Table

Product name		3003J	3006D	3006F	3013	3013B	3013D	3013M	3013Q		3013Z	3014	3014C	3015F	3016	3016H	3017	3017B	3017D	3017E	3017F
Characteristics	Unit																				
Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acryl rubber		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Additional curability		-	Heating	-	-	-	-	-	-		Heating	-	-	-	-	-	-	-	-	-	-
Features		Low viscosity Flexibility	Rubber elasticity Heat resistance	Rubber elasticity Heat resistance Oil resistance	Soft Impact strength	Soft Impact strength	Soft Impact strength	Soft Impact strength	Rubber elasticity Heat resistance Oil resistance		Soft Heat resistance Oil resistance	Soft Impact strength	Soft Impact strength Moisture resistance	Low cure shrinkage Low linear expansion coefficient	Rubber-like cured material Thick film curing	Rubber-like cured material Thick film curing	Low moisture permeability Peel strength	Low moisture permeability Peel strength	Compatible with LED light sources Adhesion strength with difficult-to-bond materials Low halogen content	Adhesion strength with difficult-to-bond materials Low halogen content	Adhesion strength with difficult-to-bond materials Low halogen content
Main usages		Sealing/ potting of terminals and screws	Wire harness, Connector, Automotive electronics, Electricalparts	Wire harness connection, electrical components, potting of electrical and electronic parts	Optical pick-up lens Optical part	Optical pick-up lens Optical part	Optical pick-up lens Optical part	Optical pick-up lens Optical part	Automotive electronics Electrical part potting		Adhesion/ sealing of wire harness, connectors, and electrical components	Optical pick-up lens Optical part	Optical pick-up lens Optical part	Optical pick-up PD/LD Optical part	Electrical part potting Soft material adhesion	Electrical part potting	Difficult-to-bond materials such as PET, PEN, and PPS	Difficult-to-bond materials such as PET, PEN, and PPS	Olefin-based difficult-to-bond materials Optical part	Olefin-based difficult-to-bond materials Optical part	Olefin-based difficult-to-bond materials Optical part
Appearance		Colorless transparent to Light yellow transparent	Blue transparent	Blue transparent	Light yellow	Pale greenish brown	Light green	Blue	Blue transparent		Yellow	Light yellow transparent	Milky white	White	Light blue	Light blue	Yellow transparent	Milky white	White	White	White
Viscosity	Pa•s	1.3	2.0	2.3	6.0	1.0	-	8.5	23.0		2.0	17.0	10.0	14.1	20.0	20.0	46.0	16.0	13.0	25.0	7.5
	mPa•s	-	-	-	-	-	680	-	-		-	-	-	-	-	-	-	-	-	-	-
Specific gravity		1.11	1.07	1.07	1.00	1.02	1.03	1.01	1.11		1.20	0.99	1.06	1.57	1.18	1.17	0.87	1.05	0.93	0.93	0.93
Curing conditions (Cumulative light intensity)	kJ/m^2	30	30	30	30	30	30	30	45		30	30	20	30	30	30	60	30	30	30	30
Physical characteristics after curing: Hardness		A93	A50	A67	A90 to 95	A90	A90	-	A32		A60	A80 to 85	A50	-	A25	A37	A20	A40	A41	A35	A58
		-	-	-	D20	-	D50	D42	-		-	-	-	D86	-	-	-	-	-	-	-
Physical characteristics after curing: Volume resistivity	Ω·m	1.2×10^{15}	2.6×10^{8}	2.2×10^{9}	2.1×10^{11}	2.0×10^{11}	2.0×10^{11}	-	9.4×10^{9}		2.7×10^{11}	8.5×10^{10}	3.9×10^{12}	-	3.8×10^{12}	5.8×10^{15}	-	1.0×10^{13}	-	-	-
Physical characteristics after curing: Dielectric breakdown strength	kV/mm	26	30	27	-	-	-	-	21		23	-	12.4	-	-	-	-	22.1	-	-	-
Tensile shear bond strength: Glass/Glass	MPa	6.5	5.3	5.0	-	-	-	-	-		5.5	-	-	-	-	4.8	-	-	-	-	-
Tensile shear bond strength: Glass/Acrylic	MPa	6.8	3.1	4.5	-	-	-	-	-		5.1	-	-	-	-	4.2	-	-	-	-	-
Tensile shear bond strength: Glass/Polycarbonate	MPa	7.0	4.0	3.6	-	-	-	-	-		3.9	-	-	-	-	3.3	-	-	-	-	-
Tensile shear bond strength: Glass/Glass epoxy	MPa	6.8	5.2	4.4	-	-	-	-	-		4.9	-	-	-	-	2.8	-	-	-	-	-
Tensile shear bond strength: Glass/ABS	MPa	7.0	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Tensile shear bond strength: Glass/LCP	MPa	4.1	-	-	-	-	-	4.9	-		-	-	-	-	-	2.1	-	-	-	-	-
Tensile shear bond strength: Glass/Iron	MPa	6.7	5.3	3.9	(Material failure)	(Material failure)	-	-	4.1		6.3	(Material failure)	-	-	-	2.1	-	-	-	-	-
Tensile shear bond strength: Glass/Aluminum	MPa	6.7	6.1	3.1	-	-	-	-	2.8		5.4	-	-	-	3.4	2.3	-	-	-	-	-
Tensile shear bond strength: Glass/Stainless steel	MPa	7.7	5.2	4.0	-	-	-	-	5.1		3.4	-	-	-	5.5	2.1	-	-	-	-	-
Tensile shear bond strength: Polycarbonate/ Polycarbonate	MPa	6.2	-	-	-	-	-	-	-		-	-	2.0	-	-	-	-	-	-	-	-
Remark(s)							Improved curability from TB3013B		Exellent engine oil and AT oil resistance Continuous use at approx. 120℃		Emits fluorescence with black light				Blue after curing	Blue after curing	PET/ Aluminum Peel strength : 1.1kN·m	PET/ Aluminum Peel strength : 1.2kN·m	ZEONEX ®/ LCP adhesion : 1.0MPa Low-halogen product	ZEONEX ®/ LCP adhesion : 1.0MPa Low-halogen product	ZEONEX ®/ LCP adhesion : 2.0MPa Low-halogen product

* - : Unmeasured
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UV Curing Resin

Property Table

Product name		3018	3020B	3021J	3026B	3026E	3026G	3026J	3027G		3027H	3027J	3030	3030B	3031J	3033B	3033G	3033L	3034	3035B	3036
Characteristics	Unit																				
Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Additional curability		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Features		Soft Thick film curing	Blackening by UV radiation	Excellent surface curability Excellent transparency	Exclusive product for liquid crystal panel end sealing	Exclusive product for liquid crystal panel end sealing	Exclusive product for liquid crystal panel end sealing	Exclusive product for liquid crystal panel end sealing	Low water absorption rate Good repairability		Low water absorption rate, flexible, good visibility	Low halogen Light blocking type	Flexibility Heat cycle resistance Strong adhesiveness	Low viscosity Flexibility	Curing in low light intensity	Flexibility Heat cycle resistance Strong adhesiveness	Thixolabile Flexibility Strong adhesiveness	Thixolabile Flexibility Strong adhesiveness	Excellent moisture resistance Strong adhesiveness Screen printing	Sealant for dye-sensitized solar cells	Low cure shrinkage Low linear expansion coefficient
Main usages		Electrical part potting Soft material adhesion	Coating for exteriors such as for electrical and electronic parts	Bonding Coating	Liquid crystal panel end sealing	Liquid crystal panel end sealing	Liquid crystal panel end sealing	Liquid crystal panel end sealing	Display panel ITO electrode molding		Display panel ITO electrode molding Low halogen	Liquid crystal panel, light blocking/ adhesion of end faces	Plastic bonding Optical part	Lens bonding Glass bonding	Electronic device potting	Engineering plastics bonding Optical part	Adhesion/ fixing of electrical and electronic parts	Adhesion/ fixing of electrical and electronic parts	Engineering plastics bonding	Main sealing / end sealing of dye-sensitized solar cells	Optical pick-up lens Optical part
Appearance		Colorless	Light yellow	Light yellow transparent	Milky white	Colorless	Light yellow transparent	Faint brown transparent	Light yellow transparent		Red	Black	Milky white clouded	Light yellow transparent	Light yellow transparent	Milky white	Yellow white	Blue	Milky white	Milky white	Grayish white
Viscosity	Pa•s	8.0	3.5	-	10.0	19.0	14.0	20.6	2.0		1.6	2.4	16.5	2.6	5.0	35.0	20.0	24.6	20.0	51.0	35.0
	mPa•s	-	-	135	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Specific gravity		1.12	1.05	1.06	1.23	1.17	1.17	1.17	1.01		1.02	1.04	1.16	1.10	1.14	1.09	1.14	1.14	1.11	1.30	1.53
Curing conditions (Cumulative light intensity)	kJ/m^2	45	30	30	10	20	30	30	30		30	30	30	30	10	30	30	60	30	30	30
Physical characteristics after curing — Hardness		A62	-	-	-	-	-	-	A80		-	-	A95	-	-	-	-	-	A95	-	-
		-	D54	D70	D85	D85	D80	D81	-		D50	-	D63	D52	D95	-	D65	D70	D68	D48	D77
Physical characteristics after curing — Volume resistivity	Ω·m	2.8×10^{11}	3.0×10^{7}	-	8×10^{10}	1.1×10^{12}	-	-	1.0×10^{11}		1.2×10^{11}	2.2×10^{14}	2.0×10^{14}	-	-	-	5.8×10^{10}	1.0×10^{13}	2.0×10^{12}	1.5×10^{14}	-
Physical characteristics after curing — Dielectric breakdown strength	kV/mm	-	14.0	-	20.1	-	-	-	18.4		29	-	-	-	-	-	28.0	-	19.4	23.0	-
Tensile shear bond strength — Glass/Glass	MPa	3.3	8.0	6.9	6.9	(Material failure)	7.0	6.3	5.0		5.2	7.1 (8.8)*	(Material failure)	7.5	-	(Material failure)	8.3	8.3	-	(Material failure)	-
Tensile shear bond strength — Glass/Acrylic	MPa	-	7.6	-	-	-	-	-	-		6.8	6.6 (7.3)*	-	-	-	-	5.5	8.2	-	2.36	-
Tensile shear bond strength — Glass/Polycarbonate	MPa	-	7.1	-	-	-	-	-	-		4.9	7.8 (7.4)*	-	-	-	-	3.5	7.6	-	2.3	-
Tensile shear bond strength — Glass/Glass epoxy	MPa	(Material failure)	7.8	-	-	-	-	-	-		6.6	8.1 (8.3)*	(Material failure)	-	-	-	5.4	8.5	-	4.6	-
Tensile shear bond strength — Glass/ABS	MPa	2.4	6.8	-	-	-	-	-	-		4.2	6.5 (6.9)*	(Material failure)	-	-	-	3.8	7.6	(Material failure)	3.6	-
Tensile shear bond strength — Glass/LCP	MPa	-	4.7	-	-	-	-	-	-		4.4	4.5 (4.8)*	-	-	-	-	3.3	3.8	-	3.6	5.1
Tensile shear bond strength — Glass/Iron	MPa	-	9.4	-	-	-	-	-	-		5.5	8.1 (8.6)*	-	-	-	-	7.2	9.6	-	5.4	-
Tensile shear bond strength — Glass/Aluminum	MPa	-	3.4	-	-	-	-	-	-		2.5	8.8 (8.8)*	-	-	-	-	7.6	8.9	-	6.8	10.0
Tensile shear bond strength — Glass/Stainless steel	MPa	-	9.0	6.9	-	-	-	-	-		5.6	4.0 (5.5)*	-	-	-	-	-	8.5	-	-	9.4
Tensile shear bond strength — Polycarbonate/ Polycarbonate	MPa	4.2	3.7	5.9	-	-	-	-	-		7.2	2.8 (2.6)*	4.0	-	-	6.4	9.2	5.4	(Material failure)	1.3	10.0
Remark(s)		Cures to 10mm or more at $30kJ/m^2$	Supports LED light sources, Colored black after hardening						Boiling water absorption rate: 0.2%		Boiling water absorption rate: 0.2% Low-halogen product	(UV-LED) * Material failure Low-halogen product					Supports LED light sources				

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Property Table

Product name		3036G	3038	3042	3042B	3042C	3042D	3042G	3043B		3046	3046B	3049	3050B	3050C	3051	3051E	3051G	3052	3052B	3052C
Characteristics	Unit																				
Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Additional curability		-	-	Heating	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
Features		Compatible with LED light sources Low cure shrinkage	Compatible with LED light sources Strong adhesiveness	Transparency Low viscosity High hardness	Transparency Low viscosity High hardness	Transparency Low viscosity High hardness	High hardness Moisture resistance Heat cycle resistance	Good adhesion on glass and metals	Flexibility Nylon adhesion		Water soluble Glass adhesion	Water soluble Glass adhesion	Low viscosity Adhesivity of glass, plastic and metal	Excellent low-temperature properties	Heat resistance	Glass adhesion	Metal adhesion	Flexibility Low halogen content	Glass adhesion	Glass adhesion	Glass, metal adhesion
Main usages		Various light source parts	Optical pick-up Optical part	Coating agent preventing burrs of stepping motors when grinding Glass/metal bonding	Accessory coating, Glass/metal bonding	Accessory coating, Glass/metal bonding	Lens Optical part	Fixing prisms and lenses	Nylon fiber binding Strings for tennis		Temporary fixing of glass or quartz products while being cut	Temporary fixing of glass or quartz products while being cut	Bonding Temporary fixing Potting	Liquid crystal panel pin lead fixing	Liquid crystal panel pin lead fixing	Liquid crystal panel glass fixing end-sealing	Battery insulating sealant	Bonding Temporary fixing Potting	Liquid crystal panel glass fixing end-sealing	Liquid crystal panel glass fixing end-sealing	Glass/Iron Polycarbonate Acryl bonding
Appearance		White	White	Colorless transparent	Colorless transparent	Colorless transparent	Milky white	Green transparent	Light yellow transparent		Light yellow	Light yellow transparent	Light yellow	Green	Light yellow transparent	Light brown	Colorless to Light yellow transparent	Colorless to Light yellow transparent	Light brown transparent	Light yellow transparent	Colorless transparent
Viscosity	Pa•s	29.0	13.0	-	-	1.5	15.0	8.0	1.6		-	10.0	-	4.5	9.0	5.0	1.5	6.5	11.0	9.0	8.0
	mPa•s	-	-	20	500	-	-	-	-		5.0	-	500	-	-	-	-	-	-	-	-
Specific gravity		1.53	1.17	1.07	1.10	1.11	1.13	1.10	1.05		1.00	1.10	1.02	1.04	1.04	1.16	1.06	1.08	1.17	1.17	1.05
Curing conditions (Cumulative light intensity)	kJ/m^2	60 (LED)	70 (LED)	15	15	30	30	30	15		18	18	30	20	15	30	15	30	10	30	35
Physical characteristics after curing: Hardness		-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
		D40	D70	D82	D83	D83	D84	D80	D60		D80	D80	D78	D65	D58	D85	D70	D66	D90	D90	D65
Physical characteristics after curing: Volume resistivity	Ω·m	-	5.0×10^{10}	2.3×10^{13}	8.1×10^{13}	5.5×10^{13}	-	-	-		-	-	2.0×10^{13}	4.16×10^{11}	1.05×10^{10}	3.5×10^{12}	-	2.1×10^{13}	3.5×10^{12}	3.5×10^{12}	-
Physical characteristics after curing: Dielectric breakdown strength	kV/mm	-	30	-	-	-	-	-	-		-	-	31	18.0	15.7	-	-	30	-	-	-
Tensile shear bond strength: Glass/Glass	MPa	-	-	(Material failure)	(Material failure)	8.2	7.5	7.8	-		(Material failure)	5.0	7.9*	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)
Tensile shear bond strength: Glass/Acrylic	MPa	-	(Material failure)	-	-	-	-	-	-		-	-	7.4*	-	-	-	-	-	-	-	-
Tensile shear bond strength: Glass/Polycarbonate	MPa	-	2.6	-	-	-	-	-	-		-	-	7.5*	-	-	-	-	-	-	-	-
Tensile shear bond strength: Glass/Glass epoxy	MPa	-	(Material failure)	(Material failure)	(Material failure)	-	-	-	-		2.8	-	7.7*	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)
Tensile shear bond strength: Glass/ABS	MPa	-	-	2.1	(Material failure)	-	-	-	-		(Material failure)	-	7.3*	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)
Tensile shear bond strength: Glass/LCP	MPa	-	3.7	-	-	-	-	-	-		-	-	3.6	-	-	-	-	-	-	-	-
Tensile shear bond strength: Glass/Iron	MPa	4.5	4.3	-	-	-	-	7.8	8.0		-	5.0	9.7*	-	-	-	-	(Material failure)	-	(Material failure)	-
Tensile shear bond strength: Glass/Aluminum	MPa	3.8	6.1	-	-	-	-	-	6.0		-	-	8.9*	-	-	-	-	-	-	-	-
Tensile shear bond strength: Glass/Stainless steel	MPa	(Material failure)	(Material failure)	-	-	-	-	7.8	8.0		-	-	10.5*	(Material failure)	(Material failure)	-	7.8	-	-	-	-
Tensile shear bond strength: Polycarbonate/ Polycarbonate	MPa	-	-	3.7	4.1	-	-	2.1	4.0		4.8	-	5.8*	-	-	1.8	-	-	2.2	-	(Material failure)
Remark(s)		PPS/Glass Material failure ZnDc/Glass Material failure	Low-halogen product			High viscosity of 3042	3042 with thixotropy					High viscosity grade of 3046	Compatible with LED Certified with the Biomass Mark (45% biomass) (*:Material failure)					Iron/Acrylic (Material failure) Low-halogen product			

* - : Unmeasured
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* Before using, confirm the adequacy and safety for the relevant application.

3000/3100 Series

UV Curing Resin

Property Table

Product name		3052D	3055	3055B	3056F	3056K	3057	3057B	3057J		3059D	3060	3062	3062D	3062F	3062H	3062K	3062P	3062Q	3062U	3064E
Characteristics	Unit																				
Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Additional curability		-	Primer	Primer	Humidity	Humidity	Heating	Heating	Heating		-	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer
Features		Weather resistance Heat cycle resistance	Adhesion Moisture resistance Impact strength	Adhesion Moisture resistance Impact strength	Moisture-curing Flexibility Adhesion	Moisture-curing Flexibility	Metal adhesion	Metal adhesion	Hard Adhesion		Low outgassing Thixotropic properties	Anaerobic curing	Flexibility Impact strength	Moisture resistance Impact strength Low viscosity	Flexibility Moisture resistance Impact strength	Flexibility Moisture resistance Impact strength	Flexibility Moisture resistance Impact strength	Flexibility Moisture resistance Impact strength	Hard / Tough	Flexibility	Flexibility Surface adhesion
Main usages		Glass/Iron Polycarbonate Acryl bonding	Motor magnets Liquid crystal panel pin lead fixing	Motor magnets Liquid crystal panel pin lead fixing	Electrical parts sealing / bonding General-purpose adhesion	Electrical parts sealing / bonding General-purpose adhesion	Electrical parts bonding	Electrical parts bonding	Electrical parts bonding		HDD parts Electrical parts bonding	Metallic joint Electrical parts bonding	Motor magnets Stator coil Adhesion of different materials	Metallic joint Electrical parts bonding	Motor magnets Sheet coil Adhesion of different materials	Motor magnets Piezoelectric element Adhesion of different materials	Metallic joint Adhesion of different materials	Stator coil Resin Magnets Adhesion of different materials	Liquid crystal panel pin lead fixing General-purpose adhesion	Motor magnets Adhesion of different materials	Adhesion of different materials
Appearance		Light yellow transparent	Light yellow	Green	Green transparent	Colorless transparent	Turbid white	Turbid white	Light yellow		Milky white	Light yellow	Light yellow transparent	Blue transparent	Brown transparent	Yellow to Light brown transparent	Light yellow transparent	Light yellow transparent	Green transparent	Light yellow to Brown transparent	Light yellow transparent
Viscosity	Pa•s	43.0	15.0	15.0	6.0	3.6	35.0	18.0	9.0		80.0	1.2	8.0	-	4.0	2.0	7.0	15.0	12.0	1.0	-
	mPa•s	-	-	-	-	-	-	-	-		-	-	-	150	-	-	-	-	-	-	700
Specific gravity		1.04	1.06	1.06	1.08	1.09	1.44	1.42	1.06		1.18	1.12	1.07	1.10	1.08	1.07	1.05	1.07	1.06	1.07	1.07
Curing conditions (Cumulative light intensity)	kJ/m^2	30	20	20	30	30	30	30	30		30	30	35	35	35	30	70	35	20	30	30
Physical characteristics after curing	Hardness	-	-	-	-	-	-	-	-		-	A90	-	-	-	-	-	-	-	-	-
		D70	D70	D70	D65	D71	D89	D80	D80		D86	D65	D70	D80	D45	D80	D65	D35	D65	D70	D66
	Volume resistivity	Ω·m	-	4.6×10^{10}	4.6×10^{10}	1.4×10^{11}	-	7.6×10^{12}	7.8×10^{12}	5.6×10^{12}		-	3.2×10^{11}	4.2×10^{12}	2.6×10^{12}	-	-	-	-	-	-	2.9×10^{11}
	Dielectric breakdown strength	kV/mm	-	14.2	14.2	27.5	-	28.4	28.4	31		-	17.2	-	-	-	-	-	-	-	-	23
Tensile shear bond strength	Glass/Glass	MPa	(Material failure)	-	-	6.4	6.8	(Material failure)	-	6.9		8.0	(Material failure)	-	-	-	-	-	-	-	9.8	8.3
	Glass/Acrylic	MPa	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	7.5
	Glass/Polycarbonate	MPa	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	8.0
	Glass/Glass epoxy	MPa	(Material failure)	-	-	-	-	(Material failure)	-	-		-	(Material failure)	-	-	-	-	-	-	-	8.8	7.6
	Glass/ABS	MPa	(Material failure)	-	-	-	-	0.2	-	-		-	3.5	-	-	-	-	-	-	-	-	-
	Glass/LCP	MPa	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	4.3
	Glass/Iron	MPa	7.5	(Material failure)	(Material failure)	7.5	7.0	-	5.0	-		3.0	-	(Material failure)	18.0	-	(Material failure)	(Material failure)	4.4	4.4	12.7	10.4
	Glass/Aluminum	MPa	-	-	-	6.0	4.4	-	-	-		3.0	-	-	-	-	-	-	-	-	-	5.8
	Glass/Stainless steel	MPa	-	-	-	7.8	6.4	-	-	-		5.0	-	-	-	-	-	-	-	-	-	9.1
	Polycarbonate/ Polycarbonate	MPa	(Material failure)	-	-	7.5	4.1	1.7	-	4.1		-	3.8	-	9.7	-	3.3	3.9	3.7	8.8	-	-
Remark(s)					Green version of 3055										Shear bond strength Iron: 10MPa							

* - : Unmeasured
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3000/3100 Series

UV Curing Resin

Property Table

Characteristics	Unit	3065E	3066	3067	3067B	3067C	3069F	3074C	3075	3081J	3081L	3081P	3084	3088		3088B		3094	3094B	3094F
Product name																				
Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate		Acrylate		Acrylate	Acrylate	Acrylate
Additional curability		Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	-	-	-	-	-	-	Two-component mixture		Two-component mixture		-	-	-
Features		Flexibility Surface adhesion Low outgassing	Hard Chemical resistance	Hard Chemical resistance	Hard Chemical resistance	Hard Chemical resistance	Hard / Tough Metal/glass adhesion	High transparency, no yellow discoloration over time	Clear/ Transparent Soft / Tough Crack resistance	Rubber elasticity Heat resistance / Freeze resistance	Rubber elasticity Heat resistance / Freeze resistance	Rubber elasticity Heat resistance / Freeze resistance	High specific gravity Shape retention	Soft Impact strength Short-time curing in shaded areas		Soft Impact strength Short-time curing in shaded areas		Good adhesion to plastic materials such as PC	Good adhesion to plastic materials such as PC	Good adhesion to plastic materials such as PC
Main usages		Adhesion of different materials	Metallic joint Electrical parts bonding	Metallic joint Electrical parts bonding	Metallic joint Electrical parts bonding	Metallic joint Electrical parts bonding	Motor magnets Metal/glass bonding	Adhesion of optical parts	Soft coating for nameplates/ accessories Electronic device coating	CIPG for electric parts Elastic sealing application	CIPG for electric parts Elastic sealing application	CIPG for electric parts Elastic sealing application	Balance correcting agent for motors, polygon mirrors, etc.	Sensor potting UV light impermeable material adhesion		Sensor potting UV light impermeable material adhesion		Adhesion of medical devices, etc.	Adhesion of medical devices, etc.	Adhesion of medical devices, etc.
Appearance		Light yellow transparent	Light yellow transparent	Light Yellow	Dark blue	Turbid white	Milky white	Colorless	Colorless transparent	Light yellow transparent	Milky white	Light yellow	Grayish blue	Main agent Blue transparent	Curing agent Pale green transparent	Main agent Blue transparent	Curing agent Pale green transparent	Light yellow	Blue	Light yellow
Viscosity	Pa•s	7.0	-	-	-	4.0	55.0	7.0	-	95.0	70.0	400	100	5.0	5.0	5.0	5.0	4.6	-	-
	mPa•s	-	230	600	120	-	-	-	700	-	-	-	-	-	-	-	-	4600	150	220
Specific gravity		1.05	1.13	1.14	1.13	1.17	1.20	1.09	1.07	1.11	1.14	1.09	2.19	1.02	1.02	1.04	1.04	1.07	1.02	1.02
Curing conditions (Cumulative light intensity)	kJ/m²	30	30	30	30	30	30	30	27	45	30	45	30	30		30		30	30	30
Physical characteristics after curing: Hardness		-	-	-	-	-	-	-	A49	A27	A21	-	-	A50		-		-	-	-
		D65	D90 to 95	D90	D90 to 95	D88	D90	D70	-	-	-	E19	D90 to 95	-		D55		D60	D75	D73
Physical characteristics after curing: Volume resistivity	Ω·m	5.8×10^{10}	1.3×10^{13}	7.6×10^{12}	7.8×10^{12}	7.6×10^{12}	6.4×10^{12}	1.5×10^{12}	2.2×10^{9}	1.2×10^{10}	-	8.8×10^{8}	9.8×10^{12}	1.5×10^{11}		5.7×10^{11}		9.8×10^{12}	-	-
Physical characteristics after curing: Dielectric breakdown strength	kV/mm	24.2	17.7	28	-	-	33.0	24.1	-	19.0	-	24.9	18.3	-		-		-	-	-
Tensile shear bond strength: Glass/Glass	MPa	-	-	(Material failure)	-	-	8.9	6.5	7.0	-	-	-	(Material failure)	-		-		(Material failure)	7.0	8.2
Tensile shear bond strength: Glass/Acrylic	MPa	-	-	-	-	-	-	5.4	-	-	-	-	-	-		-		(Material failure)	6.4	7.6
Tensile shear bond strength: Glass/Polycarbonate	MPa	-	-	-	-	-	-	3.5	-	-	-	-	-	-		-		(Material failure)	7.1	7.2
Tensile shear bond strength: Glass/Glass epoxy	MPa	-	-	(Material failure)	-	-	-	6.4	-	-	-	-	-	-		-		(Material failure)	7.9	7.6
Tensile shear bond strength: Glass/ABS	MPa	-	-	(Material failure)	-	-	-	4.6	-	-	-	-	-	3.4		6.4		(Material failure)	7.0	7.2
Tensile shear bond strength: Glass/LCP	MPa	-	-	-	-	-	-	5.4	-	-	-	-	-	-		-		3.2	3.9	4.2
Tensile shear bond strength: Glass/Iron	MPa	12.0	-	4.9	4.9	7.0	8.9	8.1	-	-	-	-	(Material failure)	-		-		(Material failure)	8.4	9.9
Tensile shear bond strength: Glass/Aluminum	MPa	-	-	-	-	-	3.0	2.2	-	-	-	-	-	-		-		(Material failure)	2.5	6.0
Tensile shear bond strength: Glass/Stainless steel	MPa	-	-	-	-	-	8.0	6.3	-	-	-	-	-	-		-		(Material failure)	5.3	9.1
Tensile shear bond strength: Polycarbonate/ Polycarbonate	MPa	-	-	1.6	-	-	-	1.6	4.0	-	10.9	-	5.1	5.2		6.4		(Material failure)	5.2	5.1
Remark(s)						3067 with added thixotropy	High-thixotropic							Can be used for static mixers		Can be used for static mixers		Compatible with LED light sources Compliant to ISO10993 for medical devices	Compatible with LED light sources	Compatible with LED light sources Bisphenol-free Compliant to ISO10993 for medical devices

* - : Unmeasured
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3000/3100 Series

UV Curing Resin

Property Table

Product name		3094G	3095F	3114	3114B	3114J	3118	3121D	3142		3161	3163	3164D	3166	3168E	3170B	3170D	3170E	3170F	3175	3176B
Characteristics	Unit																				
Main component		Acrylate	Acetone type	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin		Silicone	Silicone	Silicone	Silicone	Silicone	Acrylate	Acrylate	Acrylate	Acrylate	Olefin	Modified silicone
Additional curability		-	-	-	-	-	-	-	-		Humidity	Humidity	Humidity	-	-	Visible Light	Visible Light	Visible Light	Visible Light	Visible Light	UV
Features		Good adhesion to plastic materials such as PC	Improve adhesion to difficult-to-bond materials, such as PP	Surface curability Low cure shrinkage Low linear expansion	Low cure shrinkage	Surface curability Low cure shrinkage High temperature resistance Low linear expansion	Sealant for dye-sensitized solar cells	Low cure shrinkage Good adhesion to various materials	Dual curing (light and heat) Low cure shrinkage		Rubber elasticity High and low temperature resistance	Rubber elasticity High and low temperature resistance	Rubber elasticity High and low temperature resistance Adhesion to engineering plastic	Super-soft High and low temperature resistance	Soft Gel Damping materials	Thick film curing Adhesion	Thick film curing Adhesion	Thick film curing Adhesion	Thick film curing Adhesion	Heat resistance Humidity resistance Acid resistance Low moisture permeability	Rubber elasticity
Main usages		Adhesion of medical devices, etc.	Surface modification primer for difficult-to-bond materials	Optical pick-up parts Electrical parts bonding Accurate adhesion of optical parts such as for digital cameras	Adhesion and fixing of optical parts such as optical pick-up parts	Optical pick-up parts Electrical parts bonding Accurate adhesion of optical parts such as for digital cameras	Main sealing of dye-sensitized solar cells	Adhesion and fixing of optical parts	Accurate adhesion of automotive electronic components		Electrical parts bonding / sealing / potting	Sealing for sliding portion of cleaner rotor Electrical parts bonding	Electrical parts bonding / sealing / potting	CIPG sealing for electronic / electrical parts	Damping materials for various electrical devices	Transparent material that cuts UV light Electrical parts bonding	Transparent material that cuts UV light Electrical parts bonding	Transparent material that cuts UV light Electrical parts bonding	Transparent material that cuts UV light Electrical parts bonding	Adhesion and potting of electric / electrical parts	Potting of electric / electrical parts
Appearance		Light yellow	Colorless	Grayish white	Grayish white	White	White	Light yellow transparent	White		Light yellow	Blue	Pale white	Blue	Red	Light yellow transparent	Light yellow	Light Yellow	Light yellow transparent	White	White
Viscosity	Pa•s	-	-	26.0	50.0	25	86.0	-	60.0		3.0	12.0	10.0	330	90.0	1.8	37.0	11.2	18.0	8.0	32
	mPa•s	2400	-	-	-	-	-	850	-		-	-	-	-	-	-	-	-	-	-	-
Specific gravity		1.04	0.8	1.54	1.62	1.56	1.33	1.15	1.3		0.98	1.02	1.00	1.01	1.02	1.04	1.06	1.10	1.06	0.94	1.03
Curing conditions (Cumulative light intensity)	kJ/m^2	30	-	30	30	30	30+80°C ×1h	30	50+100°C ×1.5h		30 (+Moisture-curing)	30 (+Moisture-curing)	30 (+Moisture-curing)	45	60	30	30	30	30	50	30 (+23°C, 7days)
Physical characteristics after curing	Hardness	-	-	-	-	-	-	-	-		A30	A33	A32	E15	Gel (penetration: 100)	-	-	-	-	-	A24
		D66	-	D80	D82	D87	D83	D65	D86		-	-	-	-	-	D70	D54	D44	D50	A79	-
	Volume resistivity	Ω·m	-	-	-	-	2.4×10^{12}	5.2×10^{13}	-	-		4.0×10^{12}	-	8.8×10^{12}	5.5×10^{11}	-	-	-	-	-	1.8×10^{16}	3.3×10^{12}
	Dielectric breakdown strength	kV/mm	-	-	-	-	26.2	-	-	-		12.3	-	30	15.1	-	-	-	-	-	29.9	1.3
Tensile shear bond strength	Glass/Glass	MPa	8.1	-	(Material failure)	3.8	7.4	(Material failure)	7.3	6.6		6.0	3.9	4.0	-	-	(Material failure)	-	-	(Material failure)	-	5.5
	Glass/Acrylic	MPa	7.6	-	-	-	3.7	1.2	-	-		-	-	-	-	-	-	-	-	-	-	-
	Glass/Polycarbonate	MPa	7.4	-	-	-	3.8	1.3	-	-		-	-	-	-	-	-	-	-	-	-	-
	Glass/Glass epoxy	MPa	8.4	-	-	-	3.7	3.3	-	-		-	-	4.8	-	-	-	-	-	-	-	2.8
	Glass/ABS	MPa	6.2	-	-	-	4.1	3.8	-	-		-	-	3.4	-	-	-	-	-	-	-	-
	Glass/LCP	MPa	4.1	-	3.5	3.4	4.4	2.9	-	-		-	-	1.9	-	-	-	-	-	-	-	0.6
	Glass/Iron	MPa	9.1	-	-	-	-	4.5	-	-		2.0	-	-	-	-	-	-	-	-	-	1.2
	Glass/Aluminum	MPa	5.4	-	-	-	4.5	3.1	-	-		0.66	-	0.5	-	-	(Material failure)	-	-	(Material failure)	-	2.1
	Glass/Stainless steel	MPa	9.3	-	-	-	2.5	4.3	-	-		0.9	-	-	-	-	(Material failure)	-	-	(Material failure)	-	1.5
	Polycarbonate/ Polycarbonate	MPa	8.1	-	-	-	-	0.58	-	1.5		0.96	-	2.6	-	-	5.0	-	-	6.9	-	1.4
Remark(s)		Compatible with LED light sources Bisphenol-free Compliant to ISO10993 for medical devices	Surface modification by UV radiation after coating and drying ISO10993 (biological safety evaluation) compliant product		Cure shrinkage: 2.0%	Cure shrinkage: 1.8% Tg:142°C (DMA) Compatible with LED light sources		Cure shrinkage: 4.5%	Cure shrinkage: 2.0%		Alcohol-releasing type Reduced content of Low molecular circular siloxane	Alcohol-releasing type Reduced content of Low molecular circular siloxane	Alcohol-releasing type Reduced content of Low molecular circular siloxane								

* - : Unmeasured
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3000/3100 Series

UV Curing Resin

Property Table

Characteristics	Unit	3177	3178
Main component		Acrylate	Olefin
Additional curability		Visible Light Humidity	Visible Light
Features		High and low temperature resistance Humidity resistance Adhesion	Heat resistance Humidity resistance Acid resistance Low moisture permeability
Main usages		Light blocking materials Optical part Metal/plastic/ rubber bonding	CIPG for electrical and electronic parts and fuel cell batteries
Appearance		Yellow to Yellow green transparent	White
Viscosity	Pa•s	-	155
	mPa•s	1200	-
Specific gravity		1.06	0.95
Curing conditions (Cumulative light intensity)	kJ/m^2	10	40
Physical characteristics after curing: Hardness		-	-
		D84	A32
Physical characteristics after curing: Volume resistivity	Ω·m	9.2×10^{13}	9.0×10^{11}
Physical characteristics after curing: Dielectric breakdown strength	kV/mm	24	26.3
Tensile shear bond strength: Glass/Glass	MPa	-	-
Tensile shear bond strength: Glass/Acrylic	MPa	-	-
Tensile shear bond strength: Glass/Polycarbonate	MPa	-	-
Tensile shear bond strength: Glass/Glass epoxy	MPa	-	-
Tensile shear bond strength: Glass/ABS	MPa	-	-
Tensile shear bond strength: Glass/LCP	MPa	-	-
Tensile shear bond strength: Glass/Iron	MPa	-	-
Tensile shear bond strength: Glass/Aluminum	MPa	-	-
Tensile shear bond strength: Glass/Stainless steel	MPa	-	-
Tensile shear bond strength: Polycarbonate/ Polycarbonate	MPa	5.8	-
Remark(s)		Hybrid instant adhesive ISO10993 (biological safety evaluation) compliant product	

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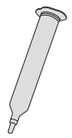
Application Equipment

This section introduces Application Equipment to apply adhesives efficiently.

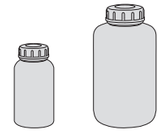
- We offer applicators suitable for each type of the UV curing, anaerobic-curing, and moisture-curing agents.
- Auxiliary equipment needed for the process from application to curing is available.
- Equipment suitable for CIPG application (design of a special-purpose machine is possible)

*CIPG: Cured in Place Gasket

Syringe



250-g/1-kg bottle



Cartridge

Syringe dispenser (minicoater C5)

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

Individual catalog number #11

Tank for 1-kg or less bottle or can (TG1-T)
Pen type manually operated valve (pencil gun)

This dispenser is for a low-viscosity material.
Dispensing is done by pulling the gun lever.
Automatic application by machine is impossible.

Individual catalog number #3

Air gun for sealant (DH1)

Applicable package type: Cartridge/Tube
This is a pneumatic sealant gun.

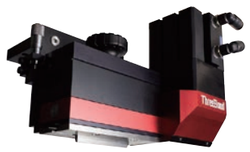
*This product may not be compatible with some cartridge and tube shapes. For the details, contact one of our sales engineers.

Individual catalog number #36

Cartridge-type tank (TC2)
Dispense valve (HPNV-50)
Controller for pressure (coater S4)
Desktop robot (RT7 Series)

This unit pressure-feeds a material from the cartridge and controls the valve to apply the material. When the controller is combined with a robot, it will apply the material to a programmed position.
Automatic application by machine is possible.

Individual catalog number #15



Dedicated to surface application
Adhesive discharging valve
RV-SN Series

This is an adhesive discharging valve to apply material in plane-like or band-like form.
Automatic application by machine is possible.

Individual catalog number #30

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.

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.

Your request: