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ThreeBon

General Catalog Products Guide



General Catalog Products Guide

Version 9

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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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ThreeBond

General Catalog Products Guide

Sealants / Adhesives / Maintenance / Auto Aftermarket Products / Application Equipment



Market Introduction

ThreeBond
Products Market

ThreeBond products can be applied to various fields including automobile related products, automotive market, public industrial material, construction and building materials, electronics and auto aftermarket fields. ThreeBond products have become essential to the production process of various products in various fields.

Automotive Market

Used for vehicle powertrains and electrical components, construction machines, and marine vessels.



Used for infrastructure, construction, and general machines.



Electronics Market

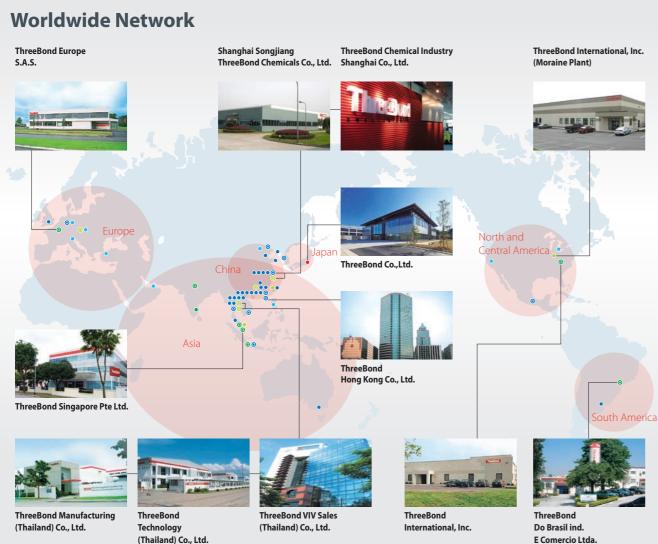
Used for electrical appliances such as mobile phones and computers.

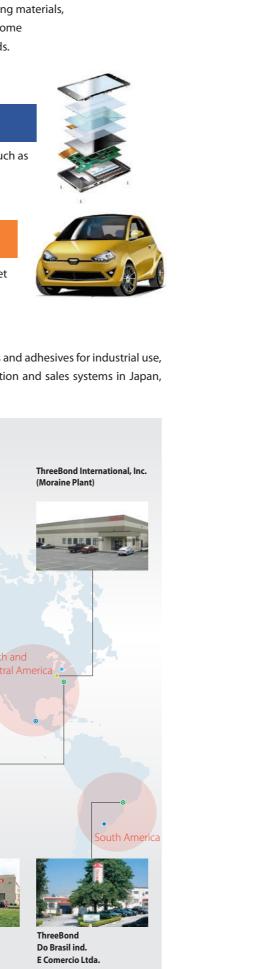
Auto Aftermarket

Used for automobile aftermarket products.

ThreeBond Network

We at ThreeBond have established ourself as a top provider of sealants and adhesives for industrial use, and we have gained the trust of our customers through our production and sales systems in Japan, North and Central America, South America, Europe, Asia, and China.







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Industrial Parts Cleaners Dilution-Use Solvents Electrical Part Protective Agent · Coating Agent Hand Cleaners Wet Wipers / Deodorizers Industrial Paper Wipers and Double Faced Adhesive Tape	2700 Series 2800 Series 2900 Series 5900 Series 6700 Series 6900 Series	>> P141 >> P145 >> P147 >> P151 >> P152 >> P153



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Sealing refers to the "action on joint surfaces of equipment or pipes to prevent leakage of inner fluids".

Sealants are sorted as either solid (solid gasket or solid packing) or liquid (liquid gaskets). Their performance is a combination of adhesion between the sealant and joint surface (interface), resistance of the sealant itself to the inner fluid, and conformability to the joint surface, etc. Based on this, when selecting a sealant, it is important to consider, among other things, the

type of joint surface, compatibility between the sealant and inner fluid, the required pressure resistance, and environmental conditions, in addition to the priority of considering "what will be sealed and in what position". By considering whether the joint will be disconnected and considering workability during use, it is possible to select the optimal sealant.

 $\ensuremath{^{*}}$ By referencing the sealant selection flow chart on the opposite page, it is possible to narrow down the optimal sealant system according to the following "Sealant Property Comparison Table".

■ Sealant Selection Flow Chart

Confirm that it matches the "Main usage" according to the parts used and the inner fluid that will be sealed.

Confirm the adequacy with the inner fluid that will be sealed according to the "Main usage", "Chemical resistance" and "Heat resistance".

Confirm the Confirm the "Adhesion" and "Clearance "Displacement applicability" according to the according to clearance at the whether there is usage location. movement at the

usage location.

If sealability is required immediately after assembly to the used portion, confirm the "Initial pressure resistance".

If it is necessary to remove the portion where it is used regularly, confirm the

Select a sealant and then select a product from the detailed description pages of the corresponding representative grade.

Seal	alant Property Comparison Table ○ : Highly suitable ○ : Suitable △ : Not very suitable − : Unsuitable Cured Chemical resistance Pressure resistance																0		
Sea	ant type	Sealing function	Sealant lineup	Curing method	Cured material	Main usages			Chemical			Heat resistance	Clearance applicability	Adhesion	Displacement Conformability	Pressure	resistance After	Removability	Representative grade
	, , , , , , , , , , , , , , , , , , ,				characteristic			Oil	Water	Acid	Inorganic bases	resistance	аррисарину		Comornability	Initial	curing		
			Silicone-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like	Vehicle oil pan and gear case FIPG*1 Sealing of general use machines and general pipes * Special grade for sealing water supply pipes available		0	0	Δ	Δ	0	0	0	0	0	0	\triangle to \bigcirc	1200 Series
			Modified silicone- based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like	Agricultural machine oil pan and gear case FIPG' ¹ Sealing of general use machines and general pipes		0	Δ	Δ	Δ	Δ	0	0	0	0	0	△ to ○	1160,1206 Series
			Moisture-curing acrylate-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like	Vehicle oil pan FIPG* ¹ Sealing of general use machines		0	0	0	0	0	0	0	0	0	0	\triangle to \bigcirc	1158
Rea	Reaction type forming layer on condens reaction Excellen even on	The sealing function works by forming an elastic adhesion layer on the joint surface due to condensation or polymerization reaction	Anaerobic curing acrylate-based	Anaerobic curing * Radical polymerization reaction by oxygen isolation and metal contacts	Rubber-like	Vehicle gear case FIPG" Sealing of plugs and general pipes		0	0	0	0	0	0	0	0	0	0	Δ	1133 C, 1133 K, 1389 D
		Excellent sealability is achieved even on joint surfaces with large clearances.	Curing under UV light acryl rubber- based	Curing under UV light * Radical polymerization reaction by UV light irradiation	Rubber-like	Vehicle electrical component CIPG*2		0	0	0	0	0	0	0	Δ	0	0	0	3081 J
			Two-component fluororubber-based	Two-component mixture * Condensation reaction by mixing Agents A and B	Rubber-like	Automotive fuel system, sealing of pipes		0	0	0	0	0	0	0	0	0	0	△ to ○	1117
			Heat-curing olefin- based	Heat-curing * Polymerization reaction by heating	Rubber-like	FIPG and CIPG for fuel cell batteries" 2 Gas seal, methanol seal		0	0	0	0	0	0	Δ	0	_	0	0	1153E
			Moisture-curing olefin-based	Moisture-curing * Condensation reaction by moisture in the air	Putty (mastic type)	Sealing of city gas and LPG piping		0	0	0	0	0	0	Δ	0	Δ	0	0	
	Solventless (non-drying) type	Sealability works by adhesion to the joint surface and by its fluid resistance. It is easy to remove because it does not cure.	Solventless, synthetic resin- based	Non-drying * Initial status is maintained	Putty	Sealing of general use machines and general pipes Supplementary sealing used with solid packing Sealing of city gas piping		0	0	0	0	Δ	Δ	_	Δ	0	0	0	4320 B
	Solvent	Sealability works by forming an	Organic solvent, synthetic resin- based	Solvent vaporization * Volatilization and drying of contained solvent	Solid to rubber- like	Sealing for vehicles, general use machines, and general pipes * Special grade for sealing water supply pipes available		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1102,1103B
reactive type	type	elastic adhesion layer on the joint surface due to vaporization of the solvent (including water). Curing shrinkage is large due to vaporization of the contained	Organic solvent, synthetic rubber- based	Solvent vaporization *Volatilization and drying of contained solvent	Rubber-like	Sealing for vehicles, general use machines, and general pipes Sealing of city gas and LPG piping		0	0	0	0	0	Δ	0	0	Δ	0	\triangle to \bigcirc	1184 Series
Non-rea	Solid packing	solvent.	Acryl emulsion- based (water-based)	Vaporization *Volatilization and drying of contained moisture	Rubber-like	Sealing for vehicles and general use machines Supplementary sealing used with solid packing		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1141 Series
		Sealability works by adhesion to the joint surface due to the repulsive force that occurs from the fastening contact pressure.	Fiber impregnated with synthetic resin	-	Sheet-like (solid)	Sealing for vehicles and general use machines		0	0	0	0	0	Δ	_	Δ	0	0	0	Solid Sheet Packing Series
	Solid packing	Sealability works by adhesion to the joint surface due to the repulsive force that occurs from the fastening contact pressure.	Unbaked fluororesin	-	Tape-like (solid)	Sealing of general pipe screws		0	0	0	0	0	Δ	-	Δ	0	0	0	ThreeBond Tape

^{*1} FIPG: Formed In Place Gasket Liquid gasket that is applied on one surface and forms a seal by reactive curing after joining the other surface. *2 CIPG: Cured In Place Gasket Liquid gasket that is applied on one surface as a bead and forms a seal by curing before joining the other surface (sealing by surface pressure of the joint surface).

Property Comparison Table According to Sealant Application

 ${\Bbb O}$: Highly suitable ${\Bbb O}$: Suitable ${\Bbb A}$: Not very suitable ${\cal -}$: Unsuitable

Property Comparison Table According to Sea			Cured material characteristic			Chemical	resistance	:	Heat	Clearance		Displacement		ssure tance		
Applications	Sealant lineup	Curing method	Cured material characteristic		Oil	Water	Acid	Inorganic bases	resistance	applicability	Adhesion	Displacement Conformability	Initial	After curing	Removability	Representative grade
	Silicone-based	Moisture-curing *Condensation reaction by moisture in the air	Rubber-like		0	0	Δ	Δ	0	0	0	0	0	0	△ to ○	1200 Series
	Modified silicone-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like		0	Δ	Δ	Δ	Δ	0	0	0	0	0	△ to ○	1160,1206 Series
Vehicle, agricultural machine, construction machine, general use machine, and other FIPG*	Moisture-curing acrylate-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like		0	0	0	0	0	0	0	0	0	0	△ to ○	1158
	Anaerobic curing acrylate-based	Anaerobic curing * Radical polymerization reaction by oxygen isolation and metal contacts	Rubber-like		0	0	0	0	0	0	0	0	0	0	Δ	1133 C, 1133 K, 1389 D
	Heat-curing olefin-based	Heat-curing * Polymerization reaction by heating	Rubber-like		0	0	0	0	0	0	Δ	0	_	0	0	1153 E
	Silicone-based	Moisture-curing *Condensation reaction by moisture in the air	Rubber-like		0	0	Δ	Δ	0	0	0	0	0	0	\triangle to \bigcirc	1211, 1212, 1215
	Solventless synthetic resin-based	Non-drying * Initial status is maintained	Putty		0	0	0	0	Δ	Δ	_	Δ	0	0	0	1101,1121
General-purpose sealing for vehicles, agricultural machines, construction machines and general	Organic solvent, synthetic resinbased	Solvent vaporization * Volatilization and drying of contained solvent	Solid to rubber-like		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1102,1103B
use machines, etc.	Organic solvent, synthetic rubber- based	Solvent vaporization * Volatilization and drying of contained solvent	Rubber-like		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1184 Series
	Acryl emulsion-based (water-based)	Vaporization * Volatilization and drying of contained moisture	Rubber-like		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1141 Series
	Fiber impregnated with synthetic resin	-	Sheet-like (solid)		0	0	0	0	0	Δ	_	Δ	0	0	0	Solid Sheet Packing Series
High-temperature sealing of mufflers for vehicles, agricultural machines, construction machines and general use machines, etc.	Organic solvent, synthetic resinbased	Solvent vaporization * Volatilization and drying of contained solvent	Solid to putty		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1107 D, 1109 J
Highly chemical-resistant sealant for vehicles, agricultural machines, construction machines and general use machine plants, etc.	Two-component fluororubber- based	Two-component mixture * Condensation reaction by mixing Agents A and B	Rubber-like		0	0	0	0	0	0	0	0	0	0	△ to ○	1117
	Silicone-based	Moisture-curing *Condensation reaction by moisture in the air	Rubber-like		0	0	Δ	Δ	0	0	0	0	0	0	△ to ○	1211, 1212, 1215
	Organic solvent, synthetic resinbased	Solvent vaporization *Volatilization and drying of contained solvent	Dry adhesion		0	0	0	0	0	Δ	0	Δ	\triangle	0	△to○	4002
Sealing of general pipes	Organic solvent, synthetic rubber- based	Solvent vaporization * Volatilization and drying of contained solvent	Rubber-like		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	1184 Series
	Anaerobic curing acrylate-based	Anaerobic curing * Radical polymerization reaction by oxygen isolation and metal contacts	Solid		0	0	0	0	0	0	0	0	0	0	Δ	1110 Series
	Unbaked fluororesin	-	Tape-like (solid)		0	0	0	0	0	Δ	_	Δ	0	0	0	ThreeBond Tape
	Silicone-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like		0	0	Δ	Δ	0	0	0	0	0	0	△ to ○	4332 C
Sealing of city gas and LPG piping	Solventless, synthetic resin-based (Exclusively for city gas)	Non-drying * Initial status is maintained	Putty		0	0	0	0	Δ	Δ	_	Δ	0	0	0	4320 B
	Organic solvent, synthetic rubber- based	Solvent vaporization * Volatilization and drying of contained solvent	Rubber-like		0	0	0	0	0	Δ	0	0	Δ	0	△ to ○	4004 D, 4314 D
Sealing of hot water supply pipes	Organic solvent, synthetic resinbased	Solvent vaporization *Volatilization and drying of contained solvent	Dry adhesion		0	0	0	0	0	Δ	0	Δ	Δ	0	△ to ○	4221, 4221 B
	Silicone-based	Moisture-curing * Condensation reaction by moisture in the air	Rubber-like		0	0	Δ	Δ	0	0	0	0	0	0	△ to ○	4230

*FIPG: Formed In Place Gasket Liquid gasket that is applied on one surface and forms a seal by reactive curing after joining the other surface.



Liquid Gaskets







These are liquid sealants used for sealing inner fluids by applying them to the joint surfaces of various flanges, screws, etc., in automotive equipment and industrial equipment.

Highly reliable sealing is achieved by filling in and adhering to the minute clearance on the joint surface.

They are a liquid when applied, so metal joint surfaces touch each other, and there is almost no decrease in surface pressure due to vibration, etc. Therefore, they are durable and have excellent sealability.

Products with various material bases are available including synthetic resin-based, synthetic rubber-based, acrylate-based, acryl emulsion-based, and silicone-based. There are also various reaction system grades including solvent vaporization, anaerobic curing, and moisture-curing.

Products include general-purpose types, and products for FIPG and CIPG.

- * FIPG: Formed In Place Gasket Liquid gasket that is applied on one surface and forms a seal by reactive curing after joining the other surface.
- * CIPG: Cured In Place Gasket Liquid gasket that is applied on one surface as a bead and forms a seal by curing before joining the other surface (sealing by surface pressure of the joint surface).

ThreeBond 3911D Gasket remover and ThreeBond 3991 Liquid paraffin (for delaying curing of silicone-based sealant) are listed on page 166 for "Others".

1101

This is a non-drying type solventless liquid gasket. It has excellent water resistance and seawater resistance. It is possible to use it together with solid sheet gaskets because there is almost no effect on rubber.

It is easy to remove, so it is optimal for sealing joints that require periodic disassembly and overhauling.

1102

This is a non-drying type, solvent-type liquid gasket. It has excellent water resistance and oil resistance. There are variations such as different colors.

1109 J

This is a sealant for hot materials that contains liquid glass as its main component.

It can be used for vehicle mufflers in which high temperatures are applied, or in other high temperature junctions.

It has a heat resistance of approximately 400°C.

1121

This is a non-drying type solventless liquid gasket.

It has excellent water resistance and oil resistance.

It is possible to use it together with solid sheet gaskets because there is almost no effect on rubber.

It is easy to remove, so it is optimal for sealing joints that require periodic disassembly and overhauling. There is also a low-viscosity type available.

1130

This is a low-reaction, anaerobic-curing liquid gasket for tapered plugs.

It is a slow-curing type, so it is possible to apply it to many plugs using a tumbler, etc., and blocking between plugs does not occur for approximately 8 hours.

It has excellent oil resistance and coolant resistance. It is a low adhesive type.

1141 G

This is a water-based type liquid gasket for better working environment. Acryl resin is the main component.

It has excellent chemical resistance. It is possible to use it together with solid sheet gaskets because there is almost no effect on rubber.

There are grades with different viscosities.

1158

This is an alcohol-releasing single-component, moisture-curing, acryl resin-based liquid gasket for FIPG.

It has excellent oil resistance, and can be used for sealing AT and CVT transmissions and gear cases.

It can also be used for high-grade oil.

1171 G

Special synthetic rubber is the main component, and it forms a rubber-like elastic body with low moisture permeability through solvent vaporization.

It has excellent heat resistance and reflow soldering durability. In addition to resistance to nonaqueous electrolytic solution, it also has resistance to inorganic acid and bases. It can be used for lithium-ion batteries, capacitors, etc.

1207B

This is an acetone type single-component, moisture-curing, silicone-based liquid gasket for FIPG.

It has a fast curing speed, and it becomes a flexible cured material, so it has excellent displacement conformability on joint surfaces. In addition to engine oil pans, it can also be used for sealing coolants such as for water pumps.

1133 J

This is an anaerobic curing type liquid gasket for flanges. It conforms to flange movement because it is flexible after curing. It has excellent oil resistance.

1153 E

This is an olefin-based heat-curing liquid gasket for fuel cell batteries.

The cured material has rubber elasticity with excellent chemical resistance.

It has rubber elasticity, but also has excellent gas barrier property with hydrogen barrier property and low moisture permeability. In addition to being used as a gas seal for fuel cell batteries, it can also be used for sealing water, coolants, methanol, etc.

1160

This is a single component moisture-curing non-silicone sealant. Low-molecular cyclic siloxane and organostannic compounds, which can cause electrical contact failures, are not used in this product.

Compared to urethane-based sealants, it has excellent heat and moisture resistance and is good for case sealing on automobile battery cases.

1206 D

This is an alcohol type single-component, moisture-curing, modified silicone-based liquid gasket.

It is paintable, making it an optimal sealant for portions where painting is required after assembly.

There are grades with different colors and flowabilities.

1211

This is an oxime type single-component, moisture-curing, silicone-based liquid gasket.

It has low viscosity, so it is easy to apply.

It has excellent oil resistance and can be used together with solid sheet packings for engine oil pans in addition to general-purpose sealing applications.

There is also a high-viscosity type available.

1215

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket.

It has relatively low viscosity, so it is easy to apply.

It has excellent chemical resistance and can be used as an FIPG for engine oil pans and gear cases, etc., in addition to generalpurpose sealing applications.

1217 G

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket for FIPG.

It is a high elasticity type with excellent conformability to vibration.

It is a grade with high viscosity and excellent initial pressure resistance.

1217 M

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket for FIPG.

It has excellent oily surface adhesiveness.

It has oil resistance, and it can be used for sealing engine oil pans, chain cases, etc.

1216

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket for FIPG.

It has excellent chemical resistance, and in addition to engine oil pans and gear cases, it can also be used for sealing coolants such as for water pumps.

There are variations such as different functions.

1217 H

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket for FIPG.

It is a high elasticity type with excellent conformability for

It is a grade with high viscosity and excellent initial pressure resistance.

1217 N

This is an oxime type single-component, moisture-curing, siliconebased liquid gasket for FIPG.

It has excellent adhesion to magnesium alloys.

It has oil resistance, and it can be used for sealing engine oil pans and chain cases, etc.

- * About the single-component, moisture-curing, silicone-based liquid gasket reaction types All single-component, moisture-curing, silicone-based liquid gaskets become rubber-like elastic bodies due to reaction with moisture in the air, but they are sorted into the following three types according to their reaction types.
- Oxime type: Gaskets that generate a small amount of oxime gas as a reactive byproduct. These are corrosive to copper alloys, so these are not suitable for electronic devices. They may cause cracks, etc., on thermoplastics. They have excellent adhesion with various
- Acetone type: Gaskets that generate a small amount of acetone gas as a reactive byproduct. There is no corrosion on metals and no influence on most plastics. They have a fast curing speed and have excellent airtightness and heat resistance.
- · Alcohol type: Gaskets that generate a small amount of methanol gas as a reactive byproduct. They have no influence on metals or plastics, but have weaker adhesion.

*FIPG: Formed In Place Gasket



	Cha	Product name	Unit	1101	1102	1102D	1102G	1102J	1103B	1105	1105B
	Mair	n component		Vegetable oil	Alkyd-based resin	Alkyd-based resin	Alkyd-based resin	Alkyd-based resin	Cellulose- based acetate	NBR	NBR
	Cur	ing method		Non-drying	Non-drying	Non-drying	Non-drying	Non-drying	Solvent vaporization	Solvent vaporization	Solvent vaporizatio
		Features		Seawater resistance	Water resistance Oil resistance	Water resistance Oil resistance	Water resistance Oil resistance	Water resistance Oil resistance	Dry Peelable	Dry Peelable	Dry Peelable
	A	ppearance		Rust	Yellow	Silver	Yellow	Black	Black	Black	Silver
	,	Viscosity	Pa∙s	1000	7.0	6.9	6.9	7.0	3.4	3.5	3.5
	Spe	ecific gravity		1.56	1.32	1.33	1.33	1.34	0.88	0.92	0.92
N	lon-V	olatile Content	%	99.0	77.0	79.0	79.0	76.0	26.6	25.0	26.0
	Tac	ck free time	min	Non-drying	Non-drying	Non-drying	Non-drying	Non-drying	-	-	-
uring	State			Non-drying	Non-drying	Non-drying	Non-drying	Non-drying	Dry Peelable film	Dry Peelable film	Dry Peelable fil
after c		Hardness		-	-	-	-	-	-	-	-
Physical characteristics after curing	E	longation rate	%	-	-	-	-	-	-	-	-
aracte	T	ensile strength	MPa	-	-	-	-	-	-	-	-
ical ch		nsile shear bond strength (Iron)	MPa	-	-	-	-	-	-	-	-
Phys		nsile shear bond ngth (Aluminum)	MPa	-	-	-	-	-	-	-	-
tance	Ro	om temperature	MPa	12.0	9.5	9.5	9.0	10.0	6.5	8.5	8.5
re resis		80°C	MPa	6.0	7.5	7.5	7.0	7.0	2.5	6.5	6.5
Pressu		150°C	MPa	0.5	6.5	6.0	4.0	7.0	2.0	5.5	5.5
stance	e rate	Water*1	%	-0.9	+1.0	+1.0	+1.0	-4.0	-2.3	+0.3	+0.3
Chemical resistance Pressure resistance	change rate	Gasoline*2	%	-33.3	-2.4	-2.4	-2.4	-4.0	-38.6	-5.2	-5.2
Chemi	Mass	Lubricating oil No.2*3	%	-	-	-	-	4.7	-23.4	-	-
	Re	movability		Good	Difficult	Difficult	Difficult	Difficult	Good	Good	Good
Operating temperature range (Est.)			°C	-40 to 80	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 110	-40 to 150	-40 to 15
Remark(s)				Good plastic resistance		Different color version of 1102		Different color version of 1102	Suited for relatively small joint surfaces	Suited for relatively small joint surfaces	Different color version of 1105

^{*1 :} Immersion conditions 90°C \times 24h

^{*2:} Immersion conditions 50°C×24h

^{*3:} Immersion conditions 100°C×24h

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.



	Char	Product name	Unit	1108	1109J	1109M	1111B	1111C	11	17	1121	1121C	1130	1133C	1133J	1133K	1141G	1141H	1141J
Π		component	Onit	Vinyl modified resin Natural resin	Liquid glass	Synthetic rubber	Natural resin Synthetic resin	Phenol resin Rosin modified resin	Fluorine-b	ased resin	Saturated polyester resin	Saturated polyester resin	Acrylate	Acrylate	Acrylate	Acrylate	Acryl emulsion	Acryl emulsion	Acryl emulsion
	Curii	ng method		Solvent vaporization	Solvent evaporation reaction	Solvent vaporization	Solvent vaporization	Solvent vaporization	Mixture of	two fluids	Non-drying	Solvent vaporization Non-drying	Anaerobic curing	Anaerobic curing	Anaerobic curing	Anaerobic curing	Vaporization	Vaporization	Vaporization
	F	eatures		Used in combination with solid gaskets	Sealant for hot materials	Heat and Water resistance			Chemical ı	resistance	Solventless	1121 Low viscosity	For tapered plugs	For flanges	For flanges	For flanges	Water-based type Nonflammable	type	type
	Ар	pearance		Brown	Grayish green	Black	Black	Black	Agent A Black	Agent B Milky White	Gray	Gray	White	Blue	Blue	Yellow	Gray	Gray	Gray
	V	iscosity	Pa∙s	0.75	Paste	5.0	5.3	4.5	57	55	330	11.0	50.0	100	100	250	15.0	0.9	10.0
	Spec	ific gravity		0.94	1.65	1.20	1.22	1.30	1.88	1.84	1.35	1.27	1.15	1.10	1.19	1.07	1.26	1.22	1.26
N	on-Vo	latile Content	%	53.0	65.0	54.0	74.0	78.0	-	-	100	87.3	100	-	-	-	68.0	60.0	68.0
	Tack	free time	min	-	-	-	-	-	-	- Nor		Non-drying	-	-	60 (Set time)	60 (Set time)	-	-	-
Physical characteristics after curing	State			-	Dry	Rubber-like	Dry	Dry	Rubbe	er-like	Non-drying	Non-drying	Rubber-like	Rubber-like	Rubber-like	Rubber-like	-	-	-
after		Hardness		-	-	-	-	-	A3	38	-	-	-	-	-	-	-	-	-
eristics	Ele	ongation rate	%	-	-	-	-	-	40	00	-	-	-	-	-	-	-	-	-
naracte	Te	nsile strength	MPa	-	-	-	-	-	2.	8	-	-	-	-	-	-	-	-	-
sical cł		sile shear bond rength (Iron)	MPa	-	5.2	-	-	-	-		-	-	-	11.0	11.0	17.0	-	-	-
Phy	Ten	sile shear bond gth (Aluminum)	MPa	-	1.8	-	-	-	0.	7	-	-	-	10.0	10.0	17.7 (Cured at 80°C)	-	-	-
tance	Roo	m temperature	MPa	8.5	9.0	10.0	9.5	8.0	-		9.0	9.0	11.0	-	-	10 or higher	10 or higher	10 or higher	10 or higher
re resis		80°C	MPa	8.0	8.5	6.5	6.5	7.0	-		7.0	7.0	11.5	-	-	-	10 or higher	9.5	10 or higher
Pressu		150°C	MPa	4.0	-	6.0	0.5	4.0	-		6.5	6.5	4.0	-	-	-	9.5	8.5	9.0
Chemical resistance Pressure resistance	e rate	Water*1	%	-5.3	-	-0.4	-5.0	-2.0	0)	-5.5	-5.5	+0.25	-	-	-	-2.3	-2.1	-2.5
cal resi	Mass change rate	Gasoline*2	%	+2.3	-	-21.3	-20.0	-4.2	3.	5	-4.4	-4.4	-0.85	-	-	-	-7.5	-7.0	-7.2
Chemi	Mass	Lubricating oil No.2*3	%	-	-	-3.8	-	-	-		-	-	-	-	-	-	-	-	-
	Ren	novability		Good	Relatively difficult	Normal	Difficult	Difficult	Nor	mal	Good	Good	Normal	Difficult	Difficult	Difficult	Good	Good	Good
Ор	eratin rar	g temperature nge (Est.)	°C	-40 to 140	-40 to 400	-40 to 150	-40 to 150	-40 to 150	-30 to	150	-40 to 130	-40 to 130	-40 to 130	-40 to 130	-40 to 130	-40 to 130	-40 to 140	-40 to 140	-40 to 140
	Re	emark(s)		Used in combination with solid gaskets	Sealant for mufflers		Sealant for screws					1121 low- viscosity product diluted with alcohol					pH: 9.0	pH: 9.0	pH: 9.0

^{*1:}Immersion conditions 90°C×24h *2:Immersion conditions 50°C×24h *3:Immersion conditions 100°C×24h

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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



	Product name		1153E	1156B	1156C	1156D	1158	1160
	Characteristics	Unit						
٨	lain component		Olefin-based resin	Acryl rubber	Acryl rubber	Acryl rubber	Acryl rubber	Acryl rubber
	Curing method		Heat-curing	Heat-curing	Heat-curing	Heat-curing	Moisture- curing Alcohol- releasing type	Moisture- curing Alcohol- releasing type
	Features		Gas barrier property Low moisture permeability	Heat resistance Chemical resistance	Heat resistance Chemical resistance	Heat resistance Chemical resistance	Oil resistance	Heat resistance Chemical resistance
	Appearance		Gray	Black	Black	Black	Black	Black
	Viscosity	Pa∙s	855	180	380	400	200	125
	Specific gravity		1.04	1.20	1.24	1.18	1.35	1.46
	Standard curing conditions		130×°C 90min	150°C× 30 min	150°C× 30 min	150°C× 30 min	-	-
rcuring	Hardness		A38	A6	A15	E31	A20	A46
Physical characteristics after curing	Elongation rate	%	320	275	300	300	300	460
characte	Tensile strength	MPa	2.4	1.2	1.7	1.3	1.8	2.0
Physical	Moisture permeability (60°C×90%RH)	g/m²·24h	48	-	-	-	-	-
	Removability		-	Normal	Normal	Normal	Normal	-
Ope	rating temperature range (Est.)	°C	-	-30 to 150	-30 to 150	-30 to 150	-30 to 150	-
	Remark(s)		Fuel cell For CIPG	Oil resistance, exellent ATF property	High- viscosity and high- thixotropic type of 1156B	Excellent flexibility and displacement conformity	One component moisture- curing acryl sealant, paintable type	Free from the intentional addition of low molecular cyclic siloxane and organostannic compounds, complies with REACH regulations



Liquid Gaskets Property Table

	Product name			
	Characteristics	Unit	1170H	1171G
٨	Nain component		Special synthetic rubber	Special synthetic rubber
	Curing method		Solvent vaporizasion	Solvent vaporizasion
	Features		Low moisture permeability	Low moisture permeability
	Appearance		Blue	Colorless transparent
	Viscosity	mPa∙s	225	600
	Specific gravity		0.87	0.79
No	n-Volatile Content	%	8.8	5.6
after curing	State		Rubber-like adhesive film	Rubber-like adhesive film
Physical characteristics after curing	Moisture permeability (40°C×95%RH)	g/m²·24h	6.8	6.8
Physical ch	Moisture permeability (60°C×95%RH)	g/m²⋅24h	-	-
ge rate)	Propylene carbonate	%	2.2	-1.9
Chemical resistance (Mass change rate)	Gamma- Butyrolactone	%	2.2	-1.4
ance (Ma	Dimethoxyethane	%	2.9	2.1
al resist	Potassium hydroxide (10%)	%	-	-
Chemic	Hydrochloric acid (10%)	%	-	-
	Remark(s)		For Batteries	For Batteries

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.
* FIPG (Formed In Place Gasket)

^{*} CIPG (Cured In Place Gasket)

^{* - :} Unmeasured *The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

	_							
		Product name		1184	1184D	1184E	1184J	1184Y
		haracteristics ain component	Unit \	Special synthetic rubber	Special synthetic rubber	Special synthetic rubber	Special synthetic rubber	Special synthetic rubber
	C	uring method		Solvent vaporization	Solvent vaporization	Solvent vaporization	Solvent vaporization	Solvent vaporization
		Features		Multi-use type Chemical resistance	Multi-use type Chemical resistance	Multi-use type Chemical resistance	Multi-use type Chemical resistance	Multi-use type Chemical resistance
		Appearance		Gray	Cream	Black	Gray	Gray
		Viscosity	Pa∙s	9.5	29.0	8.5	6.5	9.5
	S	pecific gravity		1.26	1.32	1.20	1.23	1.35
	Non	-Volatile Content	%	57.5	63.0	55.0	54.0	53.9
	1	ack free time	min	12	12	12	12	10
uring		State		Rubber-like	Rubber-like	Rubber-like	Rubber-like	Rubber-like
Physical characteristics after curing		Hardness		A23	A22	A28	A22	-
eristics		Elongation rate	%	1720	1000	700	1200	-
aracte		Tensile strength	MPa	0.17	0.15	0.21	0.13	-
ical ch	1	Tensile shear bond strength (Iron)	MPa	3.3	-	-	-	-
Phys		Tensile shear bond rength (Aluminum)	MPa	2.7	-	-	-	-
tance	F	Room temperature	MPa	10.0	10.0	10.0	10.0	10.0
Pressure resistance		80°C	MPa	8.5	8.0	8.5	8.0	8.5
Pressul		150°C	MPa	8.5	8.0	8.0	8.0	-
	rate	Water*1	%	-1.9	-1.9	-2.5	-3.0	-2.9
Chemical resistance	Mass change rate	Gasoline*2	%	-2.8	-1.8	-3.8	-3.7	-2.6
Chemic	Mass o	Lubricating oil No.2*3	%	-3.6	-1.1	-1.9	-	-
		Removability		Normal	Normal	Normal	Normal	Normal
(Opera	ating temperature range (Est.)	°C	-40 to 150				
Remark(s)				Superior acid and alkali resistance				

^{*1 :} Immersion conditions 90°C×24h

	Cha	Product name	Unit	1201E	1206C	1206D	1206E	1207B	1207C	1207D	1207F
Т		n component	,	Silicone	Modified Silicone	Modified Silicone	Modified Silicone	Silicone	Silicone	Silicone	Silicone
	Cur	ing method		Solvent vaporization oxime type	Moisturecuring Alcohol type	Moisturecuring Alcohol type	Moisturecuring Alcohol type	Moisturecuring Acetone type	Moisturecuring Acetone type	Moisturecuring Acetone type	Moisturecurin
		Features		Solvent dilution type Low viscosity	Paintable Oil resistance	Paintable Oil resistance	Paintable Oil resistance	Fast-curing Cooling liquid resistance	Fast-curing Cooling liquid resistance	Fast-curing Cooling liquid resistance	Fast-curing Cooling liquid resistance
	A	ppearance		Gray	Black	Gray	Gray	Black	Rust	Aluminum color	Aluminun color
	,	Viscosity	Pa∙s	3.6	-	-	72.0	250	200	200	-
Apı	parer	nt viscosity (SOD)	Pa∙s	-	90	80	-	100	70	70	180
	Spe	ecific gravity		1.18	1.45	1.46	1.43	1.01	1.47	1.46	1.45
	Tac	ck free time	min	105	30	5	16	3	3	5	5
curing		Hardness		A40	A45	A41	A33	A30	A60	A60	A56
Physical characteristics after curing	E	Elongation rate	%	250	400	470	350	400	200	170	190
cteristic	Tensile strength		MPa	2.5	2.0	2.2	1.8	1.9	4.2	4.0	3.7
al chara	Tensile shear bond strength (Iron) MPa			-	2.3	-	-	1.6	1.7	2.0	2.3
Physic	Tensile shear bond strength (Aluminum)			-	-	2.3	1.7	1.1	1.7	2.0	2.2
ance	Initial (When uncured) clearance: 0.2mm MPa			-	-	0.14	0.14	0.18	0.14	0.14	0.23
Pressure resistance	Initial (When uncured) clearance: 0.5mm			-	0.11	-	-	0.07	0.05	0.05	0.12
Pressu	(Ro	After curing om temperature)	MPa	10	-	-	-	10 or higher	10 or higher	10 or higher	10 or high
		Engine oil		-	(Lower heat resistance)	(Lower heat resistance)	(Lower heat resistance)	0	0	0	0
	ness	Gear oil		-	(For agricultural machines)	(For agricultural machines)	(For agricultural machines)	×	×	×	×
ce	Appropriateness	AT oil		-	×	×	×	×	×	×	×
Chemical resistance	Appro	MT oil		-	×	×	×	×	×	×	×
emica		Coolant		-	×	×	×	0	0	0	0
ਰ	rate	Water*1	%	-0.1	-	-	-	-0.6	-0.4	-	-
	hange	Gasoline*2	%	-7	-	-	-	+5.0	-0.3	-	-
	Mass change rate	Lubricating oil No.2*3	%	4.0	-	-	-	-6.0	+5.8	-	-
		movability		Good	Normal	Normal	Normal	Relatively difficult	Good	Good	Normal
Operating temperature range (Est.)		°C	-60 to 200 (250)	-40 to 120	-40 to 120	-40 to 120	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 20 (250)	
Remark(s)			Brush application possible May be used as a coating on solid packings	For FIPG farm equipment improved thermal degradation	FIPG: agricultural machines	FIPG: agricultural machines	FIPG: Engine oil and Cooling liquid sealing UL94-HB certified product	FIPG: Engine oil and Cooling liquid sealing	FIPG: Engine oil and Cooling liquid sealing Different color version of 1207C	FIPG: Engine o and Coolii Iiquid sealing	

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^{*2:}Immersion conditions 50°C×24h *3:Immersion conditions 100°C×24h

 $^{{}^{*}\}text{The value listed in the property table is an example of a measured value and is not the guarantee level.}$

^{*} Before using, confirm the adequacy and safety for the relevant application.

^{*1:} Immersion conditions 90°C×24h *2: Immersion conditions 50°C×24h

^{*3:} Immersion conditions 100°C×24h

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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

* FIPG: Formed In Place Gasket



	Product name																				
	Characteristics	Unit	1211	1211E	1211F	1211G	1211H	1212	1212D	1215	1215B	1215H	1216	1216B	1216C	1216E	1216J	1217	1217B	1217C	1217D
	Main component		Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone
	Curing method		Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type
	Features		use	use	use	For general use Low viscosity	use	use	use	For general use Chemical resistance	For general use Chemical resistance	For general use Chemical resistance	Multi-grade	Mission oil resistance	Mission oil resistance	Multi-grade Fast-curing	Chemical resistance CVT fluid resistance	Chemical resistance ATF resistance	Chemical resistance ATF resistance	Chemical resistance ATF resistance	Engine oil Low foamability
	Appearance		White	White	Milky white	White	White	White	Aluminum color	Gray	Black	lvory	Gray	Black	Light Rust	Gray	Rust	Gray	Rust	Black	Gray
	Viscosity	Pa∙s	70.0	5.0	70.0	4.3	63.0	300	300	75.0	85.0	70	-	-	-	-	-	-	-	-	-
Ар	parent viscosity (SOD)	Pa∙s	-	-	-	-	-	100	100	20	20	20	120	120	170	215	95	140	150	150	120
	Specific gravity		1.01	1.05	1.04	1.04	1.03	1.04	1.05	1.50	1.45	1.53	1.40	1.50	1.48	1.36	1.61	1.47	1.45	1.50	1.51
	Tack free time	min	40	60	40	35	16	7	7	10	11	30	5	20	5	6	13	20	20	20	10
curing	Hardness		A26	A25	A24	A20	A21	A30	A30	A50	A40	A52	A60	A50	A48	A57	A61	A57	A56	A52	A52
ics after	Elongation rate	%	300	200	300	250	280	300	300	320	380	310	240	500	470	300	250	400	350	320	400
racterist	Tensile strength	MPa	2.5	1.0	2.5	1.8	1.9	2.0	2.0	1.2	1.2	1.32	3.0	2.0	2.1	3.3	1.8	2.1	1.9	2.0	1.8
ical cha	Tensile shear bond strength (Iron)	MPa	-	0.8	-	-	-	-	1.7	0.9	0.9	1.0	2.3	-	1.1	-	1.1	-	-	-	-
Phys	Tensile shear bond strength (Aluminum		1.4	0.8	1.2	0.8	1.0	1.0	1.5	0.8	0.8	1.0	2.2	1.7	1.3	2.5	1.1	2.3	1.7	1.7	1.7
istance	Initial (When uncured clearance: 0.2mm	IVIF a	0.04	0.01	0.04	0.01	0.04	0.15	0.10	0.05	0.05	0.05	0.21	0.17	0.18	0.25	0.20	0.18	0.20	0.21	0.17
sure res	Initial (When uncured clearance: 0.5mm) MPa	0.01	-	0.01	-	0.01	0.06	0.03	0.01	0.01	0.01	0.10	0.07	0.06	0.10	0.09	0.07	0.10	0.10	0.09
Press	After curing (Room temperature)	MPa	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	-	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher
	Engine oil		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Gear oil		×	×	×	×	×	×	×	0	0	0	0	Δ	Δ	0	Δ	Δ	Δ	Δ	×
tance	Appropriate No Lio LW l		×	×	×	×	×	×	×	×	×	×	Δ	0	0	Δ	0	Δ	0	0	×
al resis	MT oil		×	×	×	×	×	×	×	0	0	0	0	0	0	0	0	0	×	×	×
Chemical resistance	Coolant		×	×	×	×	×	×	×	×	×	×	Δ	×	×	Δ	×	×	×	×	×
Ò	Water*1	%	-0.5	-	-	-	-	+1.3	+1.3	-1.0	-0.4	-0.4	-	-	-	-	-	-	-	-	-
	Gasoline*2 See Lubricating oil No.2*3	%	-20.2	-	-	-	-	-15.1	-15.1	-5.0	-4.7	-4.7	-	-	-	-	-	-	-	-	-
		%	+5.0	-	-	-	-	+5.0	+5.0	+5.0	+4.9	+4.9	-	-	-	-	-	-	-	-	-
0	Removability		Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal	Normal
O	range (Est.)	°C	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)
	Remark(s)		For general use Engine oil pan Used with packing	Low	Different color version of 1211	Better nylon adhesion than 1211E	Better nylon adhesion than 1211	Engine oil	For general use Engine oil pan sealing Different color version of 1212	FIPG: Engine oil pan and Gear case sealing	FIPG: Engine oil pan and Gear case sealing Different color version of 1215	FIPG: Engine oil pan and Gear case sealing Different color version of 1215	FIPG: Engine oil pan, AT case, Gear case and Cooling liquid sealing	FIPG: AT case and CVT case sealing High viscosity version of 1215B	FIPG: AT case and CVT case sealing Different color version of 1216B	FIPG: Engine oil pan, AT case, Gear case and Coolant sealing	FIPG: Engine oil pan, AT case and Gear case sealing	FIPG: Engine oil pan and Engine oil sealing Low-foaming ability			

^{*1:}Immersion conditions 90°C×24h *2:Immersion conditions 50°C×24h

^{*3:} Immersion conditions 100°C×24h

^{* - :} Unmeasured

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

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

* FIPG: Formed In Place Gasket



		Product name		1217E	1217F	1217G	1217H	1217M	1217N	1217P	1227D	1280	1280B	1281B	1281D	1282B
		naracteristics	Unit \	C:I:	C:I:	6:1:	c:I:	C:1:	C:I:	C:1:	C:1:	C:I:	C:I:	c:I:	c:I:	C:I:
	Mai	in component		Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone
	Cu	iring method		Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring alcohol type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring oxime type	Moisturecuring acetone type
		Features		ATF resistance AT oil Low foamability	High-grade engine oil	High elasticity High-grade engine oil	High elasticity High-grade engine oil	High elasticity Oily surface adhesiveness	High elasticity Magnesium adhesion	High elasticity Oily surface adhesiveness Compliant with MEKO regulations	Compliant with MEKO regulations Coolant resistance	Engine oil resistance	Initial pressure resistance	ATF resistance	Gear oil resistance	Initial pressure resistance Liquid coolant resistance
	Д	Appearance		Rust	Gray	Gray	Dark gray	Black	Gray	Black	Black	Aluminum color	Gray	Rust	Gray	Black
		Viscosity	Pa∙s	-	-	-	-	-	-	-	-	-	-	-	-	-
Ap	pare	ent viscosity (SOD)	Pa∙s	140	210	301	330	280	280	260	200	100	200	115	150	200
	Sp	ecific gravity		1.50	1.39	1.37	1.36	1.37	1.45	1.36	1.46	1.04	1.06	1.45	1.41	1.07
	Ta	ack free time	min	5	6	5	5	7	6	6	90	6	3	10	4	3
ring		Hardness		A53	A60	A60	A51	A45	A35	A57	A33	A30	A33	A60	A65	A46
after cu		Elongation rate	%	260	210	430	470	500	440	430	410	400	480	220	200	330
teristics	-	Tensile strength	MPa	1.6	3.0	2.6	2.6	2.5	3.1	2.4	2.3	2.0	2.5	4.8	3.0	3.3
Physical characteristics after curing		ensile shear bond strength (Iron)	MPa	1.3	1.9	2.1	2.3	-	2.6	-	2.3	1.4	1.8	2.0	1.8	1.8
Physica	Te	ensile shear bond ength (Aluminum)	MPa	1.4	1.9	2.0	2.3	1.6	2.7	1.9	2.2	1.4	2.0	2.0	2.1	1.7
ance	Initi	ial (When uncured) learance: 0.2mm	MPa	0.20	0.34	-	-	-	-	-	0.19	0.13	0.17	0.15	0.11	0.11
Pressure resistance	Initi	ial (When uncured) learance: 0.5mm	MPa	0.10	0.14	0.10	0.15	-	0.15	-	-	0.06	0.13	0.06	0.05	0.06
Pressur		After curing com temperature)	MPa	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher	-	-	10 or higher	10 or higher	10 or higher	10 or higher	10 or higher
	(110	Engine oil		0	0	0	0	0	0	0	0	0	0	Δ	0	Δ
	ress	Gear oil		×	×	×	×	×	×	×	×	×	×	×	0	×
e e	oriate	AT oil		0	×	×	×	×	×	×	×	×	×	0	×	×
Chemical resistance	Appropriateness	MT oil		0	×	×	×	×	×	×	×	×	×	×	0	×
ical re	4	Coolant		×	0	×	×	×	×	×	0	×	×	×	×	0
Chem	rate	Water*1	%	-	-	-	-	-	-	-	-	-	-	-	-	-
	nange	Gasoline*2	%	-	-	-	-	-	-	-	-	-	-	-	-	-
	Mass change rate	Lubricating oil No.2*3	%	-	-	-	-	-	-	-	-	-	-	-	-	-
		emovability		Normal	Good	Relatively difficult	Relatively difficult	Normal	Normal	Normal	Normal	Good	Good	Normal	Normal	Normal
0		ting temperature range (Est.)	°C	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)	-60 to 200 (250)
		Remark(s)		FIPG: Engine	FIPG: Engine oil pan for coolant	FIPG: Engine			FIPG: Engine oil pan sealing		FIPG: Engine oil pan for coolant sealing	FIPG: Engine oil pan sealing	FIPG: Engine oil pan sealing		FIPG: Differential gear sealing	FIPG: Engine oil pan for

^{*1 :} Immersion conditions 90°C×24h

^{*2:}Immersion conditions 50°C×24h *3:Immersion conditions 100°C×24h

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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

* FIPG: Formed In Place Gasket



Threelock and Sealock Processes to Prevent Leaking and Loosening of Screw

Automotive Market lectronics Market



Auto Aftermarket

This is the process for coating the sealant and locking agent to the thread portion of screws, bolts, pipes, etc. to add sealing and locking functions to screws themselves.

Pre-coated screws maintain stability, and have sealing or locking functions when tightened.

Pre-coating of bolts includes bolts pre-coated by MEC Processing where a microencapsulated reactive adhesive is applied, Threelock Processing where nylon is fused, and Sealock Processing where a sealing function is added.

■ Threelock Processing

Fusion processing of nylon resin with excellent elastic modulus, wear resistance, chemical resistance, lubricity, and weather resistance.

When processed screws are tightened, excellent loosening prevention is achieved by the nylon resin elastic force generated in the screw clearance. Because of the nylon resin's excellent elastic modulus, wear resistance, and adhesion to the screw, it is possible to use them more than five times with compliance to JIS (JIS B 1056). They can be used in a wide temperature range from -50°C to 120°C (approx.).

■ Sealock Processing

This is a baked-on processing of special synthetic resin.

When processed screws are tightened, the screw clearance receives deformed filling by the special synthetic resin and sealing is achieved immediately. The heat-resistant type can achieve sealing with hydraulic pressure at approximately 170°C.

2358

Sealock Processing / Heat-Resistant Type

This is a sealing process that uses fluoropolymer as the main component.

Because it is a baked-on type, the sealing function can be achieved by simply tightening the screw.

It has excellent heat resistance, and the sealing function works up to approximately 170°C.

It has excellent chemical resistance.

2365 B, 2365 C

Threelock Processing / Standard Type

Prevailing type loosening prevention coating for small screws using nylon as the main component.

Because it is a fusion type, the loosening prevention function and drop-preventing function can be achieved by simply tightening the screw

Functions are maintained even at 120°C (approx.).

It has excellent repeatability.

The applied nut diameter is M1.6 to M40, allowing it to be used for a wide range of applications.

Property Table

		Produ	ct name		2358
	Cha	aracteri	stics	Unit	
	Mair	n compo	onent		Fluoropolymer
		Feature	S		For sealing
	A	ppearan	ice		White
	Applied	screw o	diameter		-
			M10 bolt	MPa	2 or higher
	Air tight*1	25°C	1/8 PT plug	MPa	2 or higher
			3/4 PT plug	MPa	2 or higher
			M10 bolt	MPa	2 or higher
	Water tight ^{*1}	25°C	1/8 PT plug	MPa	2 or higher
			3/4 PT plug	MPa	2 or higher
≥			M10 bolt	MPa	12 or higher
Sealability		80°C	1/8 PT plug	MPa	12 or higher
Se			3/4 PT plug	MPa	12 or higher
			M10 bolt	MPa	12 or higher
	Oil tight ^{*2}	150°C	1/8 PT plug	MPa	12 or higher
			3/4 PT plug	MPa	12 or higher
			M10 bolt	MPa	12 or higher
		170°C	1/8 PT plug	MPa	12 or higher
			3/4 PT plug	MPa	12 or higher
Ope	rating ter	mperatu	°C	Seal 170	
	F	Remark(:		Sealock processing	

*1: Iron seal block / Tightening torque M10 bolt: 30N·m, 1/8 plug: 4N·m, 3/4	
plug: 44N·m, Maximum applied pressure 2MPa	

^{*2:} Iron seal block / Tightening torque M10 bolt: 30N-m, 1/8 plug: 4N-m, 3/4 plug: 44N-m, Maximum applied pressure 12MPa

^{*} Before using, confirm the adequacy and safety for the relevant application.

	Pro	oduct name		2365B	2365C						
	Charac	teristics	Unit								
	Main cor	mponent		Nylon resin	Nylon resir						
	Feat	ures		Repeated usage	Repeated usage						
	Appea	arance		Green	Red						
	Applied scre	ew diameter		M1.6 to 40	M1.6 to 40						
		Screw torque	N∙m	0.017	0.017						
	M1.6×P0.35 (0.05N·m	Loosening torque First rotation	N⋅m	0.012	0.012						
	tightening)	Loosening torque Fifth rotation	N∙m	0.007	0.007						
orque		Screw torque	N⋅m	0.47	0.47						
Repetitive torque	M4×P0.7 (2N·m tightening)	Loosening torque First rotation	N⋅m	0.40	0.40						
Repet	tigriteriirig/	Loosening torque Fifth rotation	N⋅m	0.22	0.22						
		Screw torque	N∙m	8.1	8.1						
	M10×P1.5 (30N·m tightening)	Loosening torque First rotation	N⋅m	6.5	6.5						
	tigite:iiiig)	Loosening torque Fifth rotation	N∙m	4.3	4.3						
	Scre	w torque	N⋅m	4.7 to 6.5	4.7 to 6.5						
	25°C	Unwinding torque	N∙m	24.0	24.0						
		Loosening torque	N⋅m	4.9	4.9						
re	80°C	Unwinding torque	N⋅m	21.5	21.5						
Torque by temperature	80 C	Loosening torque	N⋅m	3.5	3.5						
y tem	100°C	Unwinding torque	N⋅m	23.6	23.6						
rque k	100 C	Loosening torque	N⋅m	2.8	2.8						
To	120°C	Unwinding torque	N∙m	20.8	20.8						
	120 C	Loosening torque	N∙m	2.1	2.1						
	150%	Unwinding torque	N∙m	20.1	20.1						
	150°C	Loosening torque	N⋅m	1.7	1.7						
0	perating tempe	rature range (Est.)	°C	-50 to 120	-50 to 120						
	Rem	ark(s)		Threelock Processing	Threelock Processing						
*The value listed in the property table is an example of a											

The value listed in the property table is an example of a

^{* -:} Unmeasured

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

measured value and is not the guarantee level.

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



Pipe Sealants



These are liquid sealants that can seal inner fluids when applied to the threaded portion of piping.

Highly reliable sealing can be achieved by completely filling in and adhering to the minute clearance of thread portions and interlocking portions.

Products with various material bases are available including synthetic resin-based, synthetic rubber-based, acrylate-based, silicone-based, olefin resin-based, and acryl emulsion-based products. There are also various reaction system grades including solvent vaporization, anaerobic curing, and moisture-curing.

There are various types available including a general-purpose type, a type for water supply pipes, and a type for gas pipes. There is also a gas leak repair spray for repairing gas leaks from the threaded portions of gas pipes installed in buildings.

ThreeBond 6660 Gas leak tester . Gas leak detection agent is listed on page 166 for "Others".

1110F, 1110G

This is an anaerobic curing acrylate-based sealant for general pipes. It does not cure while contacting the air, but quickly cures when the threaded portion is tightened.

Sealability is effective immediately, and it can prevent pipe galling due to its lubricity from the fluorine powder.

It can be used as a general use sealant or for preventing loosening with metallic pipes such as cold and hot water pipes, oil pipes, air pipes, and conduit.

4230

This is an alcohol type silicone-based sealant for water supply pipes.

It is compliant with the Japan Water Works Association standard JWWA K 161.

It can be used for water supply pipes and for hot water supply pipes.

It is a mold-resistant type, so it can also be used as a joint sealant or adhesive around water.

4320B

This is a solventless sealant for gas piping that uses alkyd resin as the main component.

Sealability is effective immediately, and it is also a non drying type, so it has excellent vibration resistance and impact strength.

It uses tubes with a rotating nozzle, and the nozzle itself rotates so that it is easy to apply to the whole pipe circumference.

It is an exclusive product for city gas.

It has excellent lubricity, and as for the applicable diameter, up to around 80A can be used.

4221, 4221 B

This is a volatile solvent type sealant for water supply pipes that uses synthetic resin as the main component.

It is compliant with the Japan Water Works Association standard JWWA K 161.

It can be used for prevention of corrosion of the end faces of steel pipes for water supply, as a sealant, and for hot water supply pipes. As for the applicable diameter, up to around 80A can be used.

4314D

This is a volatile solvent type sealant for gas piping that uses special synthetic rubber as the main component.

After drying, it becomes a rubber-like elastic body with excellent vibration resistance and impact strength.

It can be used for both city gas and LP gas.

The applicable diameter is 15A to 50A.

4325,4325B

This is a solventless sealant for gas piping that uses alkyd resin as the main component.

It is a non-drying type with excellent vibration resistance and impact strength.

It can be used for both city gas and LP gas.

The applicable diameter is 15A to 40A.

4370

This is an aerosol type sealant that uses acryl emulsion as the main component for repairing small leaks at the threaded joint portions of gas pipes (interior gas piping).

It is possible to repair leaks at the threaded portions of gas pipes in existing buildings by setting the aerosol can and pressure-filling the sealant inside using the aerosol pressure.

It can be used for both city gas and LP gas.

Principally, the applicable diameter is up to 25A.

ThreeBond Tape

This is a sealing tape that contains unbaked fluororesin as its main component.

It is self adhesive, and can prevent leakage just by being wound around the sealing of various piping screws or bolts.

It has also great heat- and cold-resistance, and can be used in the range of -100 to 260°C. It can also be used for sealing of water and oil, as well as steam, various fuels, organic solvents, etc. since its chemical resistance is also great.

A lineup of JIS-compliant products is also available.

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Pipe Sealants Property Table

Troperty rusic											
	Cha		oduct name	Unit	1110F	1110G	4002	4004D			
	Mair	n com	nponent		Acrylate	Acrylate	Synthetic resin	Special synthetic rubber			
	Cur	ing n	nethod		Anaerobic curing	Anaerobic curing	Solvent vaporization	Solvent vaporization			
		Featu	ures		Lubricity High strength	Lubricity Low strength	For general use	Propane gas City gas for anti- freeze			
	Α	ppea	rance		White to Light yellow	Milky white	Gray	Gray			
		Visco	sity	Pa∙s	50.0	25.0	4.5	9.5			
	Specific gravity				1.08	1.12	1.30	1.26			
1	Non-Volatile Content		e Content	%	Solventless	Solventless	77.0	58.0			
	State after curing				Solid	Solid	Dry adhesion	Rubber-like			
			20A	MPa	3.4 or higher	3.4 or higher	-	-			
ance	Init	ial	25A	MPa	-	-	-	0.49 or higher			
Pipe pressure resistance			50A	50A MPa		-	-	0.49 or higher			
oressu			20A	MPa	3.4 or higher	3.4 or higher	-	-			
Pipe	25° 24	- 25Δ		MPa	-	-	2.0 or higher	0.49 or higher			
			50A	MPa	-	-	2.0 or higher	0.49 or higher			
4.			Water*1	%	-	-	-	-2.6			
Chemical resistance	Mass change rate	Α	nti-freeze*1	%	-	-	-	-3.2			
Chemical	Mass cha	stance	4℃	%	-	-	-	0.1			
O		Gas resistance	20°C	%	-	-	-	0.1			
Removability			ability		Difficult	Excellent	Relatively difficult	Normal			
Operating temperature range (Est.)				°C	-40 to 150	-40 to 150	-30 to 130	-40 to 150			
Remark(s)			rk(s)		For metallic pipes	For metallic pipes	For metallic pipes	Applicable diameter 15A to 50A			

^{*1:} Immersion conditions 85°C×24h

	Product name		4221	4221B	4230
	Characteristics	Unit			
	Main component		Synthetic resin	Synthetic resin	Silicone
	Curing method		Solvent vaporization	Solvent vaporization	Moisture- curing alcohol type
	Features		For hot water supply	For hot water supply	For hot water supply
	Appearance		Gray	White	White
	Viscosity	Pa∙s	5.5	5.5	Paste
	Specific gravity		1.26	1.26	1.45
1	Non-Volatile Content	%	67.0	67.0	Solventless
	Tack free time	min	-	-	15
ıring	State		Dry adhesion	Dry adhesion	Rubber-like
racteristics after curing	Hardness		-	-	A30
Physical characte	Elongation rate	%	-	-	700
Phy	Tensile strength	MPa	-	-	2.5
Wa	ter pressure resistance (20A)	МРа	2.5 or higher	2.5 or higher	2.5 or higher
	Removability		Relatively difficult	Relatively difficult	Normal
O	Operating temperature range (Est.)		-	-	120
	Remark(s)		JWWA K 161 compliant	JWWA K 161 compliant	JWWA K161 compliant

 $^{^{\}ast}\,$ The value listed in the property table is an example of a

measured value and is not the guarantee level.

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

^{* -:} Unmeasured
* The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

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Pipe Sealants Property Table Property Table

1100 / 4000 / 4200 / 4300 Series

	Product name Characteristics		Unit	4314D	4320B	4325	4325B	4332C	4370	
	Maiı	n com	nponent		Special synthetic rubber	Alkyd resins	Alkyd resins	Alkyd resins	Silicone	Acryl emulsion
	Cui	ring n	nethod		Solvent vaporization	Non-drying	Non-drying	Non-drying	Moisture- curing deamidation	Vaporization
	Features				For city gas and LP gas	For city gas	For city gas and LP gas	For city gas and LP gas	For city gas and LP gas	Interior gas piping gas leakage repair spray
	Appearance			Gray	lvory	Gray	lvory	lvory	Milky white	
		Visco	sity	Pa∙s	9.5	110	40.0	40.0	600	7.0 (mPa·s)
	Spe	ecific	gravity		1.26	1.46	1.67	1.67	1.23	1.01
1	Non-V	olatil'	e Content	%	58.0	96.3	98 or higher	98 or higher	96.2	33.0
	Stat	e afte	r curing		Rubber-like	Non-drying	Non-drying	Non-drying	Mastic	Rubber-like
			20A	MPa	-	-	-	-	0.49 or higher	-
ance	Initial		25A	MPa	0.49 or higher	0.5 or higher	-	-	-	-
e resist			50A	MPa	0.49 or higher	-	-	-	-	-
Pipe pressure resistance			20A	MPa	-	-	0.49 or higher	0.49 or higher	-	-
Pipe p	25° 24	°C/ Ih	25A	MPa	0.49 or higher	0.5 or higher	-	-	-	-
			50A	MPa	0.49 or higher	-	-	-	-	-
		Water		%	-1.9	-0.4	-	-	-	-
		stance	4°C*1	%	+0.10	+0.7	-	-	-	-
stance	rate	Gas resist	20°C*1	%	+0.10	+0.2	-	-	-	(Excellent)
al resi	Mass change rate	ı	Benzene*2	%	-	-33.1	-	-	-	(Excellent)
Chemical resistance	Mass	Bei	nzene vapor phase*2	%	-	-	-4.2	-4.2	-	-
J		r	n-hexane*2	%	-	+3.8	-7.9	-7.9	-	-
		n	-pentane*2	%	-	-	-10.1	-10.1	-	-
	Re	emova	ability		Normal	Excellent	Excellent	Excellent	Excellent	-
0	Operating temperature range (Est.)			°C	-40 to 150	-40 to 80	-40 to 80	-40 to 80	-40 to 100	-20 to 80
Remark(s)				Applicable diameter 15A to 50A	Applicable diameter 15A to 80A	Applicable diameter 15A to 40A	Applicable diameter 15A to 40A		Applicable diameter 25A or less Applicable leakage rate: 50 ml/min or less for city gas, 150 ml/5min or less for LPG	

^{*1:} Immersion for 1h

	Product name		ThreeBond Tape	ThreeBond Tape
	Characteristics	Unit		(JIS-compliant products)
	Main component		Unbaked fluororesin (Ethylene tetrafluoride raw tape)	Unbaked fluororesin (Ethylene tetrafluoride raw tape)
	Appearance		White	White
51	Thickness	mm	0.1	0.1
Dimensions	Width	mm	13	13
Δ	Length	m	5.15	15
roperties	Tensile strength	MPa	6.8	7.0 or higher
Physical properties	Elongation rate	%	20 or higher	20 or higher
	Flammability		Non-combustible	Non-combustible
0	perating temperature range (Est.)	°C	-100 to 250	-100 to 250
Remark(s)			This is a tape made of unbaked fluororesin, which is self adhesive. It can be used for screw parts such as screws, taper plugs, stud bolts, and elbow drains. It is chemical resistant and strong against solvents and steam. It is easy to apply and remove. Also it is noncombustible and usable for foods. (Note) Sodium, fluorine gas, chloride gas, hydrogen fluoride, and so on must not be used.	It can be used for constructions supervised by Japan's Ministry of Land, Infrastructure, Transport and Tourism and waterworks bureaus, as the product conforms to JIS K6885 2 standards.

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*3:} Rubber physical properties evaluation for city gas (7 days), elongation change 0%, change in strength -4% Rubber physical properties evaluation for LP gas (7 days), elongation change -9%, change in strength -21%

^{*4:} Rubber physical properties evaluation (20°C/7 days), elongation change 0%, change in strength -8%

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

^{*} Before using, confirm the adequacy and safety for the relevant application.



Sealants for Construction





Auto Aftermarket

This is a caulking agent that can be used for various purposes including joints for mortar and concrete, concrete blocks, U-shaped gutters, metal framed glass sliding doors and windows, and for bonding and sealing of pools, water tanks, sinks, etc.

It is a single component that cures by simply squeezing it from the container and forms a rubber-like elastic body.

There are various grades of different materials available including synthetic rubber-based, urethane-based, silicone-based, and modified silicone based products.

Various primers for silicone are available, and it is possible to gain optimal adhesion for various materials at any work location.

4102

This is a caulking agent that uses modified isobutylene-isoprene rubber as the main component.

It has some tackiness, so it can be used for manhole catch basin joints, sheet metal seems, and for container joints.

4108

This is a caulking agent that uses urethane resin as the main component.

After curing, it becomes a rubber elastic body with low modulus and high elongation, so it can be used for cured materials. It can be used as a sealant for automobiles, vehicles, and containers, etc., and as a sealant for various joints.

5211 Series

This is a caulking agent with silicone resin as the main component that has good adhesion, weather resistance, freeze resistance, and heat resistance.

Rubber elasticity is maintained over a wide temperature range from -60°C to 200°C (approx.).

These can be used for various purposes including joints for mortar and concrete, concrete blocks, U-shaped gutters, metal framed glass sliding doors and windows, and for bonding and sealing of pools, water tanks, sinks, etc. There are seven different colors available; White, Clear, Gray, Ivory, Black, Aluminum, and Amber.

5232 C

This is a caulking agent of middle modulus type that is weather resistant, cold resistant, heat resistant, and adhesive. It uses silicon resin as its main component.

It strikes a great balance between adhesion and stretch, and is extremely adaptive to stretching and shrinking.

Rubber elasticity is maintained over a wide temperature range from -60°C to 200°C (approx.).

5222 Series

This is a caulking agent that uses modified silicone resin as the main component.

It has excellent heat resistance and freeze resistance, and rubber elasticity is maintained over a temperature range from -40°C to 100°C (approx.).

It is paintable, so it can be applied to cured materials. It can be used as joint sealing for construction and civil engineering, vehicle window joint seals, and sealing and bonding of electric parts. There are four different colors available; White, Gray, Ivory, and Black.

5264B

This is a primer for improved adhesion for silicone and modified silicone.

By coating and drying it to a substrate in advance, adhesion can be further improved.

Various primers are available for different materials.

Caulking Agent Property Table

4100 / 5200 Series

Property lable											
	Product name	Unit	4102	4108	5211	5222M	5232C				
ı	Characteristics Main component	Offic	Modified isobutylene- isoprene rubber	Urethane resin	Silicone	Modified Silicone	Silicone				
	Curing method		Solvent vaporization	Moisture- curing	Moisture- curing oxime type	Moisture- curing alcohol type	Moisture- curing oxime type				
	Features		For catch basins	Low modulus	Weather resistance	Paintable	Middle modulus, for civil engineering				
	Appearance		Gray	Gray	Various*1	Various*2	Gray				
	Viscosity	Pa∙s	300	800	500	450	460				
	Specific gravity		1.40	1.30	1.04	1.40	1.35				
	Tack free time		3h	8h	10min	60min	35min				
eristics g	Hardness		-	A7	A23	A28	A21				
cal character after curing	Elongation rate	%	-	900	534	400	890				
Physical characteristics after curing	Tensile strength	MPa	-	1.5	1.5	0.9	6.5				
	Iron	MPa	-	-	1.4	1.2	-				
	Aluminum	MPa	-	-	1.5	1.2	-				
_	Acryl	MPa	-	-	1.1	0.5	-				
Tensile shear bond strength	ABS	MPa	-	-	-	-	-				
ond st	Hard PVC	MPa	-	-	1.0	1.1	-				
near bo	Glass	MPa	-	-	1.2	-	-				
ısile sk	Tiles	MPa	-	-	1.23	-	-				
Ter	Concrete/Tiles	MPa	-	-	-	-	-				
	Concrete	MPa	-	-	-	-	-				
	Wood	MPa	-	-	0.84 (cedar) 0.94 (lauan)	-	-				
Operating temperature		°C	-	-	-60 to 200 (250)	-40 to 100	-60 to 200 (250)				
	Remark(s)				Different colors available 5211: White 5211B: Gray 5211C: Clear 5211D: Ivory 5211E: Black 5211F: Aluminum color 5211G: Amber		Great adhesion to concrete				

^{*1:} White, Gray, Clear, Ivory, Black, Aluminum, Amber

Product name		5262	5263	5264B	5268
Characteristics	Unit				
Features		Primer for silicone	Primer for silicone	Primer for silicone	Primer for silicone
Applications		Concrete Wood	Plastics	Metal coated surface	Stainless steel Acryl resin
Appearance		Light yellow transparent	Light yellow	Colorless transparent	Colorless to Light yellow
Specific gravity		0.97	0.90	0.69	0.89
Non-Volatile Content	%	40.0	5.0	4.7	14.5
Drying time	min	30 or higher	15 or higher	30 or higher	30 or higher
Standard coating weight	g/m²	200	50	38	-

^{* -:} Unmeasured

^{*2:} White, Gray, Ivory, Black

 $^{^{\}ast}\,$ The value listed in the property table is an example of a measured value and is not the guarantee level.

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

<sup>The value listed in the property table is an example of a measured value and is not the guarantee level.

Before using, confirm the adequacy and safety for the relevant</sup>

application.



Solid Sheet Packing

Automotive Market lectronics P Market M



These are sheet-like gaskets that have the good points of both solid sheet gaskets and liquid gaskets.

A special viscous material is impregnated to a strong, long-fibered material so that penetration leakage and leakage from contact surfaces can be prevented, resulting in a highly reliable seal.

They have excellent oil resistance, and can be used in temperatures up to approximately 150°C (high contact pressure type).

There are four types available for different tightening contact pressures; a type for ultra-low contact pressure, for low contact pressure, for medium contact pressure, and a type for high contact pressure. Different thicknesses are also available for each type, making it possible to select the optimal product according to the usage. The Solid Sheet Packing's optimum compression ratio is designed to be about 20%. Two dimensions are available; roll products (25m, 50m) and 1m cut products $(1m \times 1m)$.

202 F, 204 F, 206 F, 210 F

This is Solid Sheet Packing for ultra-low contact pressure. Sheets are available in four thicknesses; 0.2mm, 0.4mm, 0.6mm and 1.0mm.

The operating temperature range is -40°C to 100°C (approx.).

203 T, 206 T, 210 T

This is Solid Sheet Packing for low contact pressure. Sheets are available in three thicknesses; 0.3mm, 0.6mm and 1.0mm.

The operating temperature range is -40°C to 100°C (approx.).

201, 203 S, 206 S, 210 S

This is Solid Sheet Packing for medium contact pressure.

Sheets are available in four thicknesses; 0.1mm, 0.3mm, 0.6mm and 1.0mm.

The operating temperature range is -40°C to 130°C (approx.).

203 H, 206 H, 210 H

This is Solid Sheet Packing for high contact pressure.

Sheets are available in three thicknesses; 0.3mm, 0.6mm and 1.0mm.

The operating temperature range is -40°C to 150°C (approx.).

		Product name		202F	204F	206F	210F	203T	206T	210T	201	2035	2065	2105	203H	206H	210H
	Cha	racteristics	Unit	For ultra-	For ultra-	For ultra-	For ultra-	For low	For low	Faulau	For medium	Far was divine	- I.	F 1:	F 1:1	5 1 1 1	5 1:1
	F	eatures		low contact pressure	low contact pressure	low contact pressure	low contact pressure	contact pressure	contact	For low contact pressure	contact	For medium contact pressure	For medium contact pressure	For medium contact pressure	For high contact pressure	For high contact pressure	For high contact pressure
ı	Logo p	orinting color		Without logo	Without logo	Without logo	Without logo	Orange	Orange	Orange	Navy blue	Navy blue	Navy blue	Navy blue	Green	Green	Green
	TI	nickness	mm	0.2	0.4	0.6	1.2	0.3	0.6	1.0	0.1	0.3	0.6	1.0	0.3	0.6	1.0
	Арра	rent density	g/m³	0.65	0.75	0.78	0.80	0.84	0.85	0.79	0.86	0.84	0.85	0.79	0.84	0.85	0.79
Con	tact p	ressure standard	MPa	2.9 to 7.8	2.9 to 7.8	2.9 to 7.8	2.9 to 7.8	3.9 to 7.8	3.9 to 7.8	3.9 to 7.8	7.8 to 15.7	7.8 to 15.7	7.8 to 15.7	7.8 to 15.7	15.7 to 24.5	15.7 to 24.5	15.7 to 24.5
	۵	ASTM No. 3 oil	%	+26	+75	+75	+80	+9	+11	+18	+16	+9	+14	+19	+13	+18	+23
	ange rat	ASTM Fuel B	%	+22	+81	+81	+58	+16	+21	+25	+14	+18	+25	+29	+18	+31	+35
	Mass change rate	Distilled water	%	+25	+45	+45	+36	+46	+52	+50	+61	+48	+58	+55	+51	+64	+62
		Ethylene glycol (50% aqueous solution)	%	+33	+61	+61	+50	+56	+64	+70	+69	+3	+69	+78	+60	+71	+85
*		ASTM No. 3 oil	%	-	-5	-3	-9	-6	+0.4	+2	-5	+0.6	+0.6	+0.4	-0.1	-1	+5
esistano	Extraction rate	ASTM Fuel B	%	-	-6	-5	-11	+3	+3	+3	-5	+5	+2	+2	+3	-2	+3
Chemical resistance*1	Extract	Distilled water	%	-	-6	-6	-2	+11	+10	+15	-5	+21	+10	+13	+14	-	+15
5 5		Ethylene glycol (50% aqueous solution)	%	-	-7	-5	-1	+18	+18	+20	-3	+20	+18	+18	+20	-1	+20
	rate	ASTM No. 3 oil	%	-	+55	+55	+68	-3	-2	+4	+5	-3	-1	+2	-3	+0.1	0
	riability	ASTM Fuel B	%	-	+60	+70	+88	-2	-3	+2	-3	-1	-2	+5	-2	+6	+10
	Thickness variability rate	Distilled water	%	-	+13	+16	+21	+10	+17	+8	+12	+10	+19	+10	+8	+17	+14
	Thic	Ethylene glycol (50% aqueous solution)	%	-	+15	+17	+20	+15	+0.4	-	+20	+15	-0.7	+22	+13	-0.3	+18
erties	C	ompressibility*2	%	25	35	26	25	17	19	24	16	18	20	22	16	17	19
Physical properties		Recovery*2	%	61	78	75	77	49	48	44	40	49	47	50	41	41	41
Physi		tress relaxation percentage*3	%	14	44	48	68	15	35	55	10	19	38	59	24	45	64
Pressure	Co	ontact pressure: 3.9MPa	MPa	1.1	1.4	1.5	1.2	-	-	-	-	-	-	-	-	-	-
Pres	Co	ontact pressure: 7.8MPa	MPa	1.5	2.2	2.3	1.9	-	-	-	-	-	-	-	-	-	-
Op		ng temperature ne (approx.)	℃	-40 to 100	-40 to 130	-40 to 130	-40 to 130	-40 to 130	-40 to 150	-40 to 150	-40 to 150						
	R	emark(s)		Leave it for 30 minutes after fastening													

^{*1:} Immersion condition: 25°C x 22h (Ethylene glycol is 80°C)

^{*2:} Immersion condition: 25 C x 22n (Etriylene grycor is 80 C)

*2: Contact pressure: 6.9MPa Compressibility rate: Ratio of the amount of compression to original thickness when compressed at the specified contact pressure Recovery rate: Ratio of recovery to compression after the release of predetermined contact pressure

*3: Contact pressure and compression conditions: 21.6 MPa 100°Cx 22 hrs Stress relaxation percentage: Ratio of relaxed (decreased) contact pressure after leaving under specified compression

conditions to initial contact pressure

^{* -:} Unmeasured

 ^{-:} Unmeasured
 The value listed in the property table is an example of a measured value and is not the guarantee level.
 Before using, confirm the adequacy and safety for the relevant application.



Adhesion refers to the "phenomenon where two solids (substrates) are combined by an adhesive". Adhesion strength is related to the bonding strength between the adhesive and the adhered material surfaces (interface), and to the strength of the cured adhesive itself. When selecting an adhesive, keeping these things in mind, it is important to

consider the compatibility between the

substrate and adhesive, the physical force required for the adhesive itself, the environmental conditions to which it will be exposed, etc. By considering workability when using, it is possible to select the optimal

* By referencing the adhesive selection flow chart on the opposite page, it is possible to narrow down the optimal adhesive system according to the following "Adhesive Property Comparison

■ Adhesive Selection Flow Chart

Confirm items that are compatible with the type of adhered material from the "Adhesion to materials".

If there are other Confirm the conditions such as exposure to Properties" chemicals, confirm according to the "Chemical the operating resistance" and temperature range. "Electric insulation"

If plastics such as ABS and polycarbonates will be nearby, which are easily damaged by solvents, confirm the "Influence on plastic"

"Adhesive strength" and "Cured material characteristic" according to the force applied to the portion where it is used.

Confirm the

Select an adhesive and then select a product from the detailed description page.

dhesive Prope	erty Comparison Table		. ,														(: Highly s	uitable ○ : Suitable △ : Not v	ery suitable — : Unsuita
Adhesive	Main applications	Curing mothod	Cumphility	Thormal proportion	Adhes	ion to m	aterials	Dural	oility		Chem	nical resis	tance		Electric	Influence	Adhesive Tensile	strength	Cured material	Representative
lineup	Main applications	Curing method	Curability	Thermal properties	Metal(s)	Plastic" ¹	Rubber*2	heat resistance	Moisture resistance	Water	Acid	Inorganic bases	Oil	Solvent	insulation	on plastic*3	shear bond strength	Peel strength	characteristic	grade
Silicone-based	Bonding for electric and electronic parts, insulation, sealing, general bonding for dampproof coating, etc.	Moisture-curing * Condensation reaction by moisture in the air	Skin formation time: 5 to 10 minutes Curing speed: Approx. 3mm/day	Rubber elasticity is maintained over a wide temperature range Can be used from approximately -60°C to 250°C (heat-resistant type upto 300°C)	0	0	Δ	180°C	0	0	Δ	Δ	0	-	0	None	O	0	Rubber-like Maximum elongation of about 500%	1200 Series
Anaerobic	Bonding of general screws, interlocking adhesion with sealed metal parts, surface adhesion, and bonding of motor magnets	Anaerobic curing * Radical polymerization reaction by cutting oxygen and providing metal contact * Adhesives also curable under UV light are available	Set time: From approximately a few seconds to 5 min Practical strength: 30 to 60 min Final strength: 12 to 24 hours	Can be used from approximately -40°C to 150°C (heat-resistant type upto 200°C)	0	×	×	150°C	0	0	0	0	0	0	0	Yes	0	Δ	Hard and solid with excellent chemical resistance	1300 Series
Rubber-based	General bonding for a wide range of substrates such as rubber, leather, and metal	Solvent vaporization *Volatilization and drying of contained solvent	Surface drying: 5 to 10 min Set time: Clamping after surface drying, and bonding after that allows for immediate fixing, and practical strength is from 10 to 24 hours or longer	Strength maintained from approximately -40°C to 80°C	0	Δ	0	80°C	0	0	0	0	Δ	-	0	Yes	0	0	Rubber-like	1500 Series
Elastomeric adhesive	Bonding to various materials such as metals, plastics, rubber, wood, and inorganic materials	Moisture-curing * Condensation reaction by moisture in the air	Skin formation time: 5 to 10 minutes Practical strength: 24 hours Final strength: 3 to 5 days	Rubber elasticity is maintained over a wide temperature range Can be used from approximately -50°C to 150°C	0	0	0	120°C	0	0	Δ	Δ	-	-	0	Partially affecting	0	0	Rubber-like Maximum elongation of about 400%	1530 Series
Water-based adhesive	General bonding of urethane foam, polystyrene foam, wood, paper, leather, etc., and metals, plastics, rubber, etc.	Solvent vaporization	Practical strength: 1 to 2 hours* Final strength: 1 to 2 days* Open time (Drying time before bonding): 20 min	Can be used from approximately -30°C to 60°C * Strength is maintained up to about 80°C	0	0	0	100°C	Δ	Δ	Δ	Δ	_	-	0	None	0	0	Elastic film with tackiness	1541 C
acky Adhesive	Adhesive for screen printing to plastic nameplates, labels, stickers, etc.	Solvent vaporization *Volatilization and drying of contained moisture or contained solvent	50°C to 60°C ×15 to 20 min	Heat resistance strength maintained from approximately 60°C to 80°C	0	0	0	80 to 100°C	Δ	Δ	Δ	Δ	-	_	0	None	0	0	Highly sticky paste	1549,1555 Seri
Functional adhesive sheet	Display related parts, optical parts, coating of electric and electronic parts, coating / sealing of organic EL	Radical polymerization / cationic polymerization * Curing in several seconds by UV light * Heat-curing	Curing in a few second to under a minute by UV light irradiation from UV light irradiation equipment Heat-curing at 100°C or higher	Can be used from approximately -40°C to 120°C	0	0	0	80 to 120°C	0	0	0	0	0	0	0	None	0	0	Various, from hard and solid to soft and flexible * Acryl resin-based, Epoxy-based	1600 Series
istant adhesive	Bonding to various materials such as metals, plastics, rubber, and wood	Anionic polymerization by moisture * Curing in several seconds by moisture of the adhered material surface	Set time: From approximately a few seconds to a few minutes Practical strength: 30 min to 2 hours Final strength: 12 to 24 hours	Can be used from approximately -40°C to 100°C (heat-resistant type can be used at approximately 120°C)	0	0	0	100 to 120°C	Δ	Δ	0	0	0	0	0	Partially affecting	0	0	Hard and Solid * Various grades are available including high heat resistance, high moisture resistance, and high peelability * Primers for adhesion-difficult materials available	1700 Series 7700 Series
Epoxy resin- based	Bonding, sealing, casting, impregnation, and coating for various usages including for electric and electronic parts and for construction materials	Addition polymerization *Room-temperature curing by mixing the main agent and curing agent, or thermal curing of single-component	Various types including two- component type with room- temperature curing in 24 hours, and single-component type with heat-curing in a few minutes to a few hours	Can be used from approximately -60°C to 150°C (heat-resistant type can be used at approximately 200°C)	0	0	0	120 to 150°C	0	0	0	0	0	0	0	None	0	Δ	Hard and Solid, tough	2000 Series 2100 Series 2200 Series
UV-curable resin-based	Bonding, sealing, casting, and coating for various usages including for electric and electronic parts and for general parts	Radical polymerization / cationic polymerization *Curing in several seconds by UV light *Many types with additional curing property such as anaerobic, humidity, heating, and primer are available	Curing in a few second to under a minute by UV light irradiation from UV light irradiation equipment	Can be used from approximately -40°C to 120°C (heat-resistant type can be used at approximately 150°C)	0	0	0	120°C	0	0	0	0	0	0	0	Partially affecting	0	0	Various, from hard and solid to soft and flexible "Acryl resin-based, acryl rubber-based, epoxy-based, and silicone-based types are available	3000 Series 3100 Series
eramic-based	Filling solidification for ceramics, glass, and metal requiring high heat resistance, filling adhesion for sensors and elements, and coatings	Condensation reaction, reaction with binder	Heat-curing at 150°C, leave at room temperature +100°C×30 min	Heat resistance of 1300°C or higher	0	×	×	1400°C	0	0	0	0	0	0	0	None	0	-	Solid and ceramic-like	3732
SGA wo-component Acryl esin-based structural adhesive)	Adhesion of structures for various materials such as metal, plastic, rubber, wood, and inorganic materials	Honeymoon type (contact) curing * Radical polymerization by contact between Agent A and Agent B	Set time: 4 to 7 min Practical strength: 15 to 30 min Final strength: 12 hours	Can be used from approximately -40°C to 130°C	0	0	0	80 to 100°C	0	0	0	0	0	0	0	Partially affecting	0	0	Tough	3921, 3926

^{*1)} There are materials that are difficult to bond to such as polyethylene, polypropylene, silicone resin, and fluoropolymers.

^{*2)} There are materials that are difficult to bond to such as silicone rubber, fluororubber, and urethane rubber.
*3) ABS, polycarbonate, polysulfone, polystyrene, and other materials that are easily damaged by solvents may dissolve or crack on the surface.

Silicone-Based Adhesives, Sealants and Potting Agents







These are single-component type silicone adhesives and sealants. They can be used for various purposes including bonding, sealing, and dampproof coatings for different fields such as for electric and electronic devices.

The curing reaction occurs from the moisture in the air when it is squeezed from the container, and it becomes a rubber-like elastic body.

They have a fast curing speed, the surface cures at room temperature and normal humidity (25°C / 50%RH) after ten minutes (tack free), and they reach a cured thickness of 1mm or greater after 2 to 3 hours.

The rubber elasticity of the cured material is maintained over a wide temperature range from -60°C to 250°C (approx.) (300°C for heat-resistant type). They have excellent adhesion, so they can bond to most materials. There are two reaction types; the alcohol type (generates a small amount of methanol gas as a reactive byproduct) and the acetone type (generates acetone gas). Neither type is corrosive to metals such as electric-contact metals. They also do not dissolve or cause cracks on most plastics. All grades of the 1220 Series are low-molecular siloxane-reduced products, so they do not cause electrical contact failures.

1220 G, 1220 H

This is a paste-like fluid type product.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1220G is milky white (translucent), and 1220H is white.

1221 G, 1221 H

This is a paste-like non-fluid type with excellent padding ability due to its non-fluidity during application.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1221G is milky white (translucent), and 1221H is white.

1222 C

This is an incombustible type certified according to incombustibility standard UL94V-0.

It is a gray non-fluid paste with excellent padding ability due to its non-fluidity during application.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1224 G

This is milky white (translucent) ultra-fluid type with excellent flowability and leveling ability during application.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1225B

This has high thermal conductivity and excellent heat dissipation. It is a white fluid paste.

It can be used for heat dissipation and insulation of various electronic devices such as switching power supplies, power ICs, and lighting inverters.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1225 C

This has high thermal conductivity and excellent heat dissipation. It is a gray fluid paste.

It can be used for heat dissipation and insulation of various electronic devices such as switching power supplies, power ICs, and lighting inverters.

It is alcohol type with excellent electric insulation.

Low-molecular siloxane, which causes electrical contact failures, is reduced.

1207B

It is a black non-fluid type.

It is the acetone type, so there is no corrosiveness with metals, and almost no influence on plastics.

It has excellent adhesion with metals and plastics.

It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C.

The cured material is soft and it can conform to the movement of the substrate. It has excellent heat resistance and moisture resistance.

 $\ensuremath{^*}$ It cannot be used for insulation, as it has low electrical resistance.

1208, 1208B, 1208C

This is a white type adhesive sealant for electric and electronic devices

It is the acetone type, so there is no corrosiveness with metals, and almost no influence on plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1208 is a medium-viscosity fluid paste, 1208B is a low-viscosity fluid paste, and 1208C is a non-fluid paste.

* It is not a low-molecular siloxane-reduced product.

1209

It is a highly heat-resistant type.

It is a black non-fluid type with excellent padding ability due to its non-fluidity during application.

It is the acetone type, so there is no corrosiveness with metals, and almost no influence on plastics.

It has excellent adhesion with metals, glass, and plastics. It can be used at a temperature range of -60°C to 300°C (approx.), and for continuous use, the heat resistance is about 250°C.

* It does not have high electrical resistivity, so it cannot be used for insulation.

1226

This is a tin-free product.

It is the alcohol type, so there is no influence such as corrosion on metals and plastics.

It exhibits excellent adhesion for various kinds of substrates, including metals and resin materials such as engineering plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It has excellent electric insulation.

1230

This is a heat curable two-component potting agent with a low viscosity for electric/electronic devices.

It is hardened by heating at 100°C for approximately 15 minutes to form a rubber elastomer that is heat resistant, cold resistant, waterproof, humidity resistant, impact resistant with impact absorption, and has great electrical characteristics, and great heat conductivity.

It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C. It is a flame-retardant type that is certified with the flame-retardant standard UL94 V-0.

1234B

This is a heat-curing type with excellent resistance to heat, moisture, and water.

It reaches practical strength in 1 hour after being heated at 100°C. It exhibits excellent adhesion for various kinds of substrates, including metals and resin materials such as engineering plastics. It can be used at a temperature range of -60°C to 250°C (approx.), and for continuous use, the heat resistance is about 180°C.

The cured material is soft and it can conform to the movement of the substrate.

Silicone Property Table Silicone-Based Adhesives, Sealants and Potting Agents

	Toperty lable																				
	Product name	Unit	1207B	1208	1208B	1208C	1209	1220G	1220H	1221G	1221H	1222C	1224G	1225B	1225C	1226	1230		1230	G	1234B
Main c	component		Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone		Silico	ne	Silicone
Reac	ction type		Acetone	Acetone	Acetone	Acetone	Acetone	Alcohol	Alcohol	Alcohol	Alcohol	Alcohol	Alcohol	Alcohol	Alcohol	Alcohol	Additional react	tions	Additional r	eactions	Heat-curing
Fe	eatures		Standard Type	Standard Type	Standard Type	Standard Type	Highly heat- resistant type	Standard Type	Standard Type	Standard Type	Standard Type	Incombus- tible type	Ultra-fluid type	For heat dissipation	For heat dissipation	Tin-free type	For potting, non-flammab		For pott non-flami		Highly resistant type
App	pearance		Black	White	White	White		Milky white (Translucent)	White	Milky white (Translucent)	White	Gray	Milky white (Translucent)	White	Gray	Gray		ent B /hite	Agent A	Agent B White	Gray
Vi	liscosity	Pa∙s	100	55.0	3.3	-	140	65.0	65.0	-	-	-	1.2	18.0	70.0	97.0		5.0	9.0	1.2	400
Flo	owability		None	Yes	Yes	None	None	Yes	Yes	None	None	None	Yes	Yes	Yes	None	Yes	Yes	Yes	Yes	None
Tack	k free time	min	3	3	3	3	5	10	10	10	10	5	7	5	10	7	_		-		-
	of low-molecular iloxane		-	-	-	-	Reduced product (300ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	Reduced product (200ppm or less)	-		Reduced p	oroduct or less)	-
Sp	pecific gravity		1.01 (Liquid specific gravity)	1.04 (Liquid specific gravity)	1.04 (Liquid specific gravity)	1.04 (Liquid specific gravity)	1.05 (Liquid specific gravity)	1.04	1.03	1.04	1.04	1.32	1.00	2.60	2.90	1.37	(Liquid specific (Liquid	d specific ravity)	1.34 (Liquid specific gravity)	1.34 Liquid specific gravity)	1.18 (Liquid specific gravity)
ring	Hardness		A30	A30	A20	A30	A42	A20	A20	A28	A28	A45	A24	A74	A81	A27	A70	·	A35		A11
af a	Elongation	%	400	300	200	450	270	500	500	500	500	250	150	48	50	460	70		185		700
acteristics acteristics	nsile strength	MPa	1.9	2.0	0.7	2.5	2.1	2.2	2.2	2.5	2.5	4.0	0.5	3.9	2.5	2.4	4.5		3.1		2.3
Physical char	ume resistivity	Ω·m	Not good for insulation	5.2×10 ¹²	1.0×10 ¹²	1.0×10 ¹²	Not good for insulation	2.0×10 ¹³	2.0×10 ¹³	3.0×10 ¹⁴	3.0×10 ¹⁴	4.0×10 ¹²	5×10 ¹³	2.0×10 ¹⁴	1.1×10 ¹¹	4.3×10 ¹²	7.8×10 ¹³		1.5×10	013	7.8×10 ¹¹
	ctric breakdown strength	kV/mm	Not good for insulation	25	22	23	Not good for insulation	25	25	22	22	30	28	20	17.4	19	29		25		21
Therm	mal conductivity	W/m·K	-	-	-	-	-	-	-	-	-	-	-	1.59	2.5	-	0.46		0.42	!	-
rength	Aluminum	MPa	1.1	1.4	2.5	0.5	1.7	1.0	1.0	1.0	1.0	1.0	0.6	0.9	1.1	2.2	Non-adhesiv	/e	1.3		1.7
ır bond st	Glass	MPa	-	-	-	-	1.3	1.2	1.2	1.0	1.0	1.7	0.6	1.3	-	1.9	Non-adhesiv	/e	-		1.9
Tensile shear bond strength	Acryl	MPa	-	-	-	-	-	1.3	1.3	1.2	1.2	2.2	0.5	-	-	2.1	Non-adhesiv	/e	-		-
Po	olycarbonate	MPa	-	-	-	-	-	1.4	1.4	1.2	1.2	1.4	0.6	-	-	1.7	Non-adhesiv		-	ad pradical	-
Re	emark(s)		Non- flammable grade UL- HB certified product				Heat resistance of approx. 300°C					Non- flammable grade UL94 V-0 certified product			UL94 V-1 certified product		Non-flammable q UL94 V-0 Certified F Compounding ratio Visible time: 6 h Standard curing con 100°C×10mir	grade Product 100:100 l nours nditions:	UL94 V-0 certifi Self-adhesi Non-flammal UL94 V-0 Certifi Compounding r Visible time: Standard curing cond Good adh	ve type ble grade ied Product atio 100:100 40 hours itions: 100°Cx1h	Standard curing conditions: 100°C×1h

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Anaerobic Adhesives and Sealants







These are single-component type acryl anaerobic adhesives and sealants. In addition to bonding and sealing of screws and interlocking parts, they can also be used for magnet surface adhesion, and bonding and sealing of metal materials. When air (oxygen) supply is cut between metal materials such as when a screw is tightened and the gaps of the threads are minimized, curing reaction begins due to the metal ions, and curing by polymerization occurs rapidly.

For screws, after around 20 seconds to a few minutes, it cures to where it cannot be moved (set time), and from 30 minutes to 2 hours it reaches 1/2 of final strength (practical strength). After 12 to 24 hours, it reaches final strength, and it forms a tough cured material with excellent oil resistance, chemical resistance, heat resistance, and weather resistance.

It can be used in a temperature range from -40°Cto 150°C (approx.) (200°C for heat-resistant type).

There are also types with UV curability and primer curability in addition to anaerobic curing property.

All types are DOP free.

1303 N, 1305 N

High strength / Fast Curing Type

This is good for permanent adhesion and sealing of screws. It can be used in a temperature range from -40°C to 150°C (approx.). It can be used with bolts of any size, but 1303N is a low-viscosity type suitable for M10 bolts and smaller, and 1305N is a medium viscosity, lubricating ability type suitable for M10 bolts and larger.

1322 N, 1324 N

Medium strength / Fast Curing Type

It is good for bonding and sealing screws that may need to be removed

It can be used in a temperature range from -40°C to 150°C (approx.). It can be used with bolts of any size, but 1322N is a low-viscosity type suitable for M10 bolts and smaller, and 1324N is a medium viscosity type suitable for M10 bolts and larger.

1342 J, 1344 J

Low strength / Fast Curing Type

It is good for bonding and sealing screws that will be removed. It can be used in a temperature range from -40°C to 150°C (approx.). It can be used with bolts of any size, but 1342J is a low-viscosity type suitable for M10 bolts and smaller, and 1344J is a medium viscosity type suitable for M10 bolts and larger. It is a DOP-free product.

1373 N, 1375 N, 1377 N

For interlocking, High-strength type

It is good for adhesion and sealing of interlocking portions such as pins, bushes, shafts, and bearings.

It can be used in a temperature range from -40°C to 120°C (150°C) (approx.).

1373N is a low-viscosity type (heat resistance: 150°C), and 1375N is a medium-viscosity type. 1377N is a medium-high viscosity, lubricating ability type that can be used for press fitting portions.

1307 N, 1360 G

With lubricating ability, medium-high strength, medium-high-viscosity type

This is good for bonding and sealing large-diameter bolts and high tensile bolts.

It can be used in a temperature range from -40°C to 150°C (approx.) (200°C for heat-resistant type).

1307N is a standard type and 1360G is a fast-curing/heat-resistant type. There is also 1360K, which is a slow curing, heat-resistant type, and 1374, which is a standard curing, high-strength type.

1360 F

Heat resistant / High strength / Fast curing type

It can be used in a temperature range from -40°C to 200°C (approx.). It is good for screws and fixing interlocking portion and sealing requiring heat resistance.

It can be used with bolts of any size. 1360F is a medium-viscosity type suitable for M10 bolts and larger.

There is also 1360N, which is a slow curing, medium strength type.

1320B

Ultra-low viscosity, low- to medium-strength type

It is possible to penetrate inside by application on screws after tightening and on the interlocking portion.

It is good for fixing thread portion and interlocking portion and for sealing pinholes, where penetrability is required.

It can be used in a temperature range from -40°C to 150°C (approx.).

1314

More thermal deterioration-resistant type

Even after continuous aging at 120°C, there is almost no decrease in strength.

It is a high strength, low-viscosity type.

It is good for fixing thread portion and interlocking portion and sealing that are normally under high-temperature environments. It can be used in a temperature range from -40°C to 150°C (approx.).

1372 D

Thermal strength improved type

It has a high softening point, and can maintain high strength even in a high-temperature environment of 150°C.

It is good for fixing interlocking portion and sealing at locations requiring strength under heat.

It is a high strength, low-viscosity type with UV curability.

It can be used in a temperature range from -40°C to 150°C (approx.).

1353

Type with heat-curing property

It is possible to cure by heating with a large clearance where it is normally difficult for curing to occur only by the anaerobic curing property. It is also possible to prevent dropping because the overflow portion becomes a dry film by heating. It is good for interlocking portion adhesion and sealing.

It can be used in a temperature range from -40°C to 125°C (approx.). It is a medium-high strength, medium-viscosity types with UV curability.

1386 D, 1386 E, 1386 G, 1386 H, 1386 L

Exclusive product for sealing welch plugs

It was adjusted to make it easy to use with coating robots. It is a low strength, slow-curing type.

It can be used in a temperature range from -40°C to 150°C (approx.).

1355 D, 1357 K, 1359 , 1359 D, 1359 G

Grade for surface adhesion with UV curability

It is flexible, and it can be used for surface adhesion of metal parts, etc., because of its high peel strength.

It can be used in a temperature range from -40°C to 150°C (approx.) (200°C for heat-resistant type).

1355D is a medium-high viscosity type, 1359 and 1359D are high viscosity types, 1357K and 1359G is a high viscosity, heat-resistant types.

1354, 1354 D

Halogen-free product with heat-curing property

It is possible to prevent dropping because the overflow portion becomes a dry film by heating, and as a result, outgas can be reduced.

It is good for adhesion and sealing of interlocking portions where outgas should be avoided such as HDD parts.

It can be used in a temperature range from -40°C to 125°C (approx.). It is a high strength, medium-high-viscosity type with UV curability.

1376B

Halogen-free product for interlocking, High-strength type

It is good for adhesion and sealing of interlocking portions such as pins, bushes, shafts, and bearings.

It can be used in a temperature range from -40°C to 120°C (approx.).

1389 F

Sealant for flanges

This has rubber elasticity, so it has high conformability, and it has excellent sealability for dissimilar metals and larger flanges. It is good for flange sealing of automobile, construction machines, agricultural machines, hydraulic equipment, etc.

It can be used in a temperature range from -40°C to 150°C (approx.).

1390 F, 1390 K, 1390 R

Curing accelerator (primer) for anaerobic adhesives and sealants

By applying and letting it dry on substrates in advance, it is possible to increase the curing speed of the anaerobic adhesives and sealants

1390R (Halogen-free enabled) is an alcohol-based solvent type that can be used with plastic parts, and 1390F and 1390K are quick-drying, acetone (solvent)-types.

Anaerobic Adhesives and Sealants Property Table

	Product name		42045	4202	4222	42021	4227	4222	42071	4222	422711		4244	42222	4222	40001	42221	4224	42242	400411	4335
	Characteristics	Unit	1301B	1303	1303B	1303N	1305	1305B	1305N	1305P	1307N	1314	1316	1320B	1322D	1322N	1323N	1324	1324B	1324N	1327
	Main component		Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester
	Strength		High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	Medium strength	Medium strength	Medium strength	Medium strength	Medium strength	Medium strength	Medium strength	Medium strength
	Main usages		Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw	Screw Interlocking part	Screw Interlocking part	Screw Interlocking part	Screw	Screw	Screw	Screw	Screw	Screw Interlocking part	Screw
	Features		Low viscosity	Low viscosity	Low viscosity	Fast-curing	Medium viscosity	Medium viscosity	Fast-curing Lubricity	Excellent water resistance	Fast-curing Lubricity	Excellent heat aging resistance	High torque Low rash type	Low viscosity Penetrability	Medium viscosity	Fast-curing	Ultrarapid curing	Medium viscosity	Medium viscosity	Fast-curing Lubricity	Compatible with high clearances
	Appearance		Purple to Brown	Green	Purplish brown	Green	Green to Brown	Purplish brown	Green	Purple	Green	Green	Green	Green	Red	Red	Green transparent	Red	Red	Red	Red
	Viscosity	mPa∙s	8.0	150	125	150	600	500	650	600	2300	250	410	18.0	150	150	90.0	650	600	600	2500
	Specific gravity		1.07	1.11	1.07	1.12	1.11	1.07	1.11	1.16	1.12	1.10	1.09	1.10	1.10	1.11	1.16	1.13	1.13	1.12	1.11
	Additional curability		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Set time (Screws ^{*1})	sec	-	-	-	-	60	-	-	-	-	180	-	480	-	-	-	-	-	-	-
_	Set time (Interlocking part ^{*2})	sec	-	-	-	-	-	-	-	-	-	90	-	600	-	-	-	-	-	-	-
Curing spee	Set time (Interlocking part ⁻²) When used with curing accelerator (1390K)	sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	120	-	-
	Practical strength*3 onset	h	2	2	2	1	2	2	1	1	1	1	3	2	1	1	0.5	2	2	1	2
	Final strength onset	h	24	24	24	12	24	24	12	12	12	12	24	24	12	12	6	24	24	12	24
	Breaking torque*1	N·m	33.0	33.0	33.0	45.3	33.0	33.0	46.0	20.0	42.0	45.0	32.0	20.8	25.5	24.0	20.6	22.0	22.0	27.0	30.0
	Interlocking adhesion strength*2	MPa	35.0	35.0	35.0	40.0	35.0	35.0	45.0	40.0	40.0	41.0	35.0	20.4	28.0	28.0	25.0	28.0	28.0	30.0	32.0
	Operating temperature range (Est.)	°C	-40 to 120	-40 to 150	-40 to 120	-40 to 150	-40 to 150	-40 to 120	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 120	-40 to 150	-40 to 150	-40 to 150	-40 to 150
	Remark(s)		For permanent adhesion	For permanent adhesion	adhesion	For permanent adhesion Emits light blue fluorescence with black light	For permanent adhesion	For permanent adhesion	For permanent adhesion Emits light blue fluorescence with black light		For large- diameter bolts and high tensile bolts	For permanent adhesion				Emits light blue fluorescence with black light				Emits light blue fluorescence with black light	

^{*1:} Iron bolts/nut M10×Pitch 1.5 *2: Iron pin / collar 6ϕ ×15mm, Clearance 1/100mm *3: 1/2 of the final strength

^{* -:} Unmeasured

* The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Anaerobic Adhesives and Sealants Property Table

	1 Topcity Tubic																				
	Product name Characteristics	Unit	1333B	1342H	1342J	1344H	1344J	1353	1354	1354D	1355D	1357K	1359	1359D	1359G	1360	1360F	1360G	1360K	1360N	1372D
	Main component		Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester
	Strength		Medium strength	Low strength	Low strength	Low strength	Low strength	Medium strength	High strength	High strength	High strength	High strength	High strength	High strength	Medium strength	Medium strength	High strength	Medium- high strength	Medium strength	Medium strength	High strength
	Main usages		Screw	Screw	Screw	Screw	Screw	Interlocking part	Interlocking part	Interlocking part	Surface adhesion	Surface adhesion	Surface adhesion	Surface adhesion Interlocking part	Surface adhesion	Screw	Screw Interlocking part	Screw	Screw	Screw	Interlocking part
	Features		Low viscosity	Low viscosity	Fast-curing	Medium viscosity	Fast-curing	Low outgassing	Low outgassing Low halogen content	Low outgassing Low halogen content	Flexibility Low outgassing	Flexibility High heat resistance Low halogen content	Flexibility Fast-curing	Flexibility Fast-curing	Flexibility High heat resistance	High heat resistance	High heat resistance Fast-curing	High heat resistance Fast-curing with axial force	High heat resistance Slow curing Lubricity	High heat resistance Slow curing	Strength at a high temperature
	Appearance		Red transparent	Blue	Blue	Blue	Blue	Blue transparent	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Red	Green	Red transparent	Red	Red	Green
	Viscosity	mPa∙s	125	150	150	650	650	650	1000	1000	900	12000	12000	14000	23000	1000	500	1800	1700	800	110
	Specific gravity		1.07	1.05	1.06	1.05	1.06	1.11	1.10	1.10	1.10	1.10	1.07	1.05	1.10	1.07	1.10	1.10	1.13	1.07	1.07
	Additional curability		-	-	-	-	-	Heating UV light	Heating UV light	Heating UV light	UV light	UV light	UV light	UV light	UV light	-	-	-	-	-	UV light
	Set time (Screws ^{*1})	sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	-	-	-
	Set time (Interlocking part ^{*2})	sec	-	-	-	-	-	90	120 to 180	300	100 to 110	300	120	-	300 to 360	240	240	-	-	-	180
Curing speed		sec	-	-	-	-	-	-	5 to 10	5 to 10	10 to 15	10 (1390R)	-	-	60 to 70	15	15	-	-	-	-
	Practical strength*3 onset	h	4 to 6	2	1	2	1	1	-	1	-	-	-	-	-	6	1	2	6	6	1
	Final strength onset	h	24	24	12	24	12	24	-	24	-	-	-	-	-	24	12	24	36	36	24
	Breaking torque*1	N∙m	12.0	16.7	24.1	14.5	23.7	-	-	-	-	-	-	-	-	29.0	41.6	37.6	25.0	22.5	-
	Interlocking adhesion strength*2	MPa	-	-	-	-	-	26.0	33.2	36.0	38.2	30.9	41.2	32.0	22.8	23.0	36.6	-	25.0	25.0	33.0
(Operating temperature range (Est.)	°C	-40 to 120	-40 to 150	-40 to 150	-40 to 150	-40 to 150	-40 to 125	-40 to 125	-40 to 125	-40 to 150	-40 to 175	-40 to 150	-40 to 150	-40 to 200	-40 to 200	-40 to 200	-40 to 200	-40 to 180	-40 to 200	-40 to 150
	Remark(s)			Emits light blue fluorescence	fluorescence	Emits light blue fluorescence	Emits light blue					Emits light blue fluorescence with black light					For permanent adhesion Emits light blue fluorescence with black light				

^{*1:} Iron bolts/nut M10×Pitch 1.5

^{*2:} Iron pin / collar $6\phi \times 15$ mm, Clearance 1/100mm *3: 1/2 of the final strength

^{* -:} Unmeasured

* The value listed in the property table is an example of a measured value and is not the guarantee level.

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

Anaerobic Adhesives and Sealants Property Table

	1 Toperty Tuble																		
	Product name Characteristics	Unit	1373B	1373N	1374	1375B	1375N	1375P	1376B	1377B	1377N	1386	1386B	1386D	1386E	1386G	1386H	1386L	1389F
	Main component		Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester		Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester	Methacrylic acid ester
	Strength		High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	High strength	Low strength	Low strength	Low strength	Low strength	Low strength	Low strength	Low to medium strength	Low strength
	Main usages		Interlocking part	Interlocking part	Screw	Interlocking part	Interlocking part	Interlocking part	Interlocking part	Interlocking part	Interlocking part	Welch plug interlocking sealing	Welch plug interlocking sealing	Flange seal					
	Features		Low viscosity	Fast-curing	With axial force	Medium viscosity	Fast-curing	Medium viscosity	Low halogen content	High viscosity	Fast-curing	Lubricity	Lubricity	Slow curing Lubricity	Slow curing Lubricity	Slow curing Lubricity	Slow curing	Slow curing Lubricity	Rubber elasticity
	Appearance		Green	Green transparent	Red	Green	Green transparent	Green	Green transparent	Green	Green	Red	Yellow	Red	Blue	Dark purple	Fluorescent yellow	Blue	Blue
	Viscosity	mPa∙s	125	90.0	650	800	500	600	700	2000	1500	2000	2000	2000	2000	2000	2200	2000	60000
	Specific gravity		1.10	1.10	1.11	1.11	1.12	1.12	1.10	1.12	1.12	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.12
	Additional curability		-	UV light	-	-	UV light	UV light	UV light	-	UV light	-	-	-	-	-	-	-	-
	Set time (Screws ^{*1})	sec	-	-	-	-	-	-	-	-	-	-	-	-	-	50 (min)	-	15 (min)	-
7	Set time (Interlocking part*2)	sec	-	-	-	-	-	-	60 to 120	-	-	-	-	-	-	15 (min)	50 (min)	20 (min)	-
200	Set time (Interlocking part ²) When used with curing accelerator (1390K)	sec	-	-	-	-	-	-	5 to 10	-	-	-	-	-	-	-	10	-	-
	Practical strength*3 onset	h	1.5	1	1 to 2	2	1	1	-	1.5	1	2	2	5	5	8	-	6	-
	Final strength onset	h	24	24	24	24	24	24	-	24	24	24	24	36	36	24	-	24	-
	Breaking torque ^{*1}	N∙m	42.7	-	35.8	-	-	-	-	-	-	15 to 25	15 to 25	10 to 15	10 to 15	17.2	15.3	23.5	9.0
	Interlocking adhesion strength ^{*2}	MPa	25 to 34	38.2	19 to 27	29 to 34	31.8	34.5	33.5	25 to 34	31.8	-	-	-	-	18.5	-	20.5	-
	Operating temperature range (Est.)	°C	-40 to 150	-40 to 150	-40 to 150	-40 to 175	-40 to 120	-40 to 175	-40 to 120	-40 to 150	-40 to 120	-40 to 150	-40 to 150	-40 to 150					
	Remark(s)																Emits light yellow fluorescence with	Galling prevention Excellent coating properties Application can be checked with a fluorescence sensor Emits light yellow fluorescence with black light	

^{*1:} Iron bolts/nut M10×Pitch 1.5

^{*2:} Iron pin / collar $6\phi \times 15$ mm, Clearance 1/100mm *3: 1/2 of the final strength

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Anaerobic Adhesives and Sealants Anaerobic A Property Table

Product name		1390E	1390F	1390K	1390R
Characteristics	Unit				
Solvent		Alcohol	Acetone	Acetone	Alcohol
Main usages		Anaerobic curing Curing accelerator	Anaerobic curing Curing accelerator	Anaerobic curing Curing accelerator	Anaerobic curing Curing accelerator
Features		Little influence on plastics	Quick- drying	Quick- drying	Little influence on plastics
Appearance		Light Brown	Light brown	Green	Blue-green transparent
Specific gravity		0.8	0.8	0.8	0.8
Set time (Screws ^{*1}) used with 1322N	sec	15 to 25	15 to 25	10 to 20	10 to 20
Remark(s)					Low- halogen product

^{*1:} Iron bolts/nut M10×Pitch 1.5

<sup>The value listed in the property table is an example of a measured value and is not the guarantee level.
Before using, confirm the adequacy and safety for the relevant application.</sup>



Loosening, Leaking, and Rust preventive agents of Screw

tive Electronics Pub et Market Mat

Public Industrial Material Market

Auto Aftermark

These are single-component type solvent vaporizing-type screw-fixing agents. They can be used for bonding small screws, mainly size M6 and smaller. They have penetrability, so they can be applied after tightening. After application, it penetrates to the threaded portion, and the solvent vaporizes, resulting in the formation of a resin-based cured material that can prevent loosening and leakage. These are also good for preventing rust at threaded portions.

It is possible to loosen by a force that is about 10 to 20% higher than the tightening torque, so they can be removed easily when necessary.

For M6 size screws, 1/2 of the final strength (practical strength) is achieved after one or two days, and it reaches final strength after three days.

It can be used in a temperature range from -40°C to 80°C (approx.).

Property Table

Product r	name		1401	1401B	1401C	1401D	1401E	1401M
Characteristics		Unit						
Main componen	t		Vinyl acetate resin	Vinyl acetate resin	Vinyl acetate resin	Vinyl acetate resin	Vinyl acetate resin	Vinyl acetate resin
Features			Standard Type	Standard Type	Standard Type	Low viscosity	High viscosity	Low viscosity
Appearance			Colorless to Light yellow	Blue to Blue-green	Red	Green	Dark green	Red
Viscosity		mPa∙s	445	445	445	25.0	630	270
Specific gravity			0.88	0.88	0.88	0.85	0.89	0.88
Solid content (Nonvolatile conte	nt)	%	31.0	31.0	31.0	16.0	32.0	28 .0
	M3	N∙m	0.3	0.3	0.3	0.2	0.2	0.1
Breaking* torque	M4	N∙m	0.6	0.6	0.6	0.5	0.5	0.5
	M6	N·m	3.5	3.5	3.5	2.0	2.5	3.0
Operating tempera range (Est.)	ture	°C	-40 to 80	-40 to 80	-40 to 80	-40 to 80	-40 to 80	-40 to 80
Solvent used			Methanol	Methanol Toluene	Methanol Toluene	Methanol	Methanol	Methanol

^{*:} Iron bolt/nut M3×Pitch 0.5, M4×Pitch 0.7, M6 Pitch 1.0 (Tightening torque = 0)

1401

This is a standard type transparent screw-locking agent.

It uses alcohol as the solvent, so it can be used without influencing plastic materials.

There are products with different colors and different viscosities available.

^{*} The value listed in the property table is an example of a measured value and is not

the guarantee level.

 $^{\ ^{*}}$ Before using, confirm the adequacy and safety for the relevant application.



Volatile Solvent Type Adhesives







This is a series of single-component, volatile solvent-type adhesives.

They can be used for general bonding to a wide range of substrates such as soft materials like rubber and leather, and rigid materials like plastic and metals. After curing, they have elasticity so they provide excellent bonding between different types of materials due to the high peel strength.

After applying and letting the solvent vaporize until the stickiness is lost, adhesion strength is acquired immediately when it is clamped.

There is a rubber-based solvent type, water-based Acryl emulsion type, paste-like type that can be used with materials with high penetrability, which are normally difficult to bond, and a low-viscosity type that can be applied using an air gun.

1501

This is a standard type rubber-based adhesive. It has a long adhesiveness-keeping time after application and becoming tack free, and it has good bonding workability for a

There are products with different colors available.

1521

This is a rubber-based adhesive with high initial adhesiveness.

1521 C

This is a high-viscosity colored type of 1521.

It has excellent padding ability, so dropping does not occur even when applied to a vertical surface.

It is good for bonding weather strip rubber for automobiles, etc., and is good for porous materials with high penetrability, which are difficult to bond.

TCX-004

This is a low-viscosity type of 1521. It can be applied using an air gun.

1541 C

This is a water-based Acryl emulsion type.

It can be used for polystyrene foams with low organic solvent

Property Table

	Product name		1501	1521	1521B	1521C	TCX-004	1541C
	Characteristics	Unit		11-1				
	Main component		Chloroprene rubber Phenolic resin	Chloroprene rubber Phenolic resin	Chloroprene rubber Phenolic resin	Chloroprene rubber Phenolic resin	Chloroprene rubber Phenolic resin	Acryl resir based emulsior
	Features		Long adhesiveness- keeping time	High initial adhesiveness	1501 Black Long adhesiveness- keeping time	Optimal for materials with high penetrability	Low- viscosity type of 1521 Application by air gun possible	Water-base adhesive High initia adhesivene
	Appearance		Light yellow	Light brown transparent	Black	Black	Light yellow	Milky yello
	Viscosity	mPa∙s	5000	3200	4700	Paste	330	1100
	Specific gravity		0.89	0.87	0.88	1.13	0.86	1.00
	Solid content (Nonvolatile content)	%	25.0	26.0	27.0	60.0	26.0	54.0
	Tack free time	min	10 or less	8 to 10	10 or less	5	5	-
Ad	lhesiveness-keeping time	min	90 or higher	8 to 30	90 or higher	40	60	* Open tin 20 (Recommende
	Iron / Cotton canvas	kN/m	4.7	5.2	4.7	1.6	7.6	-
	Tin plate / Cotton canvas	kN/m	-	-	-	-	-	0.7
strength	Iron / Soft PVC	kN/m	15	3.7	15	1.0	-	-
Peel st	Aluminum foil / Soft PVC	kN/m	-	-	-	-	-	2.0
	Iron / NBR	kN/m	2.0	3.8	2.0	-	1.4	-
	Soft PVC / Soft PVC	kN/m	-	-	-	-	-	-
Tensile shear bond strength	ABS	MPa	-	-	-	-	-	-
Tensile bond st	Hard PVC	MPa	-	-	-	-	-	-
(Operating temperature range (Est.)	°C	-40 to 80	-40 to 80	-40 to 80	-40 to 80	-40 to 80	-40 to 80
R	Remark(s) (Solvent used)		Toluene n-hexane	Toluene n-hexane Ethyl acetate	Toluene n-hexane Ethyl acetate	Toluene	Toluene Acetone n-hexane Ethyl acetate	Water Coal tar naphtha Trimethylbenze

 $[\]ensuremath{^{*}}$ The value listed in the property table is an example of a measured value and

^{*} Before using, confirm the adequacy and safety for the relevant application.



Elastic Adhesives







These are single-component type solventless moisture-curing adhesives.

The curing reaction occurs from the moisture in the air when it is squeezed from

They have excellent adhesive strength for a wide range of materials including metals, plastics, rubber, wood, and inorganic materials.

the container, and it becomes a rubber-like elastic body.

After curing, they have elasticity so they provide excellent bonding between different types of materials due to the high peel strength.

The 1530 Series begins to have a strong initial tackiness in just 5 to 10 minutes after application, and temporary adhesion is possible without a jig. Depending on the bonding area, it can reach 1/2 of the final strength (practical strength) after 12 to 24 hours, and it reaches final strength after 3 to 7 days.

The 1532 Series reaches practical strength after 2 days, and reaches final strength after 3 to 7 days, becoming a cured material with a high elongation rate.

There is also a low-viscosity type and a Nonflammable type (certified according to Nonflammable grade).

1530 Series

This is a standard type elastic adhesive. After an open time of 5 to 10 minutes, initial tackiness develops and temporary adhesion is possible without a jiq.

It has excellent adhesion strength for a wide range of materials. It is possible to bond with silicone rubber.

There are many variations such as different color tones and different viscosities.

It has a heat resistance of approximately 100°C to 120°C.

1537 Series

This elastomeric adhesive is certified according to flammability standard UL94 V-0.

It has small cure shrinkage and excellent adhesion strength for a wide range of materials.

It has a heat resistance of approximately 100°C to 120°C.

1532 Series

This is a modified silicone-based elastic adhesive.

It forms a cured material with high elongation.

Because of its thixotropic properties, it is easy to apply without dropping

It has excellent adhesion strength with a wide range of materials, and it is also good as a filling adhesion for materials with uneven surfaces.

It has a heat resistance of approximately 80°C for continual use.

1538B

It is an elastic adhesive that meets special standards. Certified as UL Standard QOQW2 [Polymeric Adhesive Systems, Rated temperature 80°C].

It has excellent adhesion strength for a wide range of materials. It has a heat resistance of approximately 100°C to 120°C.

1535 Series

This is a tin-free elastic adhesive. With an open time of about 3 to 5 minutes, it not only has excellent initial tack, but also has excellent adhesion strength for a wide range of materials.

It has a heat resistance of approximately 100°C to 120°C.

1539 Series

This is an elastic adhesive that is speedily cured at low temperatures and effective for shortening of production tact. Plant-based polymers (Castor oil) are used, so it is an environmentally-friendly adhesive. It has excellent adhesion strength for a wide range of materials. It has a heat resistance of approximately 100°C.



Elastic Adhesives Property Table

	Product name Characteristics	Unit	1530	1530B	1530C	1530D	1530H	1530K	1530P	1532C
	Main component	Offic	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Modified Silicone
	Reaction type		Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecurin alcohol type
	Features		Standard type	Thixotropic type	Clear type	Low viscosity	Low viscosity	Light blocking type	Ultra-low viscosity	Flexibility
	Appearance		White	Black	Translucent	Gray	White	Black	Black	White
	Viscosity	Pa∙s	100	110	100	22.0	30.0	70	6.0	420
	Specific gravity		1.39	1.31	1.31	1.39	1.14	1.24	1.43	1.40
	Tack-free	min	7	7	7	5	13	12	8	60
uring	Hardness		A44	A48	A55	A34	A25	A35	A26	A40
s after c	Elongation	%	280	380	200	220	280	270	140	360
Physical characteristics after curing	Tensile strength	MPa	5.9	3.0	4.1	3.2	2.1	2.5	1.6	1.8
al chara	Volume resistivity	Ω·m	5.0×10 ¹⁰	3.9×10 ¹⁰	3.6×10 ¹⁰	1.7×10 ¹⁰	4.8×10 ⁹	9.3×10 ⁹	1.2×10 ⁹	-
Physic	Dielectric breakdown strength	kV/mm	21	17	20	-	-	32	17	-
ength	Iron	MPa	5.4	4.1	3.5	2.9	2.5	2.2	2.5	2.0
Tensile shear bond strength	Aluminum	MPa	6.6	4.4	4.3	2.5	2.8	2.5	2.9	2.4
e shear k	Acryl	MPa	4.7	3.3	3.8	2.6	2.1	2.5	2.3	0.5
Tensile	Polycarbonate	MPa	5.6	3.8	4.5	2.4	3.1	3.6	2.0	1.6
	Aluminum	kN/m	2.5	2.8	1.9	2.5	-	-	1.7	-
Peel strength	NBR	kN/m	1.60	1.50	1.40	-	-	-	0.29	-
Peel sti	CR	kN/m	1.40	1.60	1.00	-	-	-	0.04	-
	Silicone rubber	kN/m	0.30	0.75	0.30	-	-	-	0.07	-
	Remark(s)			Structural viscosity ratio 4.1	UL-HB certified product ISO10993 compliant product		Small increase in hardness when heating		DBT-free product	

- * -: Unmeasured
- * The value listed in the property table is an example of a measured value and is not the guarantee level.
- * Before using, confirm the adequacy and safety for the relevant application.

^{*} DBT: Dibutyltin compounds

Elastic Adhesives Property Table

	Property lable	-																			
	Product name Characteristics	Unit	1532D	1533	1533C	1533D	1533F	1533K	1535	1535B	1535C	1535D	1537	1537B	1537D	1537E	1538B	1538D	1539	1539B	1539K
	Main component		Modified Silicone	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Silyl- containing special polymer	Castor oil polymer	Castor oil polymer	Castor oil polymer
	Reaction type		Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Moisturecuring alcohol type	Heat-curing Moisture- curing	Heat-curing Moisture- curing	Heat-curing Moisture- curing
	Features		Flexibility	Standard type	Clear type	Low viscostity	Applicable to Adhesion-difficult Material	-	Standard type	-	Clear type	-	Nonflammable type	Nonflammable type	Nonflammable type	Nonflammable type	Nonflammable type	Standard type	Standard type	Standard type	Improved resin adhesion
	Appearance		Black	White	Translucent	Gray	Black	Black	White	Black	Colorless	Gray	White	Black	Gray	Gray	Black	Gray	Black	White	Black
	Viscosity	Pa∙s	450	100	100	22.0	180	47.0	75.0	90	30.0	25.0	55.0	55.0	55.0	90.0	80.0	55.0	100	100	160
	Specific gravity		1.55	1.39	1.30	1.39	1.21	1.24	1.43	1.43	1.04	1.38	1.67	1.67	1.67	1.66	1.44	1.67	1.34	1.34	1.39
	Tack-free	min	60	7	7	7	-	12	4	5	3	5	4	4	4	3	9	7	-	-	-
after curing	Hardness		A40	A40	A50	A26	A25	A30	A45	A45	A37	A36	A72	A74	A71	A84	A50	A85	A70	A70	A74
ics after	Elongation	%	360	280	145	286	460	480	180	166	136	182	29	33	29	50	170	60	120	140	230
aracterist	Tensile strength	MPa	1.8	4.5	3.8	2.9	3.0	3.0	4.5	4.2	3.5	3.6	5.0	3.9	4.3	4.2	2.9	4.1	3.5	3.5	4.8
sical cha	Volume resistivity	Ω·m	-	3.2×10 ¹⁰	8.8×10 ⁹	1.0×10 ⁹	6.8×10 ¹³	4.6×10 ⁹	5.9×10 ⁹	5.0×10 ⁸	4.7×10 ⁹	2.5×10 ⁹	1.9×10 ¹⁰	2.3×10 ¹⁰	2.7×10 ¹⁰	3.2×10 ¹⁰	3.9×10 ¹⁰	6.2×10 ¹¹	2.4×10 ¹¹	6.5×10 ¹⁰	2.3×10 ¹³
Phy	Dielectric breakdown strength	kV/mm	-	21	25	21	26	19	25	20	28	19	25	24	26	20	17	20.6	19	22	19
strength	Iron	MPa	2.0	5.8	4.6	3.4	3.7	4.1	5.0	5.0	7.1	4.2	4.0	4.2	4.4	4.1	4.0	3.9	3.8	3.6	3.8
ar bond	Aluminum	MPa	2.4	5.7	4.7	2.8	3.9	4.4	5.8	5.0	8.7	3.9	4.3	4.3	4.3	4.3	4.2	3.5	4.3	4.1	4.0
Tensile shear bond	Acryl	MPa	0.6	2.6	3.8	2.7	4.5	2.8	4.1	3.6	6.4	2.9	1.7	1.6	1.8	1.7	3.4	3.2	0.7	0.7	1.3
Tel	Polycarbonate	MPa	1.6	4.3	3.2	2.1	4.2	3.3	3.1	2.9	5.5	1.4	3.7	3.6	3.6	3.6	3.2	3.5	1.5	1.4	2.3
£	Aluminum	kN/m	-	3.5	3.2	1.5	-	-	1.7	3.0	1.7	1.7	1.0	1.4	1.2	0.9	2.2	3.5	1.5	1.5	-
Peel strength	NBR CR	kN/m kN/m	-	2.30	0.70	1.30	-	-	1.20	0.60	0.70	1.60 0.80	0.10	0.11	0.09	0.09	0.30	-	-	-	-
Pe	Silicone rubber	kN/m	-	1.00	0.20	0.40	-	-	0.10	0.10	0.10	0.40	0.13	0.13	0.12	0.12	0.30	-	-	-	-
	Remark(s)			DBT-free product UL94-HB certified product	DBT-free product UL94-HB certified product	DBT-free product	DBT-free product	DBT-free product	Tin-free product	Tin-free product	Tin-free product	Tin-free product	Non- flammable grade UL94 V-0 certified product	grade UL94	Non- flammable grade UL94 V-0 certified product	grade UL94	UL QOQW2 certified product	Non- flammable grade UL94 V-0 equivalent product	Heat-curing 60°C curing	Heat-curing 60°C curing	Heat-curing 60°C curing

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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

* DBT: Dibutyltin compounds

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Water-Based Pressure Sensitive Adhesives for Screen Printing

Automotive Market lectronics Market Public Industrial Material Market

Auto Aftermarket

This is a series of single-component type, water-based, pressure sensitive adhesives. They are good for screen printing, and adhesion processing can be done according to the design pattern.

They can be used as pressure-sensitive adhesives for plastic, paper, metal and other nameplates, as well as for labels and stickers.

After printing, a strong adhesive layer is formed by heating and drying, or at room temperature.

It is possible to configure the dried film thicknesses up to around 100 μ m according to the screen design.

There is a standard type and a high heat resistant, high moisture-resistant type.

1549

This is a standard type water-based, pressure sensitive adhesive for screen printing.

It has excellent adhesion with various plastics such as polyester, polyvinyl chloride, styrol, ABS, and PET, as well as paper, metal, etc. It is an aqueous type, so it can be used with materials that have low organic solvent resistance.

1555 C

This is a high heat resistant, highly moisture-resistant, aqueous, pressure-sensitive adhesive for screen printing.

It has excellent adhesion with various plastics such as polyester, polyvinyl chloride, styrol, ABS, and PET, as well as paper, metal, etc. It is an aqueous type, so it can be used with materials that have low organic solvent resistance.

Property Table

PIO	perty lable					
	Product name Characteristics	Unit	1549	1549B	1555C	1555D
	Main component		Acryl resin- based emulsion	Acryl resin- based emulsion	Acryl resin- based emulsion	Acryl resin- based emulsion
	Features		Standard type	Standard type High viscosity	High heat resistance High moisture resistance	High heat resistance High moisture resistance Slow drying property
	Appearance		Milky white	Milky white	Milky white	Milky white
	Viscosity	Pa∙s	20.0	25.0	30.0	25.0
	Specific gravity		1.01	1.01	1.01	1.01
	Solid content (nonvolatile content)	%	65.0	66.0	65.0	60.0
	Recommended screen			er or SUS mesh, etc.	SUS 80 n	nesh, etc.
Re	ecommended conditions of drying			5 min or min, etc.		20 min) mesh)
	PET/Polystyrol	N·m	823	823	-	-
ے	PET/Acryl	N·m	823	823	-	-
Peel strength	PET/ABS	N·m	-	-	380	380
	Polycarbonate/ Polystyrol	N·m	1098	1098	-	-
	Polycarbonate/Acryl	N·m	1098	1098	-	-
(Operating temperature range (Est.)	°C	-30 to 60	-30 to 60	-30 to 80	-30 to 80
	Remark(s)					

^{* -:} Unmeasured

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.



Functional Sheet Adhesive





These are reactive-curing type sheet-like adhesives that use technology that has been developed over many years with liquid adhesives. When compared to liquid adhesives, these functional adhesive sheets are especially good for bonding large areas with film thickness uniformity, and are good for bonding without air bubbles and overflow. Various functions has been added to meet the wide variety of needs including optical use such as flat panel displays, adhesion sealing of organic EL panels, and motor magnet bonding. There is a heat-curing type functional adhesive sheet and a type that cures under UV light.

* For more details about the bonding process and equipment, please contact our sales representative.

1631

This is a type of sheet-like adhesive that cures under UV light. By heat lamination, transferring and temporary adhesion occur, and then it cures by UV light irradiation. After curing, it becomes a highly transparent film (high visible light transmission) that is flexible and has excellent light resistance. It is good for usages that require transparency such as flat panel displays and other usages such as surface adhesion of optical parts. Also, it has excellent reliability under various environments after curing by UV light. It is available with various film thickness, therefore can be considered for bonding of various materials.

1655

This is a heat-curing type sheet-like adhesive for sealing organic

By thermal pressure bonding and heat lamination, transferring and temporary adhesion occur, and then it cures by continuous

After curing, it becomes a cured material with high transparency and reliable sealing.

It is good for bonding and sealing element glass and sealing glass for organic EL display devices.

Property Table

	Product name			1631		1655				
	Characteristics	Unit								
	Main component		,	Acryl resir	n	Epoxy resin				
	Features		Applic	ly transparable for vertices films	arious	High transparency Glass adhesion				
	Appearance			olorless ar ransparer		White translucent				
	Film thickness	μm	30	50	125	20				
	Curing method		UV li	ght irradi	ation	Heating				
	Curing conditions			30kJ/m²		100°C × 120 min or 120°C× 30 min				
rength	Glass/Glass	MPa	6.0*2	6.5*2	7.0*2	4.5				
Tensile shear bond strength	Glass/Acryl	MPa		-		-				
Tensile	Iron/Iron	MPa		-		11.3				
То	tal light transmittance	%		>91*1		>91*1				
	Remark(s)		Flexibl	e cured m	naterial	Transparent after curing Good adhesion to glass				

^{*1} Measured with reference air

^{*2} Compression shear bond strength

^{* -:} Unmeasured

^{*} The value listed in the property table is an example of a

measured value and is not the guarantee level.

* Before using, confirm the adequacy and safety for the

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Instant Adhesives GOLD LABEL Instant Adhesives







Auto Aftermarket

These are single-component type instant adhesives that use cyanoacrylate as the main component.

When bonding, the adhesives cure in several seconds due to the trace of moisture that exists on the adhesion surface, and bonding occurs within a few seconds to a few minutes.

They are single component products, so they are easy to use and have excellent adhesion strength in a short time for a wide range of materials including metals, plastics, rubber, wood, and inorganic materials.

There is a gel type, a low-odor / low-blooming type, an ultra-rapid curing type, a high peel-strength type, a highly moisture- and heat-resistant type, and a light-curing type.

1721 D

Low odor / Low-blooming type

Blooming is a phenomenon where white powder is generated at the bonding location when general use instant adhesives are applied. This is a low bloom product. There is also virtually no irritating odor.

It is good for elements requiring a good appearance.

1771 E, 1771 M, 1773 E

Light-curing property

It can be cured by UV light or visible light, so it is possible to cure quickly in overflow portions that cause blooming and areas with large clearance that slows curing.

It also has excellent surface curability because there is no curing inhibition by oxygen.

1771M is a ISO10993 compliant product for medical devices.

7721

Non-blooming type

There is no characteristic irritating odor and almost no blooming. It also has excellent quick-curing property.

It is a highly functional instant adhesive with special functionality.

1757

High moisture resistance / Excellent water resistance, High heat resistance type

It has better moisture resistance and heat resistance than regular instant adhesives.

Even at an ambient temperature of 120°C, a bonding strength of at least 10MPa (iron/iron) is maintained. In addition, continuous use heat resistance is also high, as it can be used at approximately 120°C. It has excellent moisture resistance and water resistance, so it can be used for bonding parts that are used outdoors. In particular, it has excellent adhesion strength for various elastomers.

1795 C

Remover for instant adhesive

By dropping it on an adhered surface, this product dissolves the cured material so that the substrate can be removed from the surface.

It does not contain any chlorinated solvents or specified materials according to the Poisonous and Deleterious Substance Control Act / List of Carcinogens (IARC / Japan Society for Occupational Health).

7725,7727

Elastomer-containing ultrahigh peel strength / impact-resistant / non-blooming type

There is no characteristic irritating odor and almost no blooming, and has excellent peeling strength and impact resistance.

It is a highly functional instant adhesive with special functionality.

7725 B, 7727 B

Elastomer-containing ultrahigh peel strength / impact-resistant / non-blooming / black type

There is no characteristic irritating odor and almost no blooming, and has excellent peeling strength and impact resistance.

The black coloring facilitates application recognition and enables use for simple light blocking.

It is a highly functional instant adhesive with special functionality.

7737,7738

Elastomer-containing ultrahigh peel strength / impact-resistant type

This is a half-gel adhesive with sag resistance and excellent workability because there is no stringing.

It has excellent adhesion even at high temperatures and high humidity.

It is a highly functional instant adhesive with special functionality.

7741

Standard type

This is a highly functional instant adhesive standard product with excellent adhesion strength even on engineering plastics and with excellent quick-curing property.

7761

Impregnation coating agent for 3 D printed plaster case

This agent has excellent penetrability to be impregnated uniformly throughout the cast.

It has excellent curability and resin design with suppressed blooming, and excellent reinforcement cure after impregnation and cure.

The workability is excellent because of reduced irritating odor.

7781.7782.7784.7785.7786

Ultra-rapid curing type

This has excellent quick-curing property, so it has quick adhesion strength even on porous materials that are normally difficult to bond, and on acidic materials such as wood. It has a sharp increase in strength even on difficult-to-bond materials such as polyacetal. It has excellent heat resistance.

It is a highly functional instant adhesive with special functionality.

7789

Gel-type

There is no sagging property, so it can be used on vertical surfaces and ceilings.

By using a curing accelerator, thick curing is possible, so it can also be used for filling and reinforcement on uneven portions.

7796

Faint-odor curing accelerator for instant adhesives

By dropping it on protruding excessive adhesive, the bonding time of the adhesive is reduced.

It has excellent balance between low odor and curability.

7797, 7797 C

Multi-primer for instant adhesive

Primer for instant adhesive that allows easy adhesion of difficult-to-bond materials such as polypropylene, polyethylene, polyacetal, polytetrafluoroethylene, and silicone rubber.



Instant Adhesives and GOLD LABEL Instant Adhesives Property Table

		Product name	Unit	1701	1702	1702B	1721D	1731	1733	1735	1739	1741	1741D	1741E	1743	1743D	1743F	1745	1747	1757	1771E	1771M
Main component			Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	
	Fea	atures		For metal	For metal	Colored	Low odor Low- blooming	High peel strength	High peel strength	High peel strength	Gel-like	For general use Low viscosity	For general use Low viscosity Colored	For general use Fast-curing	For general use Medium viscosity	For general use Medium viscosity Colored	Brush- equipped container	For general use Medium viscosity	For general use High viscosity	High moisture resistance Excellent water resistance High heat resistance	Light curing	Light curing
	Appearance			Colorless transparent	Colorless transparent		Light yellow transparent					Colorless transparent	Blue transparent	Colorless	Colorless transparent	Blue	Colorless	Colorless transparent	Colorless transparent	Light yellow transparent	Yellow transparent	Yellow to Yellowish green transparent
	Viscosity		mPa∙s	3.0	35.0	35.0	6.0	20.0	150	1500	23000	2.0	2.0	3.0	100	100	100	500	2000	1200	2.0	2.0
	Specific gravity			1.10	1.10	1.05	1.07	1.06	1.10	1.10	1.03	1.06	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.06	1.05	1.05
Se	et time	Iron	sec	10	30	40	40	30	40	60	30	5	5	5	10	10	20	10	10	30	3	10
		NBR	sec	5	15	5	2	60	70	120	30	5	5	5	10	10	20	10	10	20	2	2
		Iron	MPa	23.7	23.0	16.9	14.4	20.0	17.0	18.0	24.2	14.2	14.2	14.0	19.3	19.3	22.0	22.2	22.9	19.2	15.1	17.5
ıgth	Aluminum		MPa	15.3	17.0	8.4	13.2	11.0	11.0	10.0	11.5	16.5	16.5	12.0	16.6	16.6	14.0	16.6	17.3	16.0	10.6	13.3
bond strength	Pol	lycarbonate	MPa	(Material failure)	(Material failure)	7.8	(Material failure)	(Material failure)	(Material failure)	1.4	5.8	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	4.5	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)
Peel strength Tensile shear	ABS		MPa	(Material failure)	(Material failure)	7.6	(Material failure)	(Material failure)	(Material failure)	(Material failure)	6.1	4.2	4.2	(Material failure)	5.2	5.2	(Material failure)	5.1	5.0	(Material failure)	(Material failure)	(Material failure)
	NBR		MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)
	Chloroprene rubber		MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)
		Iron	kN/m	-	-	-	-	3.0	3.0	4.0	-	-	-	-	-	-	-	-	-	-	-	-
	A	Aluminum	kN/m	-	-	-	-	2.0	2.0	2.0	-	-	-	-	-	-	-	-	-	-	-	-
O	perating rang	temperature ge (Est.)	°C	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 120	-40 to 100	-40 to 100
Remark(s)										Structural viscosity ratio 3.5									Continuous usage at 120°C possible	Standard curing condition 10kJ/m ²	Standard curing condition 10kJ/m ² Compliant to ISO10993 for medical devices	

^{* -:} Unmeasured

* The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Instant Adhesives and GOLD LABEL Instant Adhesives Property Table

		operty lable																				
		Product name	Unit	1773E	1781	1781F	1782	1783	1785B	1786	7721	7725	7725B	7727	7727B	7737	7738	7741	7761	7781	7782	7784
	Main co	omponent		Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate
	Fea	atures		Light curing	Impact resistance Heat resistance	Impact resistance Heat resistance	Impact resistance Heat resistance	Impact resistance Heat resistance	Fast-curing for woodwork	for	High functionality Non- whitening type	Ultrahigh peel strength	Ultrahigh peel strength	Ultrahigh	High functionality Ultrahigh peel strength Non-whitening black type	High functionality Ultrahigh peel strength	High functionality Ultrahigh peel strength	Standard	Impregnating reinforcement coating agent for 3D printers	Ultrarapid	High functionality Ultrarapid curing	High functionality Ultrarapid curing
	Арр	earance		Yellow transparent	Colorless transparent	Blue transparent	Colorless transparent	Colorless transparent	Colorless transparent	Colorless transparent	Colorless to Light yellow transparent	Colorless	Black	Colorless	Black	Light yellow transparent	Light yellow transparent	Colorless to Light yellow transparent	transparent	Colorless to Light yellow transparent	Light yellow	Light yellow
	Vis	scosity	mPa∙s	150	3.0	20.0	80.0	800	3.0	150	5.0	500	500	2000	2000	2000	5000	2.0	5.5	2.0	15.0	160
	Specif	fic gravity		1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.07	1.07	1.07	1.07	1.07	1.07	1.08	1.05	-	1.05	1.05	1.05
S	et time	Iron	sec	5	10	10	10	10	5	5	15	80	90	90	100	90	90	3	-	2	2	3
		NBR	sec	2	5	5	5	5	3	3	2	20	25	30	30	90	90	2	120	2	2	2
		Iron	MPa	15.9	16.4	22.1	25.5	24.7	11.9	18.2	18.4	16.6	16.3	17.1	15.4	25.7	27.7	15.0	-	14.0	14.2	15.3
strength	A	Aluminum	MPa	11.2	15.3	12.8	17.8	17.7	12.0	13.2	12.9	15.1	13.8	15.0	14.2	20.4	21.4	15.1	-	14.9	15.3	16.1
pond	Pol	lycarbonate	MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	5.4	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	-	(Material failure)	(Material failure)	(Material failure)
Tensile shear		ABS	MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	-	(Material failure)	(Material failure)	(Material failure)
Ter		NBR	MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	-	(Material failure)	(Material failure)	(Material failure)
	Chloro	oprene rubber	MPa	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	(Material failure)	-	(Material failure)	(Material failure)	(Material failure)
strength		Iron	kN/m	-	-	-	-	-	-	-	-	6.8	8.1	7.3	8.4	3.4	4.2	-	-	-	-	-
Peels	A	Aluminum	kN/m	-	-	-	-	-	-	-	-	3.6	3.7	3.2	3.5	3.4	2.9	-	-	-	-	-
C	Operating rang	g temperature ge (Est.)	°C	-40 to 100	-40 to 120	-40 to 120	-40 to 120	-40 to 120	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100	-40 to 100		-40 to 100	-40 to 100	-40 to 100
	Rer	mark(s)		Standard curing condition 10kJ/m²	Continuous usage at 100°C possible	Continuous usage at 100°C possible	Continuous usage at 100°C possible	Continuous usage at 100°C possible					Total light transmittance 0.01 or less	Structural viscosity ratio 2.9	Structural viscosity ratio 2.1 Total light transmittance 0.01 or less	Structural viscosity ratio 4.8	Structural viscosity ratio 5.0	Continuous usage at 80°C possible	shaped	Continuous usage at 80°C possible Final strength within 30 min	100°C possible Final strength	Final strength

^{* -:} Unmeasured
* The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.



Instant Adhesives and GOLD LABEL Instant Adhesives Property Table

		operty rable				
		Product name	Unit	7785	7786	7789
		omponent		Cyanoacrylate	Cyanoacrylate	Cyanoacrylate
	Fea	atures		High functionality Ultrarapid curing	High functionality Ultrarapid curing	Fast-curing gel
	Арре	earance		Colorless to Light yellow transparent	Colorless to Light yellow transparent	Light yellow transparent
	Vis	cosity	mPa∙s	500	1000	25000
	Specif	ic gravity		1.07	1.08	1.09
C	:	Iron	sec	3	4	10
se	t time	NBR	sec	2	2	7
		Iron	MPa	16.3	17.0	21.0
ngth	А	luminum	MPa	14.6	14.9	15.9
shear bond strength	Pol	ycarbonate	MPa	(Material failure)	(Material failure)	(Material failure)
41		ABS	MPa	(Material failure)	(Material failure)	(Material failure)
Tensile		NBR	MPa	(Material failure)	(Material failure)	(Material failure)
	Chlore	oprene rubber	MPa	(Material failure)	(Material failure)	(Material failure)
rength		Iron	kN/m	-	-	-
Peel strength	А	luminum	kN/m	-	-	-
Ol		temperature ge (Est.)	°C	-40 to 100	-40 to 100	-40 to 100
	Ren	nark(s)		Final strength	Continuous usage at 100°C possible Final strength within 30 min	Structural viscosity ratio 6.5

^{* -:} Unmeasured

	Product name Characteristics	Unit	1795C	1796	1796B	1796F	1796G	1796K	1797	7796	7797	7797C
	lain component	Onic	Acetone others	Amine compound	Amine compound	Amine compound	Amine compound	Amine compound	Amine compound	Amine compound	Amine compound	Amine compound
			Remover	Curing accelerator	Curing accelerator	Curing accelerator	Curing accelerator	Curing accelerator	Bonding primer	Curing accelerator	Bonding primer	Bonding primer
	Features		-	-	Lower odor	Aerosol	Ordinance on Prevention of Organic Solvent Poisoning does not apply	Lower odor Aerosol	-	Slight odor type	Multi-primer	Multi-primer
	Appearance		Colorless transparent	Light yellow transparent	Light yellow transparent	Light yellow transparent	Light yellow transparent	Colorless to Light yellow transparent	Light yellow transparent	Colorless to Light brown transparent	Colorless transparent	Colorless transparent
	Viscosity	mPa·s	-	-	-	-	-	-	-	-	-	-
:	Specific gravity		0.90	0.82	0.82	0.81	0.82	0.76	0.80	0.75	0.67	0.68
	Iron	sec	-	5 to 10 (TB1739)	5 to 10 (TB1739)	5 to 10 (TB1739)	5 or less (TB1739)	5 or less (TB1739)	-	5 or less (TB1739)	-	-
Set time	Polypropylene	sec	-	-	-	-	-	-	5 (TB1741)	-	3 (TB7784)	3 (TB7784)
	NBR	sec	-	-	-	-	-	-	-	-	-	-
ond strength	Iron*1	MPa	-	2.7 (TB1739)	2.7 (TB1739)	2.7 (TB1739)	3.4 (TB1739)	2.8 (TB1739)	-	2.7 (TB1739)	-	-
Tensile shear bond strength	Polypropylene	MPa	-	-	-	-	-	-	(Material failure) (TB1741)	-	(Material failure) (TB7784)	(Material failure) (TB7784)
	Remark(s)						: Unmeasured		For hard- to-bond materials		For hard- to-bond materials	For hard- to-bond materials (7797 variant with different solvent, Ordinance on the Prevention of Organic Solvent Poisoning does not apply)

^{*1:} Tensile shear bond strength: After 1 minute of iron sheer bonding

 $[\]ensuremath{^{*}}$ The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

^{* -:} Unmeasured

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Epoxy Resin Adhesives



Public Industri Material Mark Auto Aftermarket

These are adhesives that use epoxy resin as the main component.

They have strong adhesion strength and have excellent overall characteristics including chemical resistance, electrical properties, and mechanical strength. There is a two-component type that cures at room temperature, and a single-component type that is a heat-curing type.

They can be used for various purposes including general-purpose adhesion and sealing, for construction materials, and for electronic device bonding, filling, repair, casting, and impregnation.

2000 Series

(Two-component epoxy resin main agent)

2001

This is a standard epoxy main agent.

It forms a cured material with slight flexibility, and it has great adhesion strength.

2002 K, 2002 L

It has thixotropic properties and is cream-like.

There is virtually no dropping even when mixed with a curing agent, and it has excellent padding ability giving it good workability.

2022

This is a standard epoxy main agent.

It forms a cured material with good overall balance.

2022 U

This is a high adhesive strength type that can be used as an adhesive for construction.

In combination with 2103, it provides strong adhesive strength even when hardened at room temperature.

2045 B, 2145 B

This is a two-component room-temperature curing heatdissipating epoxy resin.

Thermal conductivity 2.1W/m·K, Nonflammable type (UL94 V-0 certified product), has high adhesion strength.

It is good for heat dissipation in the area around drive batteries in automobiles.

2100 Series

(Two-component epoxy resin curing agent)

2102B

This is a medium viscosity, high-speed curing agent.

2103

This is a low viscosity, high-speed curing agent. It forms a cured material with medium heat resistance.

2104

This is a curing agent with excellent curability at low temperature. It forms a flexible cured material, so it has excellent impact strength and freeze resistance.

2105 C

This is a standard type curing agent.

It forms a cured material with some flexibility.

This is a medium-viscosity type, so it has excellent workability.

2105 F

This is a standard type curing agent.

It forms a cured material with medium flexibility, so it has good impact strength.

2106 G

This is a curing agent with excellent transparency.

Formes a cured product with excellent tensile shear adhesive strength

This is also a slightly-high-viscosity type (2106H).

2131 D

This is a heat-applied type curing agent with excellent transparency.

It has low viscosity and a low shrinkage rate while curing, so it is good for potting.

73

2080 Series

(Two-component epoxy resin adhesive set)

2081 D

This adhesive is a set with a main agent and curing agent. It has excellent adhesion strength for soft PVC, which is difficult-to-bond material. It is good for bonding with rubber such as CR and EPDM, various metals, and concrete, etc.

2082 C

This high-strength adhesive is a set with a main agent and curing agent.

Rubber particles are distributed, so it forms a tough cured material.

It has stable and strong adhesiveness. It is good for bonding a wide range of materials such as various metals and plastics.

2084 B, 2084 E

This adhesive is a set with a main agent and curing agent and is good for repairs.

2084B contains aluminum powder and is good for the repair of metallic parts.

2084E is low-viscosity and transparent and is suitable for adhesion and coating.

2088 E

This heat-resistant adhesive is a set with a main agent and curing agent.

It has excellent adhesion even at 200°C (approx.).

It is good for bonding various metals and ceramics.

2083 L

This is a spackling adhesive that can be hardened on wet surfaces or in water, and provides strong adhesive power.

A large volume type is also available (2083J).

2086 N

This fast-curing low temperature type adhesive is a set with a main agent and curing agent. It can even cure at a low temperature of -5°C

It is good for bonding various metals, plastics, and rubber, etc. There is also a low-viscosity transparent type (2086M).

A thixolabile transparent type is also available (2086T).

A twin cartridge type is also available. (2086M, 2086T)

2200 Series

(Single-component heat-curing epoxy resin)

2202

This is a type cured at low temperatures.

It has low viscosity and can be used as an underfill agent for electronic device reinforcement. There are grades with different viscosities, different colors and Low-halogen product.

2202 C

This grade can be cured at low temperatures and is ISO 10993 (biological evaluation of medical devices) compliant.

2222 P

It has excellent heat resistance for soldering and excellent thermal shock resistance.

It has high adhesion strength and has excellent peeling strength.

2235 L

This has a low linear expansion rate and a high glass transition temperature. It is suitable for applications that require heat resistance since it maintains a high elastic modulus even in a high temperature environment.

2237 J

This has a high glass transition temperature. It is suitable for applications that require heat

resistance since it maintains a high elastic modulus even in a high temperature environment.

Products Guide

2239 H

This is a highly-adhesive type.

It forms a cured material with good balance and excellent shear bond strength and peel strength.

There are grades with different viscosities and different colors.

2249 G

This is a highly-adhesive type.

It forms a tough cured material with very excellent shear bond strength and peel strength.

There are grades with different viscosities and different colors.

2249 K

This is a highly-adhesive type.

It has excellent shape retention and a long pot life, and can be applied to vertical surfaces and ceilings.

It is suitable as a structural adhesive.

2270 J

This adhesive has excellent thermal conductivity and is good for protecting components from overheating.

It has a low linear expansion coefficient, low cure shrinkage and high reliability.

2272 F

Nonflammable type (UL94 V-0 certified product)

This exhibits excellent handling ability. It is good for bonding and potting electronic devices and other potential heat sources that require incombustibility.

2274S

This is an underfill agent for mounting CSP and BGA.

It has good flowability and penetrates in a short time.

2280 E

It has low viscosity and low heat generation while curing, so it is good for coil impregnation and fixing.

A different color grade is also available (2280C).

2284E

This is a high specific-gravity type for adjusting the balance of rotating bodies such as motors.

There are grades with different specific gravities and different viscosities.

2287

This is a low-viscosity grade for impregnation of cut cores.



Pi	roduct name ———	agent g agent			20	01			200)2K		2002K				20	02L			200)2M
	Characteristics	Unit	Main agent	2103	2105C	2105F	2106G	2163	Main agent	2105	2105C	2105F	2107	Main agent	2105	2105C	2105F	2105R	2107	Main agent	2105C
	Main component		Epoxy resin	Aliphatic polyamine	Modified polyamide- amine	Modified polyamide- amine	Modified aliphatic polyamine	Modified aromatic polyamine	Epoxy resin	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Epoxy resin	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Epoxy resin	Aliphatic polyamine
	Features		Adhesion strength Slight flexibility	Medium heat resistance Fast-curing	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Balance between shear and Peeladhesive strength	Heat resistance Mechanical strength	Highly thixotropic Padding ability	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Adhesion of structures	Highly thixotropic Padding ability	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	High viscosity, appropriate hardness and flexibility	Adhesion of structures	For electronic device molding	For electronic device molding
	Appearance		Light yellow transparent		Rust	Rust	Light yellow transparent	Black	Gray	Light yellow	Rust	Rust	Light brown	White transparent	Light yellow	Rust	Rust	Rust	Light brown	Black	Rust
	Viscosity	Pa∙s	12.0	-	1.8	40.0	3.0	1.2	100	4.5	1.8	40.0	30.0	95.0	4.5	1.8	40.0	50.0	30.0	15.0	1.8
	Viscosity	mPa∙s	-	20.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.16	0.97	0.95	0.96	1.06	1.10	1.21	0.95	0.95	0.96	0.96	1.25	0.95	0.95	0.96	0.86	0.96	1.17	0.95
	ompounding ratio (Mass ratio) n agent / Curing agent		-	100 / 9 to 10	100 / 45 to 50	100 / 80 to 100	100 / 50	100 / 20	-	100 / 40 to 50	100 / 40 to 50	100 / 80 to 100	100 / 100	-	100 / 40 to 50	100 / 40 to 50	100 / 80 to 100	100 / 80 to 100	100 / 100	-	100 / 40 to 50
(25°0	Pot life C / 100g when mixed)		-	23 min	65 min	60 to 90 min	30min	5 h	-	-	-	-	-	-	-	-	-	1.5 to 2h	-	-	-
Stand	dard curing conditions		-	25°C·24h or 100°C·30min	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 80°C·1h	100°C·3h and 150°C·2h	-	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 70°C·30min	-	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h		25°C·24h or 70°C·30min	-	25°C·24h or 100°C·1h
er curing	Hardness		-	D88	D84	D80	D85	D90	-	D84	D84	D82	D70	-	D84	D84	D78	D80	D70	-	D85
Physical characteristics after c	Glass transition temperature	°C	-	90	81	64	-	150	-	-	-	-	-	-	-	-	-	-	-	-	-
characte	Volume resistivity	Ω·m	-	1×10 ¹⁴	1×10 ¹³	1×10 ¹³	-	2×10 ¹⁵	-	-	-	-	-	-	-	-	-	-	-	-	-
Physical	Dielectric breakdown strength	kV/mm	-	24	20	20	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	Tensile shear bond strength (When heat-cured)	MPa	-	18.0	22.0	20.0	20	24.5	-	17.5	19.1	16.9	17.6	-	18.8	18.7	20.2	23.3	18.2	-	19.8
프	Peel strength (When heat-cured)	N∙m	-	196	353	471	600	275	-	-	-	-	-	-	-	-	-	-	-	-	-
	Remark(s)																				

^{* -:} Unmeasured

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	Mair	n agent				2003				2003C	200	03H		20	04		2004J		201	65	
·	Product name Curin	g agent	Main agent	2102B	2103	2105C	2105F	2106G	2106H	Main agent	Main agent	2105T	Main agent	2105	2105C	2105F	Main agent	Main agent	2103	2105C	2105F
ı	Characteristics Main component	Unit	Epoxy resin	Modified	Aliphatic	Modified	Modified polyamide-amine	Modified aliphatic	Modified	Epoxy resin	Epoxy resin	Modified polyamide-amine	Epoxy resin	Modified polyamide-amine	Modified	Modified	Epoxy resin		Aliphatic polyamine	Modified polyamide-amine	Modified polyamide-amine
	Features		Filling adhesion Usable as putty	Fast-curing	Medium heat resistance Fast-curing	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Balance between shear and peel- adhesive strength	Balance between shear and peel- adhesive strength	General- purpose adhesion Usable as putty	adhes	l-strength iveness g while curing		nt adhesion s r sprinkler pip	trength	Adhesion strength Flexibility Chemical resistance	General- purpose adhesion High viscosity	For filling/ repairing Aluminum powder- contained High mechanical strength	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance
	Appearance		Brown	Rust	Light yellow transparent	Rust	Rust	Light yellow transparent		Black	Black	Milky white	White	Light yellow	Rust	Rust	Gray	Silver	Light yellow transparent	Rust	Rust
	Viscosity	Pa∙s	Putty	2.8	-	1.8	40.0	3.0	6.5	Putty	Pa	ste	60.0	5	1.8	40.0	90.0	Putty	-	1.8	40.0
	·	mPa∙s	-	-	20.0	-	-	-	-	-		-	-	-	-	-	-	-	20.0	-	-
	Specific gravity		1.53	1.06	0.97	0.95	0.96	1.06	1.06	1.53	1.	80	1.40	0.90	0.95	0.96	1.18	1.31	0.97	0.95	0.96
	Compounding ratio (Mass ratio) in agent / Curing agent		-	100 / 12.5	100 / 4.5 to 5	100 / 20 to 25	100 / 40 to 50	100 / 25	100/30	-	-	100 / 100	-	100 / 40	100 / 32 to 40	100 / 64 to 80	-	-	100 / 6.3 to 7	100 / 28 to 35	100 / 56 to 70
(25	Pot life °C / 100g when mixed)		-	25 min	30 min	75 min	2h	40 min	55 min	-	-	1 to 2h	-	33min	50 to 60 min	90 min	-	-	-	-	-
	ndard curing conditions		-	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h		25°C·24h or 100°C·30 min		25°C·48h or 80°C·2h	-	-	25°C·24h or 60°C·1.5h	-	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·48h or 100°C·1h	-	-	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h
er curing	Hardness		-	D82	D89	D85	D82	D88	D87	-	-	D80	-	84	-	-	-	-	D87	D84	D84
Physical characteristics after curing	Glass transition temperature	°C	-	-	-	-	-	80	81	-	-	40	-	45	-	64	-	-	-	-	-
l characte	Volume resistivity	Ω·m	-	1×10 ¹⁴	3×10 ¹⁴	1×10 ¹³	1×10 ¹³	-	-	-	-	-	-	4.5×10 ¹³	-	1×10 ¹³	-	-	-	-	-
Physica	Dielectric breakdown strength	kV/mm	-	20	25	25	20	-	-	-	-	-	-	34	-	-	-	-	-	-	-
Iron	Tensile shear bond strength (When heat-cured)	MPa	-	15.0	17.0	22.0	18.0	22.0	23.0	-	-	12.0 (When cured at room- temperature)	-	22.2	15.7	17.7	-	-	14.3	20.1	21.2
	Peel strength (When heat-cured)	N·m	-	118	196	275	589	1000	1100	-	-	1900 (When cured at room- temperature)	-	840	-	-	-	-	-	-	-
	Remark(s)																				

^{* -:} Unmeasured

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	Mair	n agent			_	20	<u> </u>	_		_	_		2022	_	_	2022B	202	200	2022F	2022R
Pı	curir	ng agent	Main agent	2102	2102B	2103	2104	2105C	2105F	2105R	2106G	2106H	2107	2131D	2131P	Main agent	Main agent	2131D	Main agent	Main agent
Ī	Characteristics Main component	Unit \	Epoxy resin	Modified	Modified aliphatic polyamine	Aliphatic polyamine		Modified polyamide- amine	Modified polyamide- amine	Modified polyamide-amine	Modified aliphatic polyamine	Modified aliphatic polyamine	Modified polyamide- amine	Modified aliphatic polyamine	Modified aliphatic polyamine		Epoxy resin	Modified	Epoxy resin	
	Features		Good overall characteristic balance		Fast-curing		Rubber-like cured material Curing at low temperatures Impact strength Freeze resistance	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	High viscosity, appropriate hardness and flexibility		Transparency Medium heat resistance	Adhesive for	Transparency Low shrinkage Low viscosity	Low viscosity Low heat	Low viscosity Medium flexibility	Low viscosity	Transparency Low shrinkage Low viscosity	Water resistance Low discoloration Excellent defoaming ability	Low viscosity Medium flexibility
	Appearance		Light yellow transparent		Light yellow	Light yellow transparent	Light yellow to Brown	Rust	Rust	Rust	Light yellow transparent	Light yellow transparent	Light brown	Light yellow transparent		Light yellow	Light yellow	Light yellow transparent	Blue	White
	Vr	Pa∙s	13.0	6.5	2.8	-	-	1.8	40.0	50.0	3.0	6.5	30.0	-	-	4.0	5.0	-	15.5	4.0
	Viscosity	mPa∙s	-	-	-	20.0	950	-	-	-	-	-	-	10	14	-	-	10	-	-
	Specific gravity		1.16	1.10	1.06	0.97	1.22	0.95	0.96	0.96	1.06	1.06	0.96	0.95	0.96	1.15	1.10	0.95	1.20	1.15
	ompounding ratio (Mass ratio) agent / Curing agent		-	100 / 100	100 / 25	100 / 9 to 10	100 / 80 to 100	100 / 40 to 50	100 / 80 to 100	100 / 80 to 100	100 / 50	100 / 60	100 / 100	100 / 30 to 35	100 / 30 to 35	-	-	100 / 30 to 35	-	-
(25°0	Pot life C / 100g when mixed)		-	7 to 9 min	20 min	25 min	25 min	70 min	60 to 90 min	1.5 to 2h	65 min	77 min	2.5h	4 to 5h	1 to 1.5h	-	-	4 to 5h	-	-
Stand	dard curing conditions		-	25°C·12h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	25°C·48h or 100°C·1h	25°C·48h or 80°C·1h	25°C·48h or 80°C·2h	25°C·24h or 60°C·1h	80°C·4h or 100°C·1h	25°C·24h or 100°C·1h	-	-	80°C·4h or 100°C·1h	-	-
er curing	Hardness		-	D74	D82	D88	D70	D84	D81	D81	D87	D87	D70	D85	D84	-	-	D80	-	-
Physical characteristics after curing	Glass transition temperature	°C	-	-	70	90	37	80	63	-	78	73	60	82	86	-	-	80	-	-
characte	Volume resistivity	Ω·m	-	-	1×10 ¹³	2×10 ¹⁴	1×10 ¹³	1×10 ¹³	1×10 ¹³	-	-	-	2.9×10 ¹²	1×10 ¹³	-	-	-	1×10 ¹³	-	-
Physical	Dielectric breakdown strength	kV/mm	-	19	20	25	18	23	20	-	-	-	-	27	-	-	-	25	-	-
Iron	Tensile shear bond strength (When heat-cured)	MPa	-	15.0 (When cured at room- temperature)	16.0	17.0	18.0	22.0	20.0	21.3	18.0	19.0	26.0	16.0	16.7	-	-	16.0	-	-
	Peel strength (When heat-cured)	N·m	-	-	235	235	1962	353	589	-	500	500	1961	392	275	-	-	589	-	-
	Remark(s)																			

^{* - :} Unmeasured

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	roduct name	n agent	202	22U			20	23				2023			2023B		202	23D	202	23J
	Curin Characteristics	g agent Unit	Main agent	2103	Main agent	2102B	2103	2105C	2105F	2105R	2106G	2106H	2131D	Main agent	2106G	2106H	Main agent	2105C	Main agent	2104
	Main component		Epoxy resin	Aliphatic polyamine	Epoxy resin	Modified aliphatic polyamine	Aliphatic polyamine	Modified polyamide- amine	Modified polyamide- amine	Modified polyamide- amine	Modified aliphatic polyamine	Modified aliphatic polyamine	Modified aliphatic polyamine	Epoxy resin	Modified aliphatic polyamine	Modified aliphatic polyamine	Epoxy resin	Modified polyamide- amine	Epoxy resin	Polythiol
	Features		High strength Adhesive for structures	Medium heat resistance Fast-curing	Low viscosity	Fast-curing	Medium heat resistance Fast-curing	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	High viscosity, appropriate hardness and flexibility		Transparency Medium heat resistance	Transparency Low shrinkage Low viscosity	Low viscosity	Balance between shear and peel- adhesive strength	Balance between shear and peel- adhesive strength	Low viscosity Flexibility	Adhesion strength Flexibility Chemical resistance	Low viscosity Black type of TB2023	Rubbery hardened material, low- temperature hardening, impact resistance, cold resistance
	Appearance		Black	Light yellow transparent	Light yellow	Light yellow	Light yellow transparent	Rust	Rust	Rust		Light yellow transparent		Light yellow		Light yellow transparent	Light yellow transparent	Rust	Black	Light yellow to Brown
	Viscosity	Pa∙s	11.2	-	-	2.8	-	1.8	40.0	50.0	3.0	6.5	-	-	3.0	6.5	-	1.8	-	-
	Viscosity	mPa∙s	-	20.0	900	-	20.0	-	-	-	-	-	10.0	200	-	-	800	-	900	950
	Specific gravity		1.15	0.97	1.13	1.06	0.97	0.95	0.96	0.96	1.06	1.06	0.95	1.13	1.06	1.06	1.07	0.95	1.13	1.22
	compounding ratio (Mass ratio) n agent / Curing agent		-	100 / 10	-	100 / 25	100 / 9 to 10	100 / 40 to 50	100 / 80 to 100	100/ 80 to 100	100 / 50	100 / 60	100 / 30 to 35	-	100 / 50	100 / 60	-	100 / 40 to 50	-	100 / 80 to 100
(25°	Pot life C / 100g when mixed)		-	13 min	-	22 min	27 min	80 min	2h	1.5 to 2h	90 min	108 min	4 to 5h	-	50 min	70 min	-	40 to 60 min	-	30 min
Stan	dard curing conditions		-	25°C·24h	-	25°C·48h or 100°C·1h	25°C·48h or 100°C·1h	25°C·48h or 100°C·2h	25°C·48h or 100°C·1.5h		25°C·48h or 80°C·1.5h	25°C·48h or 80°C·3h	80°C·4h or 100°C·2h	-	25°C·24h or 80°C·1h	25°C·48h or 80°C·2h	-	80°C·24h or 25°C·24h+ 60°C·3 to 4h	-	25°C·24h or 100°C·1h
er curing	Hardness		-	D76	-	D80	D85	D82	D80	D78	D84	D85	D81	-	D81	D81	-	D70 to 75	-	D67
Physical characteristics after curing	Glass transition temperature	°C	-	103	-	68	80	76	60	-	63	55	79	-	46	42	-	-	-	3
characte	Volume resistivity	Ω·m	-	-	-	1×10 ¹³	1×10 ¹⁴	1×10 ¹³	1×10 ¹³	-	-	-	1×10 ¹³	-	-	-	-	5 to 8×10 ¹²	-	-
Physical	Dielectric breakdown strength	kV/mm	-	-	-	20	22	20	20	-	-	-	20	-	-	-	-	14 to 18	-	-
lron	Tensile shear bond strength (When heat-cured)	MPa	-	25.0	-	16.0	16.0	20.0	18.0	19.8	18.0	19.0	17.0	-	17.0	16.0	-	11.8 to 14.7	-	8.2
프	Peel strength (When heat-cured)	N·m	-	613 (When cured at room- temperature)	-	196	275	392	981	-	500	500	235	-	600	400	-	-	-	564
	Remark(s)																			

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P	roduct name	n agent	20	23J	2023K	2023M		202	24B		20)25	20	45	204	45B	206	51F	207	4B
	Characteristics	g agent Unit	2105C	2105F	Main agent	Main agent	Main agent	2103	2105C	2105F	Main agent	2104	Main agent	2145	Main agent	2145B	Main agent	2105C	Main agent	Curing agent
	Main component		Modified polyamide- amine	Modified polyamide- amine	Epoxy resin	Epoxy resin	Epoxy resin	Aliphatic polyamine	Modified polyamide- amine	Modified polyamide- amine	Epoxy resin	Polythiol	Epoxy resin	Alicyclic polyamine	Epoxy resin	Polyamine	Epoxy resin	Modified polyamide- amine	Epoxy resin	Polyamide- amine
	Features		Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	White type of TB2023	Low viscosity White type of TB2023	Low shrinkage Heat dissipation property Insulation property	Medium heat resistance Fast-curing	Adhesion strength Flexibility Chemical resistance	Adhesion strength Flexibility Chemical resistance	Thermal impact Insulation property Flexibility	Rubbery hardened material, low- temperature hardening, impact resistance, cold resistance	Two-comp resis Epoxy Certified with Formaldehyo	tant resin th UL94 V-0 de emissions	resis Epoxy Certified wi Excellent he	oonent fire- stant y resin ith UL94 V-0 at dissipation perty	Casting Potting	Adhesion strength Flexibility Chemical resistance	Low vis High-thix	
	Appearance		Rust	Rust	Light yellow transparent	White	Light yellow transparent		Rust	Rust	Light gray	Light yellow to Brown	Black	Orange	Pink	Light blue	Light brown transparent	Rust	White	Black
	Viscosity	Pa·s	1.8	40	2.5	-	11.0	-	1.8	40	25.0	-	180	1.6	82	124	2.0	1.8	25.0	9.0
	,	mPa∙s	-	-	-	900	-	20.0	-	-	-	950	-	-	-	-	-	-	-	
	Specific gravity		0.95	0.96	1.15	1.14	1.45	0.97	0.95	0.96	1.52	1.22	1.82	0.99	2.50	2.52	1.10	0.95	1.27	1.16
	Compounding ratio (Mass ratio) n agent / Curing agent		100 / 40 to 50	100 / 80 to 100	-	-	-	100 / 5.4 to 6	100 / 24 to 30	100 / 48 to 60	-	100 / 40 to 50	100	/ 10	100	/ 40	-	100 / 30	100 /	⁷ 50
(25°	Pot life C / 100g when mixed)		80min	70 to 80min	-	-	-	30 min	75 min	-	-	23 min	100	min		-	-	60 to 80 min	50 n	nin
Stan	dard curing conditions		25°C·24h or 100°C·1h	25°C·24h or 100°C·1h	-	-	-	25°C·48h or 100°C·1h	25°C·48h or 100°C·1h	25°C·48h or 100°C·1.5h	-	25°C·24h or 100°C·1h	25℃	·72h	25°C	∑-24h	-	80°C·2h	25°C·48h oı	r 120°C·1h
er curing	Hardness		D71	D77	-	-	-	D87	D82	D85	-	D69	D8	37	D	79	-	A55	D8	4
Physical characteristics after curing	Glass transition temperature	°C	61	51	-	-	-	85	75	63	-	-4.3	5.	3	4	15	-	-	-	
l characte	Volume resistivity	Ω·m	-	-	-	-	-	2×10 ¹⁴	1×10 ¹³	-	-	-	5.9×	10 ¹²	1.9>	<10 ¹²	-	4.7×10 ¹⁰	-	
Physica	Dielectric breakdown strength	kV/mm	-	-	-	-	-	25	20	-	-	-	-		18	3.9	-	-	-	
Iron	Tensile shear bond strength (When heat-cured)	MPa	13.1 (When cured at room- temperature)	at room- temperature)	-	-	-	16.0	20.0	19.6	-	11.9	1	0	(When cure	7.5 ed at room- erature)	-	-	20.	.4
ᅩ	Peel strength (When heat-cured)	N·m	318 (When cured at room- temperature)	406 (When cured at room- temperature)	-	-	-	235	392	3924	-	766	30	00	(When cure	80 ed at room- erature)	-	-	-	
	Remark(s)												Certified wit 「F☆☆		Thermal co 2.1W	onductivity //m·K				

^{* - :} Unmeasured

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Pr	roduct name	n agent	207	77D	208	B1D	208	32C	208	32E	20	82F	208	83J	20	83L	208	34B	208	4E
	Characteristics	g agent Unit	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent
	Main component		Epoxy resin	Modified polyamide- amine	Epoxy resin	Modified polyamide- amine Tertiary amine	Epoxy resin	Modified polyamide- amine	Epoxy resin	Modified polyamide- amine	Epoxy resin	Modified polyamide- amine	Epoxy resin	Polyamide- amine	Epoxy resin	Modified aliphatic polyamine	Epoxy resin	Modified aliphatic polyamine	Epoxy resin	Modified polyamide- amine
	Features		Low vi Flexible ł mat	hardened	Soft PVC	adhesion	High shear b	ond strength	General-purp filling			for repair of lic parts	Filling adhe surf	sion for wet aces	Structural a wet su	adhesive for urfaces	For repair of r (aluminui	metallic parts m-based)	For re	epair
	Appearance		Milky white	Light brown	Light yellowish white to pale rose	Yellowish Brown transparent	White	Yellowish Brown transparent	White translucent	Gray	Black	Light yellow transparent	Gray	Light yellowish Gray	Light gray	Blue-green	Silver	Brown	Light yellow	Brown
	Viscosity	Pa∙s	2.9	28.6	11.0	10.0	15.0	16.0	90.0	150	5500	-	Putty	Putty	Putty	Putty	Paste	-	13.0	1.9
		mPa∙s	-	-	-	-	-	-	-	-	-	850	-	-	-	-	-	250	-	-
	Specific gravity		1.24	0.96	1.16	0.98	1.19	0.98	1.20	1.07	2.60	0.95	1.76	1.54	1.60	1.50	1.20	0.95	1.16	0.96
	ompounding ratio (Mass ratio) agent / Curing agent		100	/80	Capaci 100 /	ity ratio / 100	Capaci 100 /	ty ratio / 100	Capacii 100 /	ty ratio ′ 100	100)/10	100 /	/100	100	/ 100	100	/ 10	100	/ 50
(25°C	Pot life C / 100g when mixed)			-	60 :	min	70 ı	min	60 r	min	60	min	25 to 4	45 min	15	min	30 to 5	0 min	40 to 5	0 min
Stanc	dard curing conditions			-	25°C·24h (or 60°C·1h	25°C·24h (or 60°C·1h	25°C∙24h (or 80°C·1h	25°C∙24h	or 80°C·1h	25°C	·24h	25°C	⊡24h	25°C·2 100°C·3		25°C·2 100°C·3	
er curing	Hardness		D:	54	D60	to 65	D	76	Di	78	D	85	De	65	D	77	D8	35	(Rockwe	ell R55)
Physical characteristics after cur	Glass transition temperature	°C	4	15		-		-	93	.1	6	6.5		-		-	58	.0	-	
characte	Volume resistivity	Ω·m		-		-		-				-		-	2.2>	<10 ¹⁰	1×1	010	-	
Physical	Dielectric breakdown strength	kV/mm		-		-		-	-			-		-	22	2.0	-		-	
Iron	Tensile shear bond strength (When heat-cured)	MPa	15	5.0	13	3.7	25	5.5	16	.5	20	0.8	6. (When cure tempe	ed at room-	14	4.6	9.8	31	23	.7
7	Peel strength (When heat-cured)	N·m	23	300	37	730	17	20	-			-		-		-	-		-	
	Remark(s)																			

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Pro	roduct name	agent g agent	208	6M	208	6N	208	36T	20	87	20	37N	208	38E	20	88J	208	39B
	Characteristics	Unit	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent	Main agent	Curing agent
٨	Main component		Epoxy resin	Polythiol	Epoxy resin	Polythiol	Epoxy resin	Polythiol	Epoxy resin	Polyamide- amine	Epoxy resin	Modified aliphatic polyamine	Epoxy resin	Polyamide- amine	Epoxy resin	Polyamide- amine	Epoxy resin	Polythiol
	Features		Fast curir tempe		Fast curir tempe		Fast curir tempe Twin carti	rature	Adhesion o	f structures	For HD Low ou	D parts, tgassing	High tl adhesi	hermal veness		resistance re resistance	Metal stick	putty type
	Appearance		Light yellow	Light yellow	Light yellow	Gray	White	Yellowish Brown transparent	Light yellow transparent	Light brown	Milky white	Blue	Yellow transparent	Yellow- brown	White	Brown transparent	Outside: Appearance / Gray	Inside: Inside / Black
	Viscosity	Pa∙s	13.0	10.0	110	50.0	29.0	9.2	13.0	30.0	12.0	5.0	40.0	4.0	13.0	4.5	-	-
	Viscosity	mPa∙s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.17	1.15	1.29	1.20	1.18	1.13	1.16	0.96	1.17	1.05	1.19	1.03	1.17	0.95	2.	15
	ompounding ratio (Mass ratio) agent / Curing agent		100 /	/ 100	100 /	100	100 /	/100	100 /	100	100	/50	100	/ 25	100	/ 30		-
(25°C	Pot life C / 100g when mixed)		5 m	nin	5 n	nin	3 n	nin	60 r	min	25 to	30 min	70 ı	min	4	h	4 n	nin
Stand	dard curing conditions		25°C·24 h (or 5°C·20h	25°C·24 h ∈	or 5°C·20h	25°C	·24 h	25°C·24h (or 60°C·2h	60°C∙3h (or 80°C·1h	25°C·24h o	or 100°C·1h	80°	C∙2h	25°C∙1h or 6	50°C·10 min
r curing	Hardness		D8	35	Di	70	D	78	Di	70	D	80	D	82		-	Di	87
ristics afte	Glass transition temperature	°C	44	1.7	29).7	52	2.0	72	2.0	8	0.0	17 (150°	70 C/1h)	1	00		-
Physical characteristics after curing	Volume resistivity	Ω·m	-	-			7.2×	10 ¹⁴				-		-		-		-
Physical	Dielectric breakdown strength	kV/mm	-	-			2	9				-		-		-		-
Iron	Tensile shear bond strength (When heat-cured)	MPa	20 (When cure temper	ed at room-	14 (When cure tempe	ed at room-	15	5.5	21	.4	31).3	22	2.9	20	0.0	8 (When cure tempe	ed at room-
Irc	Peel strength (When heat-cured)	N·m	-	-	-			-	12	20		-		-		-		-
1	Remark(s)		Twin cartr avail	idge type able														

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	Troperty lubic																				
	Product name Characteristics	Unit	2202	2202C	2202P	2204	2206	22065	2206U	2206V	2210	2210C	2210K	22105	2212	2212B	2212C	2212E	2212Q	2215	2215D
	Main component		Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin
	Features			Curing at low	Curing at low temperatures Low outgassing No flowing while curing Strong adhesiveness		Curing at low temperatures Peel strength	Low halogen content	Low halogen content	Low halogen content	Low viscosity Penetrability Small heat generation while curing	Low viscosity Reduced separation and uncuring issue	Low viscosity Curing at low	temperatures	Low viscosity Glossy cured material Excellent penetrability and flowability	Excellent moisture resistance Curing in 1 min at 150°C	Excellent moisture resistance Curing in 1 min at 150°C	Medium flowability Glossy cured material	Low halogen content	Some padding ability Glossy cured material	Reduced separation and uncuring issue
	Appearance		Black	White	Purple	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Black	Rust	Black	Black	Black	Black
	Viscosity	Pa∙s	13.0	27.0	13.0	28.0	120	15.0	40.0	42.0	10.0	8.0	3.5	8.0	13.0	25.0	25.0	35.0	15.0	80.0	140.0
	Viscosity	mPa∙s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.14	1.39	1.16	1.23	1.20	1.36	1.25	1.36	1.18	1.17	1.15	1.20	1.39	1.39	1.39	1.40	1.69	1.40	1.30
R	ecommended curing conditions		70°C·50 min 80°C·20 min	70°C·50 min 80°C· 15 to 30 min 100°C· 10 to 15 min 120°C· 5 to 10 min 150°C· 2 to 7 min	90°C∙ 20 to 30 min		70°C·50 min 80°C·20 min	80°C-30 min	80°C-30min	80°C-30min *90°C or higher recommended	100°C·20 min	90°C·30 min 100°C·20 min 120°C·15 min		100°C-30min	90°C·30 min 100°C·20 min 120°C·15 min	100°C⋅20 min	80°C-30 min 100°C-20 min 120°C-10 min 150°C- 1 min	100°C⋅20 min		100°C⋅20 min	100°C·30 min
r curing			D88	D90	D88	D89	D85	D87	D86	D87	D86	D87	D87	D89	D92	-	D93	D92	D92	D94	D85
Physical characteristics after	Glass transition temperature	°C	111	101	115	109	104	106	103	114	120	120	92	95	100	109	109	94	105	125	110
character	Volume resistivity	Ω·m	1.3×10 ¹⁵	-	-	1.7×10 ¹⁴	1.4×10 ¹³	4.8×10 ¹³	5.8×10 ¹³	3.7×10 ¹³	1.5×10 ¹⁴	-	-	4.5×10 ¹⁴	5.7×10 ¹⁴	1.6×10 ¹⁴	1.6×10 ¹⁴	5.7×10 ¹⁴	-	5.7×10 ¹⁴	-
Physical	Dielectric breakdown strength	kV/mm	16	-	-	16	16	31	36	24	23	-	-	27	23	23	23	23	32	23	-
uc	Tensile shear bond strength	MPa	9.29	12.2	23.0	9.39	13.6	12.0	18.0	10.2	16.3	14.7	16.5	15.0	10.8	10.2	8.89	11.7	10.0	14.7	17.7
Iron	Peel strength	N·m	331	235	-	419	-	-	-	-	204	-	400	-	329	338	349	297	-	-	-
	Remark(s)			ISO10993 (biological safety evaluation) compliant product																	

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	Product name	Unit \	2217	2217H	2219C	2222P	2222R	22235	2225G (NEO)	2230	2230B	2232	2233B	2234C	2234E	2235L	2236	2237J	2237K	2239H	2239M
П	Characteristics Main component	V	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin
	Features		Screen printing possible Curing in 1 min at 150°C	Excellent syringe coatability High- thixotropic	High viscosity Low flowing while curing	for soldering Thermal	Heat resistance for soldering Thermal shock resistance Low linear expansion coefficient Shear, peel strength	Stable for flowability Good adhesion Humidity resistance	For relay	Low viscosity Peel strength Glossy cured material	Low viscosity Peel strength Glossy cured material	Heat resistance	Flexibility Glossy cured material	Clossy cured	Heat resistance for soldering Glossy cured material	High glass transition temperature Heat resistance Low linear expansion coefficient	Heat resistance Excellent flowability Electric insulation	High glass transition temperature Heat resistance Low linear expansion coefficient Peel-adhesive strength	Low halogen content Screen printing possible	Low linear expansion coefficient	Strong adhesiveness
	Appearance		Rust	Pink	Black	Black	Black	Black	Black	Milky white	Black	White	Black	Grayish white	Black	Black	Grayish white	White	White	Milky white	Gray
	Viscosity	Pa∙s	265.0	185.0	250.0	45.0	65.0	42.9	50.0	8.0	8.0	27.0	55.0	110.0	70.0	80.0	120.0	115.0	63.0	-	510
		mPa∙s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.44	1.19	1.37	1.60	1.70	1.60	1.35	1.28	1.28	1.23	1.16	1.35	1.42	1.69	1.35	1.64	1.49	1.55	1.47
Re	commended curing conditions		100°C·20 min 120°C·10 min	100°C·15min	100°C⋅ 20 to 30 min		100°(.60 min	100°C -60 min	100°C·60 min	100°C·120 min 120°C·60 min 150°C·30 min	120°C⋅60 min	120°C·40 min		120°C-60 min 150°C-30 min		140°C∙30 min	120°C-60 min 150°C-30 min	120°C-60 min	120°C-30 min	120°C-60 min 130°C-50 min 150°C-30 min	150°C-30 min
er curing	Hardness		D90	D86	D90	D89	D91	D91	D87	D84	D84	D90	D75	D92	D92	D92	D92	D89	D91	D92	D90
ristics afte	Glass transition temperature	°C	120	92	95	115	115	118	132	70	70	130	75	142	142	155	142	150	107	115	118
Physical characteristics after curing	Volume resistivity	Ω·m	-	6.2×10 ¹³	5.8×10 ¹³	-	-	6.0×10 ¹³	3.6×10 ¹⁵	2.0×10 ¹³	2.0×10 ¹³	2.5×10 ¹³	1.0×10 ¹³	2.0×10 ¹³	2.0×10 ¹³	4.9×10 ¹⁵	2.0×10 ¹³	5.9×10 ¹⁵	-	1.7×10 ¹⁴	8.5×10 ¹³
Physical	Dielectric breakdown strength	kV/mm	24	25.8	34	-	-	21	23.1	-	-	10	20	20	20	23	20	24	-	29	-
Iron	Tensile shear bond strength	MPa	9.8	24.2	19.0	25.5	21.4	24.0	20.0	23.2	23.7	15.6	19.6	24.5	24.5	23.0	23.0	26.0	17.6	21.5	23.0
=	Peel strength	N∙m	-	-	-	1740	776	2900	3500	1320	2400	-	1962	1200	1200	2000	1180	3600	-	1600	2000
	Remark(s)																				

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

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



	Product name	Unit	2239N	2239P	2247D	2249G	2249K	2252	2253G	2263B	2270C	2270J	2272F	2272H	2273B	22745	2280C	2280E	2280H	2284E	2285
V	lain component	V	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin
	Features		Strong adhesiveness	Strong adhesiveness	Later penetration type Strong adhesiveness	Strong adhesiveness High peel- adhesive strength	Strong adhesiveness High peel- adhesive strength	High peel- strength adhesiveness Low viscosity Crack resistance	Flexibility	Low specific gravity Thermal insulation	Excellent heat dissipation property Low cure shrinkage Reduced separation and uncuring issue High Tg	Excellent heat dissipation property Low cure shrinkage Good curability at low temperature	Nonflammable	Nonflammable Low halogen content	Strong adhesiveness	For mounting CSP/BGA Underfill Agent	Low viscosity Small heat generation while curing	Low viscosity Small heat generation while curing		Resin for balancing a motor Nonmagnetic type	For motor coil impregnation and fixing Excellent penetrability under heat High heat resistance Strength when highly heated
	Appearance		Greenish gray	Greenish gray	Milky white	Black	Black	Black	Light yellow	Black	Gray	White	Black	Black	Milky white	Blue	Light brown	Black	Black	Rust	Milky white
	Viccosity	Pa∙s	510	230	45.0	75.0	882	24.0	37.0	111	65.0	150	75.0	175	32.0	3.8	1.0	1.0	11.0	Putty	140
	Viscosity	mPa∙s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.47	1.51	1.17	1.59	1.23	1.15	1.48	0.69	1.95	2.86	1.64	1.60	1.30	1.17	1.16	1.16	1.10	3.42	1.56
Rec	ommended curing conditions		150°C-30 min	150°C-30 min	150°C-30 min	160°C-30 min	130°C-30min	120°C∙60 min	120°C-60 min	100°C-60 min	100°C·40 min 120°C·30 min 150°C·20 min	100°C-40 min	100°C-60 min	80°C-60min	150°C-30 min	120°C-10 min	120°C-120 min	120°C-120 min	90°C-30min drying + 150°C-30min	120°C·20 min	
er curing	Hardness		D92	D90	D84	D90	D81	D81	D65	D71	D93	D96	D92	D90	D90	-	D87	D87	-	D93	D90
characteristics after cu	Glass transition temperature	°C	119	118	120	104	118	-	19	89	140	117	117	105	127	124	125	125	-	120	180
characte	Volume resistivity	Ω·m	5.4×10 ¹³	8.5×10 ¹³	-	1.0×10 ¹³	3.1×10 ¹²	4.7×10 ¹²	-	2.5×10 ¹³	-	1.5×10 ¹³	2.0×10 ¹³	2.3×10 ¹³	-	1.6×10 ¹⁴	-	-	-	-	2.3×10 ¹⁴
<u> </u>	Dielectric breakdown strength	kV/mm	-	-	-	33	26	21	-	17.3	-	19	24	22	-	-	20	20	-	-	20
uc	Tensile shear bond strength	МРа	26.0	23.0	35.8	34.8	34.6	26.0	12.5	16.8	21.6	9.0	21.3	11.8	33.2	23.0	10.8	12.4	10.6	8.8	24.0
Iron	Peel strength	N·m	2900	2000	2300	4210	5200	4500	-	-	314	-	460	400	5900	-	-	217	-	-	543
	Remark(s)						For weld bonds				Thermal conductivity 0.9W/m·K	Thermal conductivity 4.2W/m·K	Non- flammable grade UL94 V-0 Certified Product	grade UL94							

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

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



	Product name Characteristics	Unit	2286D	2286G	2286L	2286T	2286U	2287	2287D	2287F	2296B
	Main component		Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin
	Features		For motor coil impregnation and fixing High heat resistance Low shrinkage while curing Impact strength	For motor coil coating Heat resistance Low linear expansion coefficient	For motor coil coating Low linear expansion coefficient High viscosity	For motor coil coating	For motor coil coating Low linear expansion coefficient	Cut core- impregnating adhesion Low viscosity Excellent impregnation	For motor coil impregnation and fixing High heat resistance	Cut core- impregnating adhesion	Fast curing at low temperature Good shape retention Low halogen
	Appearance		Milky white	Light pink	Milky white	Milky white	Milky white	Rust transparent	Brown transparent	Rust	Black
	Viit-	Pa∙s	330	325	590	1800	1150	-	25.0	-	18.5
	Viscosity	mPa∙s	-	-	-	-	-	120	-	110 to 190	-
	Specific gravity		1.66	1.66	1.68	1.58	1.40	1.10	1.16	1.08	1.25
Re	ecommended curing conditions		150°C∙30 min	150°C∙30 min	160°C∙30 min	160°C∙30 min	160°C∙30 min	150℃· 5 to 15h	160°C∙30 min	150°C·4h	80°C-30 min
rcuring	Hardness		D94	D93	D94	D91	D91	D86	D88	D75	D82
Physical characteristics after curing	Glass transition temperature	°C	182	155	142	120	110	65	135	-	47
character	Volume resistivity	Ω·m	-	-	-	4.4×10 ¹³	4.0×10 ¹²	4.5×10 ¹²	-	-	6.3×10 ¹³
Physical	Dielectric breakdown strength	kV/mm	-	-	-	33	-	-	-	-	21
Ę.	Tensile shear bond strength	MPa	21.0	23.0	27.0	21.2	27.1	11.8	13.7	15.0	-
Iron	Peel strength	N∙m	-	-	-	2400	2300	120	-	-	-
	Remark(s)										*-: Unmeasured

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Pre-Coating of Bolts and Nuts to Prevent Screws from Loosening and Leaking







Auto Aftermarket

This is the process for coating the sealant and locking agent to the thread portion of screws, bolts, and pipes, etc. to add sealing and locking functions to screws themselves.

Pre-coated screws maintain stability, and have sealing or locking functions when tightened.

Pre-coating of bolts includes bolts pre-coated by MEC process where a microencapsulated reactive adhesive is applied, Threelock Processing where nylon is fused, and Sealock Processing where a sealing function is added.

■ Bolts pre-coated by MEC process

A microencapsulated reactive adhesive is used for the coating process.

The microcapsules are broken up when the processed screws are tightened, and the packaged adhesive quickly cures by polymerization.

After 24 to 48 hours, it reaches final strength, and it forms a tough cured material with excellent oil resistance, chemical resistance, heat resistance, and weather resistance.

It has good heat resistance. The lock function works up to approximately 100° C (approximately 150° C for the heat-resistant type), and the sealing function works up to approximately 170° C.

2418

Bolts pre-coated by MEC process / Acryl medium-strength heat-resistant type

It is good for bonding and sealing screws that may need to be removed.

It has good heat resistance. The lock function works up to approximately 150°C, and the sealing function works up to approximately 170°C.

The minimum applied nut diameter is M3.

The standard curing conditions are 25°C×24h.

2458

Bolts pre-coated by MEC process / Acryl low-strength type

It is good for bonding and sealing screws that will be removed. The lock function works up to approximately 100°C, and the sealing function works up to approximately 170°C.

The minimum applied nut diameter is M3.

The standard curing conditions are 25°C×24h.

2448,2448B

Bolts pre-coated by MEC process / High-strength epoxy type

This is good for permanent adhesion and sealing of screws that do not need to be removed.

It has good heat resistance. The lock function works for 2448 up to approximately 150°C and for 2448B up to approximately 160°C. Both products exhibit a sealing function works up to approximately 170°C.

The minimum applied nut diameter is M2.

The standard curing conditions are 25°C×24h.

2458B

Bolts pre-coated by MEC process / Acryl low-strength less-scum type

It is good for bonding and sealing screws that will be removed. The lock function works up to approximately 100°C, and the sealing function works up to approximately 170°C.

The minimum applied nut diameter is M3.

The standard curing conditions are 25°C×24h.

2468

Bolts pre-coated by MEC process / Acryl medium-strength type

It is good for bonding and sealing screws that may need to be removed.

The lock function works up to approximately 100°C, and the sealing function works up to approximately 170°C.

The minimum applied nut diameter is M3.

The standard curing conditions are 25°C×24h.

2478

Bolts pre-coated by MEC process / Acryl high-strength less-scum type

This is good for permanent adhesion and sealing of screws that do not need to be removed.

It has good heat resistance. The lock function works up to approximately 130°C, and the sealing function works up to approximately 170°C.

The minimum applied nut diameter is M3.

The standard curing conditions are 25°C×24h.

2488

Nuts pre-coated by MEC process / Acryl type

It is good for bonding nuts that may need to be removed. It has good heat resistance. The lock function works up to approximately 130°C.

The minimum applied nut diameter is M3. The standard curing conditions are 25°C×24h.

2488 E

MEC process for pre-coating both bolts and nuts / Epoxy type

It is good for permanent adhesion and sealing of screws that do not need to be removed. Low resin residue when tightening. The minimum applied screw diameter is M2 and the minimum applied nut diameter is M4.

The standard curing conditions are 25°C×48h.

Bolts and Nuts Pre-Coated by MEC process Property Table

	Product name Characteristics	Unit	2418	2446	2446B	2448	2448B	2457	2458	2458B	2468	2475	2478	2488*4	2488E*4
	Main component		Acryl resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Acryl resin	Epoxy resin						
	Strength		Medium strength	High strength	High strength	High strength	High strength	Low strength	Low strength	Low strength	Medium strength	High strength	High strength	Medium strength	High strength
Sta	ndard curing conditions		25°C×24h	25°C×48h	25°C×48h	25°C×24h	25°C×24h	25°C×48h							
	Appearance		Yellow	Blue	Orange	Blue	Orange	Green	Green	Green	Red	Blue	Blue	Blue	Red
А	pplied screw diameter		M3 or larger	M2 to 40	M2 to 40	M2 to 40	M2 to 40	M4 to 40	M3 or larger	M3 or larger	M3 or larger	M2 to 40	M3 or larger	M3 or larger	M2 or larger
	Iron	N⋅m	49.8	53.7	53.7	62.6	64.6	40.2	38.2	39.2	45.4	56.1	52.5	43.1	46.3
<u></u>	Zinc-chromate plating	N⋅m	49.1	56.1	56.1	67.0	70.7	35.9	37.4	39.3	44.9	46.1	52.3	44.9	57.3
ateria	Chromium plating	N⋅m	50.3	52.3	52.3	67.8	62.1	37.9	32.9	40.3	43.4	46.1	49.8	42.5	57.1
each material*1	Nickel plating	N∙m	50.4	54.9	54.9	73.9	65.1	38.8	37.3	40.7	42.2	44.5	52.8	40.8	55.4
\$	Unichromate plating	N∙m	50.2	47.6	47.6	72.0	66.5	37.3	36.3	39.4	45.8	44.9	48.4	41.5	51.6
Fixing strength	Black oxide	N∙m	46.1	53.3	53.3	62.4	64.1	39.8	33.5	39.6	43.8	42.1	42.5	40.8	54.3
ing st	SUS 304	N⋅m	47.8	49.0	49.0	64.6	66.8	35.1	31.9	38.5	42.6	42.1	45.5	41.1	40.8
Ë	Brass	N∙m	26.2	-	-	38.3	37.8	29.0	27.0	28.4	28.8	-	29.6	36.5	42.5
	Aluminum	N⋅m	26.8	26.9	26.9	36.4	40.9	21.4	20.6	20.9	24.8	24.9	22.3	22.4	29.0
	25°C	N∙m	49.1	58.0	58.0	70.3	70.7	35.3	37.4	39.3	44.9	46.1	52.3	44.9	57.3
	60°C	N⋅m	45.6	39.2	39.2	52.2	54.4	35.1	32.6	38.0	36.4	43.1	44.3	37.5	34.9
	80°C	N∙m	42.9	-	-	50.3	52.0	34.1	32.0	31.9	33.5	38.9	38.9	36.4	31.5
strength*2	100°C	N⋅m	40.5	37.2	37.2	46.8	47.6	32.4	30.8	31.5	30.1	41.4	37.5	34.7	21.6
ot stre	120°C	N⋅m	-	33.7	33.7	-	-	29.4	26.0	-	26.9	39.4	34.1	33.4	20.1
Hot	130°C	N⋅m	38.3	-	-	37.0	42.0	-	-	26.1	-	-	31.0	31.4	-
	150°C	N⋅m	33.2	29.5	29.5	31.6	38.0	21.2	20.4	25.9	22.9	32.1	30.1	27.4	16.4
	180°C	N⋅m	26.2	24.7	24.7	21.4	21.0	16.5	19.5	21.3	18.4	25.9	21.1	21.1	14.7
,* *	25°C	MPa	10 or higher	-	10 or higher										
Sealability*3	150°C	MPa	10 or higher	-	-										
Seal	170°C	MPa	10 or higher	-	-	10 or higher	10 or higher	-	10 or higher	10 or higher	10 or higher	-	10 or higher	-	10 or higher
C	perating temperature range (Est.)	°C	Locking 150°C Sealing 170°C	Locking 150°C Sealing 150°C	Locking 150°C Sealing 150°C	Locking 150°C Sealing 170°C	Locking 160°C Sealing 170°C	Locking 120°C Sealing 150°C	Locking 100°C Sealing 170°C	Locking 100°C Sealing 170°C	Locking 100°C Sealing 170°C	Locking 150°C Sealing 150°C	Locking 130°C Sealing 170°C	Locking 130°C	Locking 80°C Sealing 170°C
	Remark(s)		Aqueous type	Aqueous type * For nuts	Aqueous type * For bolts and nuts										

^{*1:} M10×P1.5 bolt/nut, Tightening torque 30N·m (15N·m for brass and aluminum)

^{*2:} M10×P.1.5 zinc-chromate plated bolt/nut, Tightening torque 30N·m

^{*3:} Iron seal block/Hydraulic pressure, M10×P.15 bolt, Tightening torque 30N·m, Maximum pressure 10MPa

^{*4: 2488} and 2488E are grades for nuts, processing is done to nuts for testing, and measurement is done using a protrusion rate of 50% to bolts

 ^{-:} Unmeasured
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Heat Dissipating Agents







This is a series of single-component moisture-curing resins for heat dissipation that use a silyl-containing special polymer as the base resin and contain a thermally conductive filler. They are in a liquid state, so they have excellent adhesion and filling property resulting in good heat dissipation. In addition, they are reaction type products, so there is no increase of flowability or separation over time. All grades do not contain low molecular weight cyclic siloxane, which can cause electrical contact failure, so they can be used for insulation and heat dissipation with various electronic parts including switching power supplies, power ICs, and computer CPUs.

2955 P

This is an alcohol-releasing type.

The surface cures gradually by the moisture in the air, which prevents dripping after assembling parts.

It has excellent electric insulation together with thermal conductivity.

2955 Q

This is an alcohol-releasing type.

The surface cures gradually by the moisture in the air, which prevents dripping after assembling parts.

It has excellent electric insulation together with high thermal conductivity.



Moisture-curing heat-dissipating resin **Property Table**

	Product name		2955P	2955Q
	Characteristics	Unit		
1	Main component		Silyl group- containing special polymer thermal conductivity filler	Silyl group- containing special polymer thermal conductivity filler
	Features		Alcohol- releasing Moisture-curing type	Alcohol- releasing Moisture-curing type
	Appearance		Gray	Gray
	Viscosity	Pa∙s	120	103
	Specific gravity		3.1	3.1
	Tack free time	h	24 or less	24
Physical characteristics after curing	Thermal conductivity (25°C)	W/m·K	4.8	4.5
Physical character after curing	Dielectric breakdown strength	kV/mm	19	15
	Remark(s)			

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level. * Before using, confirm the adequacy and safety for the relevant

ThreeBond Syllage Cell all Throughous SOSEF 1 3000 3001 11002 1001 Managara-ee Managara-ee Managara-ee Managara-ee Managara-ee Managara-ee

UV Curing Resins







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.

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.

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.

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.

3013 Q

This uses acryl 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. It has excellent chemical resistance for engine oil and AT oil, so it is used for electrical device adhesion, sealing, etc.

3017 D, 3017 E, 3017 F

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.

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.

3027 G

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 strength was adjusted, and repair is also possible.

3027H can be used in low halogen products.

3030, 3031 J, 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.

3036 G

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.

3050 C

This has excellent adhesion with glass and metal. It is used for fixing of pin lead with LCDs.

There are variations available including a high glass transition temperature-adopted type and heat cycle resistance-improved type.

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.

3056 F, 3056 K

It is a moisture-curing type that can be cured by moisture in the air, etc., and in shaded area, etc. during UV light irradiation. 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.

3062, 3064 E, 3065 E

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.

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.

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.

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.

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.

3081 J, 3081 L

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.

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.

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.

3121 D

This has low hardening shrinkage, and forms a soft hardened

It has adhesive strength for a wide variety of materials such as glasses, metals, plastics, etc., and is used to adhere and fix optical parts such as camera lens parts.

3168E

This is a UV curing resin that uses silicone resin as the main component.

It becomes a soft gel cured material with excellent adhesion and has excellent vibration absorption.

It is suitable as a damping agent for optical pick-up parts and camera module VCMs.

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.

This is a ISO10993 (biological safety evaluation) compliant product.

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.

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.

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.



	Product name		3003J	3006D	3006F	3013	3013B	3013D	3013M	3013Q	3013Z	3014	3014C	3015F	3016	3016H	3017	3017B	3017D	3017E	3017F
	Characteristics	Unit	30037	3000D	3000F	3013	30136	30130	3013W	3013Q	30132	3014	30140	3013F	3016	301011	3017	30176	30170	3017E	301/F
N	Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acryl rubber	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Ac	dditional 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	to-bond materials
	Main usages		Sealing/ potting of terminals and screws	Wire harness, Connector, Automotive electronics, Electrical parts	Wire harness connection, electrical components, potting of electrical and electronic parts	up lens	Optical pick- up lens Optical part	up lens	up lens	Automotive electronics Electrical part potting	Adhesion/ sealing of wire harness, connectors, and electrical components	up lens Optical part	Optical pick- up lens Optical part	un PD/LD	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	difficult- to-bond materials
	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
	Viscosity	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 ulative light intensity)	kJ/m²	30	30	30	30	30	30	30	45	30	30	20	30	30	30	60	30	30	30	30
stics			A93	A50	A67	A90 to 95	A90	A90	-	A32	A60	A80 to 85	A50	-	A25	A37	A20	A40	A41	A35	A58
racterii	Hardness		-	-	-	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	-	-	-
Physi	Dielectric breakdown strength	kV/mm	26	30	27	-	-	-	-	21	23	-	12.4	-	-	-	-	22.1	-	-	-
	Glass/Glass	MPa	6.5	5.3	5.0	-	-	-	-	-	5.5	-	-	-	-	4.8	-	-	-	-	-
	Glass/Acryl	MPa	6.8	3.1	4.5	-	-	-	-	-	5.1	-	-	-	-	4.2	-	-	-	-	-
ج	Glass/Polycarbonate	MPa	7.0	4.0	3.6	-	-	-	-	-	3.9	-	-	-	-	3.3	-	-	-	-	-
trengt	Glass/Glass epoxy	MPa	6.8	5.2	4.4	-	-	-	-	-	4.9	-	-	-	-	2.8	-	-	-	-	-
Tensile shear bond strength	Glass/ABS	MPa	7.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
hear b	Glass/LCP	MPa	4.1	-	-	-	-	-	4.9	-	-	-	-	-	-	2.1	-	-	-	-	-
sile sl	Glass/Iron	MPa	6.7	5.3	3.9	(Material failure)	(Material failure)	-	-	4.1	6.3	(Material failure)	-	-	-	2.1	-	-	-	-	-
Ten	Glass/Aluminum	MPa	6.7	6.1	3.1	-	-	-	-	2.8	5.4	-	-	-	3.4	2.3	-	-	-	-	-
	Glass/Stainless steel	MPa	7.7	5.2	4.0	-	-	-	-	5.1	3.4	-	-	-	5.5	2.1	-	-	-	-	-
	Polycarbonate/ Polycarbonate	MPa	6.2	-	-	-	-	-	-	-	-	-	2.0	-	-	-	-	-	-	-	-
	Remark(s)							TB3013B variant with improved curability		Exellent engine oil and AT oil resistance Continuous use at approx. 120°C	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	: 2.0MPa

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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



	Troperty lable																				
	Product name Characteristics	Unit \	3018	3020B	3021J	3026B	3026E	3026G	3026J	3027 G	3027H	3027J	3030	3030B	3031J	3033B	3033 G	3033L	3034	3035B	3036
	Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
A	dditional curability		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Features		Soft Thick film curing	Blackening by UV radiation	Excellent surface curability Excellent transparency		Exclusive product for liquid crystal panel end sealing	liquid crystal		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			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 transparent	Milky white	Colorless	Light yellow transparent			Red	Black	Cloudy milky white	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
	Viscosity	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 nulative light intensity)	kJ/m²	45	30	30	10	20	30	30	30	30	30	30	30	10	30	30	60	30	30	30
istics	Hardnoss		A62	-	-	-	-	-	-	A80	-	-	A95	-	-	-	-	-	A95	-	-
racter	Hardness		-	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	-
Physi	Dielectric breakdown strength	kV/mm	-	14.0	-	20.1	-	-	-	18.4	29	-	-	-	-	-	28.0	-	19.4	23.0	-
	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)	-
	Glass/Acryl	MPa	-	7.6	-	-	-	-	-	-	6.8	6.6 (7.3)*	-	-	-	-	5.5	8.2	-	2.36	-
4	Glass/Polycarbonate	MPa	-	7.1	-	-	-	-	-	-	4.9	7.8 (7.4)*	-	-	-	-	3.5	7.6	-	2.3	-
trengt	Glass/Glass epoxy	MPa	(Material failure)	7.8	-	-	-	-	-	-	6.6	8.1 (8.3)*	(Material failure)	-	-	-	5.4	8.5	-	4.6	-
s puo	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
nsile s	Glass/Iron	MPa	-	9.4	-	-	-	-	-	-	5.5	8.1 (8.6)*	-	-	-	-	7.2	9.6	-	5.4	-
Te	Glass/Aluminum	MPa	-	3.4	-	-	-	-	-	-	2.5	8.8 (8.8)*	-	-	-	-	7.6	8.9	-	6.8	10.0
	Glass/Stainless steel	MPa	-	9.0	6.9	-	-	-	-	-	5.6	4.0 (5.5)*	-	-	-	-	-	8.5	-	-	9.4
	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				

^{* -:} Unmeasured

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	Product name		3036G	3038	3042	3042B	3042C	3042D	3042G	3043B	3046	3046B	3050B	3050C	3051	3051E	3051G	3052	3052B	3052C	3052D
	Characteristics Main component	Unit \	Acrilata	Acridate	Acridata	Acrilata	Acrilata	Acridata	Acrilata	Acridato	Acrylata	Acridato	Acrylata	Acridata	Acrilato	Acridata	Acridate	A cm data	Acrilata	Acridato	Acridate
	Main component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
A	dditional curability		-	-	Heating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Features		with LED	Compatible with LED light sources Strong adhesiveness		Transparency Low viscosity High hardness	Transparency Low viscosity High hardness		Good adhesion on glass and metals	Flexibility Nylon adhesion	Water soluble Glass adhesion	Water soluble Glass adhesion	Excellent low- temperature properties	Heat resistance	Glass adhesion	Metal adhesion	Flexibility Low halogen content	Glass adhesion	Glass adhesion	Glass, metal adhesion	Weather resistance Heat cycle resistance
	Main usages		Various light source parts	Optical pick-up Optical part	Coating agent preventing burrs of stepping motors when grinding Glass/metal bonding	Injection needle adhesion accessory coating Glass/metal bonding	Injection needle adhesion 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	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	glass fixing	Glass/Iron Polycarbon- ate Acryl bonding	Glass/Iron Polycarbon- ate Acryl bonding
	Appearance		White	White	Colorless transparent	Colorless transparent	Colorless transparent	Milky white	Green transparent	Light yellow transparent	Light yellow	Light yellow transparent	Green	Light yellow transparent	Light brown	Colorless to Light yellow transparent	Colorless to Light yellow transparent	Light brown transparent	Light yellow transparent	Colorless transparent	Light yellow transparent
	\r	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	43.0
	Viscosity	mPa∙s	-	-	20	500	-	-	-	-	5.0	-	-	-	-	-	-	-	-	-	-
	Specific gravity		1.53	1.17	1.07	1.10	1.11	1.13	1.10	1.05	1.00	1.10	1.04	1.04	1.16	1.06	1.08	1.17	1.17	1.05	1.04
(Cum	Curing conditions nulative light intensity)	kJ/m²	60 (LED)	70 (LED)	15	15	30	30	30	15	18	18	20	15	30	15	30	10	30	35	30
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Physical characteristics after curing	Hardness		D40	D70	D82	D83	D83	D84	D80	D60	D80	D80	D65	D58	D85	D70	D66	D90	D90	D65	D70
al chai	Volume resistivity	Ω·m	-	5.0×10 ¹⁰	2.3×10 ¹³	8.1×10 ¹³	5.5×10 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	-	-
Physic	Dielectric breakdown strength	kV/mm	-	30	-	-	-	-	-	-	-	-	18.0	15.7	-	-	30	-	-	-	-
	Glass/Glass	MPa	-	-	(Material failure)	(Material failure)	8.2	7.5	7.8	-	(Material failure)	5.0	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)	(Material failure)
	Glass/Acryl	MPa	-	(Material failure)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Glass/Polycarbonate	MPa	-	2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ength	Glass/Glass epoxy	MPa	-	(Material failure)	(Material failure)	(Material failure)	-	-	-	-	2.8	-	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)	(Material failure)
ond str	Glass/ABS	MPa	-	-	2.1	(Material failure)	-	-	-	-	(Material failure)	-	-	-	(Material failure)	-	-	(Material failure)	-	(Material failure)	(Material failure)
near bo	Glass/LCP	MPa	-	3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tensile shear bond strength	Glass/Iron	MPa	4.5	4.3	-	-	-	-	7.8	8.0	-	5.0	-	-	-	-	(Material failure)	-	(Material failure)	-	7.5
Ter	Glass/Aluminum	MPa	3.8	6.1	-	-	-	-	-	6.0	-	-	-	-	-	-	-	-	-	-	-
	Glass/Stainless steel	MPa	(Material failure)	(Material failure)	-	-	-	-	7.8	8.0	-	-	(Material	(Material	-	7.8	-	-	-	-	-
	Polycarbonate/ Polycarbonate	MPa	- railure)	rallure)	3.7	4.1	-	-	2.1	4.0	4.8	-	failure) -	failure) -	1.8	-	-	2.2	-	(Material failure)	(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				· Unmeasured	Iron/Acrylic (Material failure) Low-halogen product			ianure)	ialiure)

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Man Company																						
Mary component Mary files Anylois Anyl		Product name		3055	3055B	3056F	3056K	3057	3057B	3057J	3059D	3060	3062	3062D	3062F	3062H	3062K	3062P	3062Q	3062U	3064E	3065E
	(Characteristics	Unit \																			
Property Property	N	lain component		Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Millar M	Ad	ditional curability		Primer	Primer	Humidity	Humidity	Heating	Heating	Heating	-											Anaerobic Primer
Main langers Main		Features		Moisture resistance Impact	Moisture resistance Impact	curing Flexibility	curing				outgassing Thixotropic	1	Impact	resistance Impact strength Low	Moisture resistance Impact	Moisture resistance Impact	Moisture resistance Impact	Moisture resistance Impact	Hard / Tough	Flexibility	Surface	Flexibility Surface adhesion Low outgassing
Light yellow Ligh		Main usages		magnets Liquid crystal panel pin lead	magnets Liquid crystal panel pin lead	parts sealing / bonding General- purpose	parts sealing / bonding General- purpose	parts	parts	parts	Electrical parts	joint Electrical parts	magnets Stator coil Adhesion of different	joint Electrical parts	magnets Sheet coil Adhesion of different	Piezoelectric element Adhesion of different	joint Adhesion of different	Resin Magnets Adhesion of different	panel pin lead fixing General- purpose	magnets Adhesion of different	of different	Adhesion of different materials
Francisky Fra		Appearance		Light yellow	Green			Turbid white	Turbid white	Light yellow	Milky white	Light yellow				Light brown				to Brown	Light yellow	
Part			Pa∙s	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	-	7.0
Part Control condition:		Viscosity	mPa∙s	-	-	-	-	-	-	-	-	-	-	150	-	-	-	-	-	-	700	-
Page	9	Specific gravity		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	1.05
Marchess Marchess	Cı (Cumı	uring conditions ulative light intensity)	kJ/m²	20	20	30	30	30	30	30	30	30	35	35	35	30	70	35	20	30	30	30
Sales MPa				-	-	-	-	-	-	-	-	A90	-	-	-	-	-	-	-	-	-	-
Sterigy Glass/Glass MPa - - - 6.4 6.8 Material failure - 6.9 8.0 Material failure - - - - - - - - -	racteri	Hardness		D70	D70	D65	D71	D89	D80	D80	D86	D65	D70	D80	D45	D80	D65	D35	D65	D70	D66	D65
Sterigy Glass/Glass MPa - - - 6.4 6.8 Material failure - 6.9 8.0 Material failure - - - - - - - - -	after c	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	5.8×10 ¹⁰
Glass/Glass MPa - - 6.4 6.8 (Material failure) - 6.9 8.0 (Material failure) - - - - - - - - -	Physic		kV/mm	14.2	14.2	27.5	-	28.4	28.4	31	-	17.2	-	-	-	-	-	-	-	-	23	24.2
Glass/Acryl MPa - - - - - - - - -		3	MPa	-	-	6.4	6.8		-	6.9	8.0		-	-	-	-	-	-	-	9.8	8.3	-
Figure F		Glass/Acryl	MPa	-	-	-	-		-	-	-		-	-	-	-	-	-	-	-	7.5	-
Glass/ABS MPa 0.2		Glass/Polycarbonate	MPa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.0	-
Glass/ABS MPa - - - 0.2 - - - - 0.2 - - - - - - - - -	rength	Glass/Glass epoxy	MPa	-	-	-	-		-	-	-		-	-	-	-	-	-	-	8.8	7.6	-
Glass/ICP MPa - - - - - - - - -	ond st	Glass/ABS	MPa	-	-	-	-	0.2	-	-	-	3.5	-	-	-	-	-	-	-	-	-	-
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 7.5 4.1 1.7 - 4.1 - 3.8 - 9.7 - 3.3 3.9 3.7 8.8	hear b	Glass/LCP	MPa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	-
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 7.5 4.1 1.7 - 4.1 - 3.8 - 9.7 - 3.3 3.9 3.7 8.8	nsiles	Glass/Iron	MPa			7.5	7.0	-	5.0	-	3.0	-		18.0	-			4.4	4.4	12.7	10.4	12.0
Polycarbonate/	Te	Glass/Aluminum	MPa	,		6.0	4.4	-	-	-	3.0	-	,	-	-			-	-	-	5.8	-
Polycarbonate Nir a 7.3 4.1 1.7 2 4.1 5 5.6 5 5.7 6.6 7 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5		Glass/Stainless steel	MPa	-	-	7.8	6.4	-	-	-	5.0	-	-	-	-	-	-	-	-	-	9.1	-
Remark(s) Green version of Shear bond strength		Polycarbonate/ Polycarbonate	MPa	-	-	7.5	4.1	1.7	-	4.1	-	3.8	-	9.7	-	3.3	3.9	3.7	8.8	-	-	-
					version of										strength							

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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



	Product name																				
	Characteristics	Unit	3066	3067	3067B	3067C	3069F	3074C	3075	3075E	3081J	3081L	3081P	3084	30	88	30	88B	3094	3094B	3094F
	Main component	\	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acry	·late	Acr	ylate	Acrylate	Acrylate	Acrylate
A	dditional curability		Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	Anaerobic Primer	-	-	-	-	-	-	-	Two-compo	nent mixture	Two-compo	nent mixture	-	-	-
			Primer	riinei	Primer	Primer	Primer		.		Rubber	Rubber	Rubber								
	Features		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	Clear Flexibility	elasticity Heat resistance / Freeze resistance	elasticity Heat resistance / Freeze resistance		High specific gravity Shape retention	Impact :	curing in	Impact Short-tim	oft strength e curing in d 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		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	Transparent insulating coating of substrate	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.	UV light im	potting permeable adhesion	UV light in	potting npermeable adhesion	Adhesion of medical devices, etc.	Adhesion of medical devices, etc.	Adhesion of medical devices, etc.
	Appearance		Light yellow transparent	Light Yellow	Dark blue	Turbid white	Milky white	Colorless	Colorless transparent	Colorless	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
		Pa∙s	-	-	-	4.0	55.0	7.0	-	20.0	95.0	70.0	400	100	5.0	5.0	5.0	5.0	4.6	-	-
	Viscosity	mPa∙s	230	600	120	-	-	-	700	-	-	-	-	-	-	-	-	-	4600	150	220
	Specific gravity		1.13	1.14	1.13	1.17	1.20	1.09	1.07	1.11	1.11	1.14	1.09	2.19	1.02	1.02	1.04	1.04	1.07	1.02	1.02
(Cun	Curing conditions nulative light intensity)	kJ/m²	30	30	30	30	30	30	27	30	45	30	45	30	3	0	:	30	30	30	30
			-	-	-	-	-	-	A49	D56	A27	A21	-	-	A	50		-	-	-	-
sical characteristics after curing	Hardness		D90 to 95	D90	D90 to 95	D88	D90	D70	-	-	-	-	E19	D90 to 95			С	55	D60	D75	D73
al char	Volume resistivity	Ω·m	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	1.1×10 ¹²	1.2×10 ¹⁰	-	8.8×10 ⁸	9.8×10 ¹²	1.5×	1011	5.73	×10 ¹¹	9.8×10 ¹²	-	-
Physic	Dielectric breakdown strength	kV/mm	17.7	28	-	-	33.0	24.1	-	23.6	19.0	-	24.9	18.3				-	-	-	-
	Glass/Glass	MPa	-	(Material failure)	-	-	8.9	6.5	7.0	(Material failure)	-	-	-	(Material failure)				-	(Material failure)	7.0	8.2
	Glass/Acryl	MPa	-	-	-	-	-	5.4	-	(Material failure)	-	-	-	-				-	(Material failure)	6.4	7.6
ح	Glass/Polycarbonate	MPa	-	-	-	-	-	3.5	-	(Material failure)	-	-	-	-				-	(Material failure)	7.1	7.2
rengt	Glass/Glass epoxy	MPa	-	(Material failure)	-	-	-	6.4	-	(Material failure)	-	-	-	-				-	(Material failure)	7.9	7.6
ond st	Glass/ABS	MPa	-	(Material failure)	-	-	-	4.6	-	5.6	-	-	-	-	3	.4	6	5.4	(Material failure)	7.0	7.2
Tensile shear bond strength	Glass/LCP	MPa	-	-	-	-	-	5.4	-	4.3	-	-	-	-				-	3.2	3.9	4.2
sile sł	Glass/Iron	MPa	-	4.9	4.9	7.0	8.9	8.1	-	(Material failure)	-	-	-	(Material failure)				-	(Material failure)	8.4	9.9
Ter	Glass/Aluminum	MPa	-	-	-	-	3.0	2.2	-	4.1	-	-	-	-				-	(Material failure)	2.5	6.0
	Glass/Stainless steel	MPa	-	-	-	-	8.0	6.3	-	(Material failure)	-	-	-	-				-	(Material failure)	5.3	9.1
	Polycarbonate/ Polycarbonate	MPa	-	1.6	-	-	-	1.6	4.0	3.8	-	10.9	-	5.1	5	2	6	5.4	(Material failure)	5.2	5.1
	Remark(s)					3067 with added thixotropy	High- thixotropic								Can be use mix	d for static ers		ed for static xers	Compatible with LED light sources Compliant	with LED	Bisphenol-free

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	Product name		3094G	3114	3114B	3114J	3118	3121D	3161	3163	3164D	3166	3168E	3170B	3170D	3170E	3170F	3177
	Characteristics	Unit																
	Main component		Acrylate	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Epoxy resin	Silicone	Silicone	Silicone	Silicone	Silicone	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Α	dditional curability		-	-	-	-	-	-	Humidity	Humidity	Humidity	-	-	Visible Light	Visible Light	Visible Light	Visible Light	Visible Light Humidity
	Features		Good adhesion to plastic materials such as PC	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	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	High and low temperature resistance Humidity resistance Adhesion
	Main usages		Adhesion of medical devices, etc.	Optical pick-up parts Electrical parts bonding Accurate adhesion of optical parts such as for digital cameras	Adhesion	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	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	material that cuts UV light Electrical	Transparent material that cuts UV light Electrical parts bonding	material that cuts UV light Electrical	Light blocking materials Optical part Metal/plastic/ rubber bonding
	Appearance		Light yellow	Grayish white	Grayish white	White	White	Light yellow transparent	Light yellow	Blue	Pale white	Blue	Red	Light yellow transparent	Light yellow	Light Yellow	Light yellow transparent	Yellow to Yellow green transparent
		Pa∙s	-	26.0	50.0	25	86.0	-	3.0	12.0	10.0	330	90.0	1.8	37.0	11.2	18.0	-
	Viscosity	mPa∙s	2400	-	-	-	-	850	-	-	-	-	-	-	-	-	-	1200
	Specific gravity		1.04	1.54	1.62	1.56	1.33	1.15	0.98	1.02	1.00	1.01	1.02	1.04	1.06	1.10	1.06	1.06
	Curing conditions	kJ/m²	30	30	30	30	30+80°C	30	30	30	30	45	60	30	30	30	30	10
	nulative light intensity)		-	_	_	-	×1h -	_	(+Moisture-curing)	(+Moisture-curing)	(+Moisture-curing)	E15	Gel	_	_	_	_	_
Physical characteristics after curing	Hardness		D66	D80	D82	D87	D83	D65	-	_	_	-	(penetration: 110)	D70	D54	D44	D50	D84
chara ter cur	Volume resistivity	Ω·m	_	_	_	2.4×10 ¹²	5.2×10 ¹³	_	4.0×10 ¹²	_	8.8×10 ¹²	5.5×10 ¹¹	-	_	-	-	-	9.2×10 ¹³
nysical afi	Dielectric breakdown	kV/mm		_							30							
4	strength Glass/Glass	MPa	0.1	(Material	2.0	26.2	- (Material	7.2	12.3	3.9		15.1	-	(Material	-	-	(Material	24
			8.1	failure)	3.8	7.4	failure)	7.3	6.0		4.0	-	-	failure)	-	-	failure)	-
	Glass/Acryl	MPa	7.6	-	-	3.7	1.2	-	-	-	-	-	-	-	-	-	-	-
ngth	Glass/Polycarbonate	MPa	7.4	-	-	3.8	1.3	-	-	-	-	-	-	-	-	-	-	-
Tensile shear bond strength	Glass/Glass epoxy	MPa	8.4	-	-	3.7	3.3	-	-	-	4.8	-	-	-	-	-	-	-
bonc	Glass/ABS	MPa	6.2	-	-	4.1	3.8	-	-	-	3.4	-	-	-	-	-	-	-
shear	Glass/LCP	MPa	4.1	3.5	3.4	4.4	2.9	-	-	-	1.9	-	-	-	-	-	-	-
nsile	Glass/Iron	MPa	9.1	-	-	-	4.5	-	2.0	-	-	-	-	-	-	-	-	-
Te	Glass/Aluminum	MPa	5.4	-	-	4.5	3.1	-	0.66	-	0.5	-	-	(Material failure)	-	-	(Material failure)	-
	Glass/Stainless steel	MPa	9.3	-	-	2.5	4.3	-	-	-	-	-	-	(Material failure)	-	-	(Material failure)	-
	Polycarbonate/ Polycarbonate	MPa	8.1	-	-	-	0.58	-	-	-	2.6	-	-	5.0	-	-	6.9	5.8
	Remark(s)		Compatible with LED light sources Bisphenol-free Compliant to ISO10993 for medical devices		Rate of contraction with hardening: 2.0%	Rate of contraction with hardening: 1.8% Tg:142°C (DMA) Compatible with LED light sources		with hardening:	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							Hybrid instant adhesive ISO10993 (biological safety evaluation) compliant product

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







Electrical Conductive Resins • **Anisotropic Conductive Pastes**

These are electrical conductive resins that have conductive materials that consist of electro conductive fillers evenly dispersed in the synthetic resin that work as an binder.

By applying and curing at bonding locations requiring conductivity, they show excellent adhesion and conductivity.

Silver, nickel, carbon, etc., are used as electro conductive fillers, and epoxy resin, urethane resin, silicone resin, synthetic rubber, etc., which have good physical properties, are used as binders. There are various grades available.

They have excellent adhesion with various materials including metals, plastics, glass, and rubber, and can be used for bonding lead wires and electrodes, and for semiconductor elements and EMI shield parts.

In addition, anisotropic conductive pastes for screen printing can be used for multiple-contact simultaneous connection of displays such as LCDs.

3301 F

This is a soft type conductive adhesive for crystal oscillators that uses silver as an electro conductive filler and uses heat-curing epoxy resin as a binder.

It has excellent heat aging property.

In addition to crystal units, it can also be used for spot conductive adhesion.

3303 B

This is a heat-resistant flexible type conductive adhesive for SMDtype crystal oscillators that uses silver as an electro conductive filler and uses heat-curing silicone resin as a binder.

It has flexibility because of the silicone resin, and has excellent stress relaxation property, and its characteristics are stable over a wide temperature range.

There are grades with different viscosities.

3304 J

This is a conductive adhesive for ultra-small SMD crystal oscillators that uses silver as an electro conductive filler, uses heat-curing silicone resin as a binder and supports minute-amount application. It has flexibility because of the silicone resin, and has excellent stress relaxation property, and its characteristics are stable over a wide temperature range.

It has excellent adhesion with gold electrodes and silver electrodes. There are also grades that use slow-drying solvents.

3301 W

This is a highly-adhesive type solventless conductive adhesive that uses silver as an electro conductive filler and uses heat-curing epoxy resin as a binder.

It is used for adhesion of fixed surfaces for crystal units. It can also be used for surface adhesion in addition to spot conductive adhesion

3303 G (NEO)(S)

This is a heat-resistant flexible type conductive adhesive for SMDtype crystal oscillators that uses silver as an electro conductive filler and uses heat-curing silicone resin as a binder.

It has flexibility because of the silicone resin, and has excellent stress relaxation property, and its characteristics are stable over a wide temperature range.

It has excellent adhesion with gold electrodes and silver electrodes.

There are also grades that use slow-drying solvents.

3315 E

This is a soft type conductive adhesive that uses carbon as an electro conductive filler and uses synthetic rubber as a binder. Hot-melt adhesion is possible for dried films from which the solvent has dried after application.

It is used as a conductive adhesion for copy machine neutralization rollers, and as a ground for electronic devices.

3331 D

This is a no-solvent type conductive adhesive that uses silver as an electro conductive filler, and one-component hardening type epoxy resin as a binder.

It is hardened at a low temperature and can be used to conductively adhere and/or ground electronic parts. It is in a syringe form, therefore can be used for dispenser coating.

3350B

This is a solvent-vaporizing type conductive paint that uses silver as an electro conductive filler and uses acryl resin as a binder. It is quick-drying and forms a cured film.

It can be used for screw conductive locking, for electromagnetic wave shielding, for fixing of terminals, repairing of circuits, and for

There is also a low-resistance type available.

3373 F (CN)

This is an anisotropically-conductive ink for screen printing that uses gold plated particles as an electro conductive filler and uses synthetic rubber as a binder.

It is possible to form an anisotropically-conductive film directly on the substrate by screen printing, and multiple contact points can be connected at the same time via thermo compression bonding. It is used for general connections such as for touch panels and flexible substrates, membrane switches, and film substrates for EL backlights.

3381

This is a solventless conductive adhesive that uses nickel as an electro conductive filler and uses two-component room temperature curing acryl resin as a binder.

It is used for electronic device EMI shielding.

It is used for bonding conductive plastic materials for EMI shields. It can also be used for conductive adhesion of large areas.

3333 F

This is a soft conductive adhesive that uses silver as an electro conductive filler and heat-curing silicone resin as a binder. This product can be cured at low temperatures and is conductive even when bent or stretched.

It is good for circuit forming in wearable devices, conductive connections, and conduction and grounding between materials with significant differences in linear expansion.

3351 C

This is a low-halogen, solvent-vaporization heating type conductive paint that uses nickel as an electro conductive filler and elastomer as a binder.

It can be used for ensuring conductivity by film forming and spot welding, and for electronic device grounds.

3380

This is a solventless conductive adhesive that uses silver as an electro conductive filler and uses two-component room

carbon contact points, and for conductive adhesion of ceramic and glass portions where soldering cannot be done.

temperature curing epoxy resin as a binder. It can be used for bonding electronic device electrodes and

Electrical Conductive Resins Property Table

	Product name Characteristics	Unit	3301F	3301M-1	3301W	3302B	3303B	3303G (NEO)(S)	3303M	3303N	3303R	3304J	3315E	3331D	3333F	3350B	3350C	3351C
	Binder		Epoxy-based	Epoxy-based	Epoxy-based	Urethane	Silicone- based	Silicone- based	Silicone- based	Silicone- based	Silicone- based	Silicone- based	Synthetic rubber- based	Epoxy-based	Silicone- based	Acryl resin- based	Acryl resin- based	Elastomer synthetic resin
Elec	tro conductive filler		Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Silver-based	Carbon- based	Silver-based	Silver-based	Silver-based	Silver-based	Nickel-based
	Features		Soft type	Soft type	Solventless Surface adhesion- available	Soft type	Heat resistance Flexible type	Excellent adhesion with gold/ silver electrodes	Excellent adhesion with gold/ silver electrodes (slow-drying type)	Excellent adhesion with gold/ silver electrodes	Excellent adhesion with gold/ silver electrodes	Excellent adhesion with gold/ silver electrodes (Thixotropy added, slow- drying) (Applied in small amounts)	Can be used for conductive hot melting	Low temperature curing, syringe type	Low temperature curing Flexibility Impact strength Syringe type	Quick- drying Cured material	Low resistance	Low halogen content
	Main usages		Crystal units	Crystal units	Crystal units	Crystal units		SMD-type crystal units / Oscillators / SAW filter	crystal units / Oscillators	crystal units / Oscillators	SMD-type crystal units / Oscillators / SAW filter	crystal units / Oscillators	Conductive adhesion for copy machine neutralization rollers Electronic device grounding	Conduction fixing of electronic parts, grounding	fixing of electronic parts,	Spot bonding Screw conductive locking Circuit repair Electromag- netic wave shielding	Spot bonding Screw conductive locking Circuit repair Electromagnetic wave shielding	Ensuring conductivity by film forming / spot bonding Electronic device grounding
	Appearance		Silver	Silver	Silver	Silver	Light yellow	Silver	Light yellow	Light yellow	Light yellow	Silver	Black	Silver	Brown	Silver	Silver	Gray
	Viscosity	Pa∙s	23.0	67.0	37.0	15.0	22.0	40.0	40.0	41.0	50.0	80	0.6	25.0	20.0	2.5	1.0	3.0
	Specific gravity		3.40	-	3.20	2.73	2.30	-	3.07	3.02	-	-	0.87	-	-	1.90	2.20	1.5
Stand	ard curing conditions		130°C·40 min or 150°C·30 min	150°C⋅30 min	120°C·60 min or 170°C·15 min	150°C⋅30 min	150°C⋅60 min or 170°C⋅30 min	180°C⋅60 min	180°C⋅60 min	180°C·60 min	180°C-60 min	210°C-60min	80°C⋅30 min	80°C·60 min	80°C·60 min	25°C·4h or 60°C·1h	25°C·24h or 60°C·1h	90°C·60 min
tics after	Volume resistivity	Ω·m	1 to 2×10 ⁻⁶	0.9×10 ⁻⁶	1.6×10 ⁻⁶	2.0×10 ⁻⁶	3 to 4×10 ⁻⁵	2.5×10 ⁻⁶	1.9×10 ⁻⁶	2.3×10 ⁻⁶	2.8×10 ⁻⁶	7.6×10 ⁻⁶	4.3×10 ⁻²	0.5×10 ⁻⁵	1.1×10⁻⁵	2 to 3×10 ⁻⁶	2.0×10 ⁻⁶	8.0×10 ⁻⁵
Physical characteristics after curing	Pencil scratch hardness		4H	-	4H	5B	Softer than 6B	Softer than 6B	Softer than 6B	Softer than 6B	Softer than 6B	-	-	Harder than 9H	-	3H	3H	-
Physical c	Chip bonding strength (Ceramic chip/Glass)	МРа	-	17	-	-	2.9	3.0	3.6	3.1	3.5	1.9 (gold-plated chip / gold-plated plate)	-	19.9	2.0	-	-	-
	Remark(s)			3301M alternative product					3303F alternative product			Supported nozzles: inner diameter 0.07 mm or more	Flexibility		Conductive when stretched			Halogen- free enabled

^{* -:} Unmeasured

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



Anisotropic Conductive Pastes Property Table

	Product name		3373C (CV)	3373F (CN)	3374
	Characteristics	Unit	(CV)	(CIV)	
	Binder		Synthetic rubber-based	Synthetic rubber-based	Epoxy-based
Ele	ctro conductive filler		Gold plated particles	Gold plated particles	Gold plated particles
	Features		For screen printing anisotropic conductive ink	For screen printing anisotropic conductive ink	For screen printing Anisotropic conductive adhesive Solventless Strong adhesiveness
	Main usages		Electrical connection, bonding between electrical circuits	Electrical connection, bonding between electrical circuits	Electrical connection, bonding between electrical circuits
	Appearance		Light yellowish green	Grayish white	Grayish brown to Gray
	Viscosity	Pa∙s	81.0	60.0	140
	Specific gravity		1.01	1.08	1.40
Filr	m formation (drying) conditions		100°C·10 to 20 min or 120°C·5 to 10 min	100°C·10 to 20 min or 120°C·5 to 10 min	-
C	rimping conditions		140°C× 3MPa× 10s	140°C× 3MPa× 10s	120°C× 1.5MPa× 5 to 10 min
racteristics uring	Connection resistance	Ω	12	10	15
Physical characteristics after curing	Hardness		-	-	D93
	Remark(s)		Aromatic solvent	Aromatic solvent Halogen- free enabled	



Electrical Conductive Resins Property Table

	Product name Characteristics	Unit	33	80	3381			
Т	Binder		Epoxy	-based	Acryl resin-based			
Ele	ctro conductive filler		Silver-	based	Nickel-	based		
	Features			onent room ure curing	Two-component contact curing			
	Main usages		point for vari devices / C adhesion o	rbon contact ous electrical Conductive f yokes and ites	Electronic device EMI shielding Bonding of conductive plastic for EMI shielding Conductive adhesion for large areas			
	Appearance		Main agent Silver	Curing agent Silver	Agent A Black	Agent B Black		
	Viscosity	Pa∙s	70.0	120	100	90.0		
	Specific gravity		3.30	2.68	2.80	2.70		
Stan	dard curing conditions		60°C	5 days or :24h or :-1h	25°C·15h or 60°C·30 min			
ics after	Volume resistivity	Ω·m	8.0×	<10 ⁻⁶	7 to 10×10 ⁻⁵			
Physical characteristics after curing	Pencil scratch hardness		3	Н	ŀ	ł		
Physical	Chip bonding strength (Ceramic chip/Glass)	MPa		-	-			
	Remark(s)		Compound	ing ratio 2:1	Compounding ratio 1:1 Toluene included (Less than 1%)			

^{* -:} Unmeasured

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High Temperature Resistant Inorganic Adhesives

Electronic Market Public Industrial Material Market

These are single-component heat resistant adhesives that use ceramics and inorganic polymers as the main components.

They have a heat resistance of 1000°C and higher, and have excellent adhesion with inorganic substances such as ceramics, glass, and metals.

In addition to heat-resistant adhesion usages, they can also be used for filling adhesion and coating of sensors and elements, for oxidation-preventing coatings of metals, and as binders for heat-resistant molding.

3713B

127

This is a single-component heat-curing type high temperature resistant inorganic adhesive with a heat resistance of up to 1300°C. It has excellent adhesion for inorganic substances such as ceramics, glass, and metals, and can be used for heat-resistant fixing of bolts and for oxidation-preventing coating of metals. It has low viscosity and adequate thixotropic properties, so it is ideal as a binder for heat-resistant moldings.

3732

This is a single-component heat-curing type high temperature resistant inorganic adhesive that can cure at room temperature and has a heat resistance of up to 1400°C.

It has good drying performance due to the alcohol based solvent, it forms a clean cured material with few bubbles, and it has no acidic or alkaline properties, so there is no corrosiveness, which allows it to be used safely.

The cured material has excellent water resistance and electric insulation, so there is virtually no degradation of insulation property even when there is humidity.

In addition to heat-resistant adhesion usages, it can also be used for filling adhesion and coating of sensors and elements, for oxidation-preventing coatings of metals, and as a stain preventing coating against carbon and sludge.

Property Table

Property lable										
	Product name		3713B	3732						
	Characteristics	Unit								
	Main component		Alumina	Alumina						
	Feat ures		Low viscosity Thixotropic properties Strong adhesiveness	Water resistance Good electric insulation Excellent airtightness						
	Appearance		White	White						
	Viscosity	Pa∙s	8.0	11.0						
	Specific gravity		2.00	3.00						
	рН		12	-						
	Solid content	%	66.0	91.0						
Star	ndard curing conditions		150°C⋅30 min	100°C⋅30 min						
ıring	Mohs' hardness		5 to 6	1						
Physical characteristics after curing	Heat-resistant temperature	°C	1300	1400						
acteristic	Linear expansion coefficient	1℃	8×10 ⁻⁶	8×10 ⁻⁶						
sical cha	Volume resistivity	Ω·m	5×10 ⁷	1×10 ¹²						
Phy	Thermal conductivity	W/m·K	1.28	2.55						
Tens	sile shear bond strength (Iron)	MPa	4.9	2.8						
e	Water	(25°C)	-	0						
Chemical resistance	5% sodium hydroxide	(25°C)	-	Δ						
Chemical	5% hydrochloric acid	(25°C)	-	0						
J	Toluene	(25°C)	-	0						
	Remark(s)			It can cure at room temperature Low-molecular cyclic siloxane- Free (In-house analysis)						

^{* - :} Unmeasured

^{*}The value listed in the property table is an example of an actual measured value but is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.



Structural Adhesives High Peel Strength two-component Rapid Curing Elastic Adhesives Highly Resistant two-component Rapid Curing Elastic Adhesives





The 3920 Series adhesives have a good balance of shear bond strength and peel bond strength, containing acrylate as the main component.

They have excellent adhesion for a wide range of materials including various metals and plastics, and can be used as structural adhesives.

3955 Series forms a rubber-like elastic cured material, and it is an adhesive with excellent durability and conformability to impact.

3921,3926

This is a two-component structural adhesive that uses acrylate as the main component.

It is a contact-curing type, so it does not need to be completely mixed.

It has a short set time, so handling is possible after 5 minutes, and it reaches practical strength after about 15 minutes.

It has both a high shear bond strength and high peel strength making it ideal for adhesion of structures.

It can be used for various fields such as electrical parts automotive equipment, and construction materials.

3923, 3928

This is a two-component structural adhesive that uses acrylate as the main component.

It is a contact-curing type, so it does not need to be completely mixed

It has a short set time, so handling is possible after 10 minutes, and it reaches practical strength after about 30 minutes.

It has both a high shear bond strength and high peel strength, making it ideal for adhesion of structures.

It can be used for various fields such as electrical parts automotive equipment, and construction materials.

It has excellent heat resistance, so the bonding strength does not degrade even when left at 120°C for 30 days.

3955, 3955 B

hardening enabled type.

This is a two-component elastomeric adhesive that uses acrylate as the main component.

It cures by mixing Agent A and Agent B at a 1:1 ratio.

It has a short set time, so handling is possible after 10 minutes, and it reaches practical strength after about 3 hours.

After curing, it forms an elastomeric rubber-like cured material with excellent heat resistance and moisture resistance, making it ideal for bonding parts that require durability, stress relaxation property, vibration absorption, and conformability. It can be used for bonding and fixing various electrical parts, sensors, and motors for automobiles and other machines. 3955 is a general type, and 3955B is fast hardening, ultraviolet

Property Table

	Product name		3921	3926	3923	3928	
	Characteristics	Unit					
	Features		High shear b / High pee adhe Excellent adh	uring type ond strength el strength esive nesiveness for e of materials	High shear b / High pee adhe Excellent adh a wide range	uring type ond strength el strength essive essiveness for e of materials at resistance	
	Main component		Acrylate	Acrylate	Acrylate	Acrylate	
	Appearance		Red	Blue	Translucent	Green	
	Viscosity	Pa∙s	5.1	5.1	3.0	3.0	
	Specific gravity		1.06 1.10		1.0	1.0	
(Compounding ratio (Mass ratio)		(Usage n	:100 nethod is curing)	100:100 (Usage method is contact curing)		
	Set time	min	Within 5		10 to 12		
Stan	dard curing conditions		(Practical	4 hours strength ut 1 hour)	(Practical	4 hours strength ut 30 min)	
	Iron	MPa	22	2.1	26.5		
ngth	Aluminum	MPa	16	5.9	16.7		
nd stre	Stainless steel	MPa	21	1.6	23.5		
Tensile shear bond stren	Polycarbonate	MPa		-		I.7 I failure)	
ile she	ABS	MPa	4.	.0	2.	.9	
Tens	Acryl	MPa	3.	.0	2.	.9	
	Nylon	MPa	1.	.9	1.	.0	
Peel strength	Iron	kN/m	3.	.5	2.	.7	
F	Aluminum Remark(s)	kN/m		-	3.1		
	*-:Unmeasured						

^{* - :} Unmeasured

^{*}The value listed in the property table is an example of a measured value and is not the guarantee level.

*Practical strength = 50% of the strength when curing at 25°C×24h is considered 100%

^{*} Before using, confirm the adequacy and safety for the relevant application.



Structural Adhesives, High Peel Strength two-component Rapid Curing Elastic Adhesives and Highly Resistant two-component Rapid Curing Elastic Adhesives Property Table

	Property Table								Y			
	Product name		395	50D	395	51D	395	52D	39	55	39:	55B
	Characteristics	Unit										
	Features		Rubber-like elastic cured material High peel strength		Rubber-like elastic cured material High peel strength		Rubber-like elastic cured material High peel strength		Rubber-like elastic cured material Excellent heat resistance Excellent moisture resistance		cured r Excellent he	ike elastic material wat resistance uring
	Main component		Epoxy resin	Silyl- containing special polymer	Epoxy resin	Silyl- containing special polymer	Epoxy resin	Silyl- containing special polymer	Acrylate	Acrylate	Acrylate	Acrylate
	Appearance		Colorless	White	Colorless	White	Black	White	Light blue transparent	Light yellow transparent	Blue	Light yellow
	Viscosity	Pa∙s	2.7	2.2	8.5	12.5	32	16	2.4	2.4	5.5	5.0
	Specific gravity		1.18	1.00	1.16	1.00	1.16	1.00	1.04	1.04	1.05	1.05
(Compounding ratio (Mass ratio)		1:1		1:1		1:1		100:100		100:100	
	Set time	min	15		10		12		5 to 15		3 to 10	
	dard curing conditions		23°C/7day	s (50%RH)	23°C/7day	rs (50%RH)	23°C/7day	rs (50%RH)	(Practical	×24h strength hours)	(Practical	×24h I strength hours)
teristics ng	Hardness		A.	59	A	62	A	50	A	55	A	90
Physical characteristics after curing	Elongation rate	%	14	12	2:	30	20	05	1:	30	1	15
Physic	Tensile strength	MPa	3.	.7	5	.7	6	.6	5	.2	7	.1
	Iron	MPa	5.	.2	7	.8	6	.9	6	.6	6	.6
ngth	Aluminum	MPa	2.	.3	7	.1	5	.5	5	.6	4	.9
nd stre	PBT	MPa	4.	.5	3	.2	5	.5	2	.4	2	.7
ear bo	PPS	MPa				-		-	2	.2	3	.5
Tensile shear bond strength	ABS	MPa				-		-				-
Te	Acryl	MPa	2.	.9	5	.5	5	.2		-	1	.3
	Nylon	MPa	2.	.7	5	.1	3	.2	2	.9	5	.2
	Remark(s)											
					* -: Unmeasure							

^{* -:} Unmeasured

* The value listed in the property table is an example of a measured value and is not the guarantee level.

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

ThreeBond 1801B 港透河湾・1日水防鎖 はじの中るめ向 Amaginating Material Liderial International Control of Material International Internation



Rust Preventive Lubricants / Molybdenum Anti-Seizing Lubricants





Auto Aftermarket

These rust-preventing lubricants mainly contain rust-preventing oil and lubricating agents, so rust is prevented by blocking water and oxygen from metallic surfaces. The oil films and the lubricating agents help ensure slipperiness for lubricating capability.

There are various grades available for general rust-preventing lubrication, heavy-load lubrication, galling prevention, and specially formulated products for automobile parts which provide a wide range of penetrability, oil film strength, base oil heat resistance, and type of lubricating agent, etc.

Other products include a rust-preventing lubricant for food.

1801 B, 1802 B

This is a general rust-preventing lubrication spray with excellent penetrability.

By simply spraying, it penetrates to necessary locations providing rust prevention and lubricity.

It also penetrates through rust and dirt, making it easy to remove rust, and it is helpful when loosening bonded screws.

There is also a can type available.

1804

This is an odorless general rust-preventing lubrication spray with excellent penetrability.

By simply spraying, it penetrates to necessary locations providing rust prevention and lubricity.

It also penetrates through rust and dirt, making it easy to remove rust, and it is helpful when loosening bonded screws.

There is virtually no influence on rubber and plastic, so it can be used for a wide range of materials.

1805

This is a grease type general rust-preventing lubrication spray. By spraying, it forms a grease type soft film that strongly adheres to metallic surfaces. It has excellent weather resistance and water resistance, resulting in long-term rust prevention, so it can be used as rust prevention for outdoor parts.

It has high oil film strength, excellent lasting effect on sliding surfaces, and highly durable lubricity.

1807

This is a high-quality rust-preventing lubrication spray with excellent penetrability and good load-resistant lubricating

By simply spraying, it penetrates to necessary locations providing rust prevention and lubricity.

It also penetrates through rust and dirt, making it easy to remove rust, and it is helpful when loosening bonded screws.

It contains organic molybdenum with high lubrication, so it can fill in the fine gaps of sliding portions, and it has excellent lubricity.

1807B

This is a penetrative rust-preventing lubricant with improved lubricity, penetrability and rust prevention.

When sprayed to bonded screws, it penetrates throughout the bonded portion because of its high penetrability, making the screws to be loosened with a little force.

Aerosol type adopting a folding long nozzle enables pinpoint spray aiming at a designated area with little scattering. Foams of the lubricant sprayed by means of carbon dioxide attaches to the object with reduced drip and it can be used without waste.

It uses fluorine powder as the main component, so there is no

There is no influence on plastic, so it can be used for a wide range

It has excellent lubricity for a wide temperature range from high

This is an odorless dry powder lubrication spray.

of materials including metals and wood.

temperatures to low temperatures.

1815 D

1809 B

with high load resistance.

This is a grease type rust-preventing lubrication spray with excellent rust prevention and heavy load-resistant lubricating

This is a odorless grease type rust-preventing lubricant with

excellent load-resistant lubricating capability. It forms a soft film

It contains organic molybdenum with high lubrication, so it can

fill in the fine gaps of sliding portions, and it has excellent lubricity

It also has a good lasting effect on sliding surfaces due to its high

oil film strength, so it has durability for long-term usage.

It has excellent extreme pressure property and very good lubricity even under heavy loads. It also has good rust prevention and excellent durability for long-term corrosion prevention, and it has good water resistance so that good lubricity can be maintained even when water enters.

It can be used in severe environments such as outdoor facilities, and can be used as rust-preventing lubrication for construction machines.

1816B

1810C

stickiness after spraying.

This is a rust-preventing lubrication spray for chains.

It has excellent penetrability, lubricity, and rust prevention for chain pins and bushes, and it prevents elongation and abrasion in addition to preventing rust for chains.

It has proper viscosity for a lasting effect on chains during highspeed rotation, and there is less dust attachment because it has low stickiness. The formed film is flexible even at low temperatures so that performance can be maintained.

It can be used for the metal chains of automobiles, motorcycles, and agriculture equipment, etc.

1821 B

It is a highly safe lubricating spray that uses only raw materials prescribed in the list of the US Food and Drug Administration and has obtained NSF H1 standard · 3H standard · registered. It can be used for lubrication of parts contacting food such as food machinery and agricultural machines, sliding parts. Simply by spraying, it permeates into the required part and demonstrates lubricity. It also has an effect on the loosening of the fastened screws.

1851

This is a lubricant that uses low viscosity silicone oil as its main component. It has great flowability, permeability, lubricativity, and weather resistance. It has no negative effect on rubbers or plastics. It can be used to lubricate rubber parts or plastic parts, to prevent squeaking of run channels of vehicle doors, to lubricate weather strips, and to prevent freezing.

1855, 1856

This is a silicone grease-based rust-preventing lubricant that is mainly used for automobile maintenance.

It has a wide operating temperature range, and has excellent thermal oxidative stability, water resistance, and brake oil resistance. It can be used for brakes, suspension, transmissions, and various other parts because there is no negative influence on rubber or plastics.

There is a tube type and a spray type available.

1860, 1860 B

This is a silicone grease-based, rust-preventing lubrication spray for vehicle brakes.

It has excellent high temperature lubricity because it contains a solid lubricant with a heat resistance of 900°C. Flowing is suppressed at high temperatures since the dropping point is above 280°C.

It has high adhesion to metal parts because it is highly sticky, and it can reduce resonant sound. It also has excellent lubricity for preventing abrasion at metal sliding portions. There is no negative influence on rubber or plastic.

1860 is a tube type, 1860B is a one-time use size of 15 ml aerosol specification.

1901, 1910

This is an anti-seizing lubricant that uses molybdenum disulfide as the base.

It has a low coefficient of friction, high lubrication, and extreme pressure property, so it has excellent lubricity for heavy loads, and can prevent abrasion, galling and seizure of parts.

It has excellent heat resistance and can be used at up to 400°C (for galling prevention of screws and pins, up to 800°C).

1901 is a can type, and 1910 is an aerosol type.

1862

This is an anti-rust lubricant for screws. In addition to rust resistance, it can reduce screwing stiffness by providing appropriate lubrication, thereby also providing axial stability.

1910F, 1910G

This is a molybdenum disulfide-based lubricant that prevents brake squealing.

1910F is a dry spray type that forms a dry molybdenum film in order to prevent squealing caused by lining surface curing. 1910G is a spray grease type that sprays grease onto the target

1920

This is a grease-type lubricant for gas valves and cocks that contains molybdenum disulfide mixed with a stable base oil for city gas and LP gas.

It has excellent wear resistance and sealability to prevent chattering at high temperatures.

There is no negative influence on rubber or plastic.

It is an aerosol type for lubrication and sealing of city gas and LP gas valves and cocks.

1925

This is a spray type grease for brake maintenance for vehicle brake and rubber.

It has excellent lubricity because it contains molybdenum disulfide.

It can be used both as a grease for brakes and as a grease for brake rubbers. It has excellent lubricity and rust prevention.

It can be used safely with various rubbers and plastics for brake equipment because it has no negative influence on these.



Antirust Lubricants/Molybdenum Anti-Seizing Lubricants Property Table

	Remark(s)		Aerosol Can Liquid type	Aerosol Can Liquid type	Aerosol Can Liquid type	Aerosol	Aerosol	Aerosol	Can Liquid type	Aerosol
	Overall evaluation		Δ	Δ	0	0	0	0	Δ	0
Plastic	Hard PVC		Δ	Δ	0	0	0	0	×	-
compa	Polystyrene		Δ	Δ	0	0	0	0	×	-
Plastic compatibility	ABS		0	0	0	0	0	0	0	-
	Polycarbonate		0	0	0	0	0	0	0	-
	Heat resistance		Δ	Δ	Δ	0	0	0	0	0
	Penetrability		0	0	0	×	0	0	×	×
Hig	h speed resistance and load resistance		0	0	Δ	0	0	0	Δ	0
	Lubricity		0	0	0	0	0	0	0	0
Rus	t prevention capability		0	0	0	0	0	0	Δ	×
	Solid content	%	33	33	28	70	22	-	97	100
	Specific gravity		0.80	0.80	0.80	0.85	0.80	0.82	0.92	1.40
	Viscosity	mPa∙s	3.8	3.8	5	400	2.7	10	880	-
	Appearance		Brown	Brown	Brown	Rust	Light brown transparent	Light yellow	Brown	White
	Features		Excellent penetrability	For equipment Excellent penetrability	Odorless No damage to plastics	Grease high oil film strength Excellent adhesion Excellent water resistance No damage to plastics	Contains organomo- lybdenum Excellent load resistance No damage to plastics	High lubricity High penetrability High rust prevention No damage to plastics	Contains organomo- lybdenum Excellent load resistance and resistance to galling Low friction	Dry powder lubrication No stickiness because fluorine powder is main component
	Applications		screw	screw	Penetrating lubrication Water repellency and rust prevention Loosening of screw Rust removal	Rust- preventing lubrication Long-term corrosion prevention	Sliding portion lubrication Penetrating lubrication Water repellency and rust prevention Loosening of screw	Sliding portion lubrication Penetrating lubrication Water repellency and rust prevention Loosening of screw	Sliding portion lubrication Water repellency and rust prevention Galling prevention	Sliding portion dry lubrication
	Product name Characteristics	Unit	1801B	1802B	1804	1805	1807	1807B	1809B	1810C

 $^{^{*}}$ The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

6.5

Antirust Lubricants/Molybdenum Anti-Seizing Lubricants Property Table

	Product name		1815D	1816	1816B	1821B	1851	1855	1856	1860	1860B	1862	1901	1910	1910F	1910G	1920	1925	1927E	1927F
	Characteristics Applications	Unit \	Rust- preventing lubrication in areas near the ocean and for outdoor facilities Heavy-load environment rust- preventing lubrication	For metal chains Rust- preventing lubrication	Rust- preventing lubrication for metal chains, rotating parts, and sliding portions	Rust- preventing lubrication for food machinery Loosening of screw	Preventing vehicle door squeaking Weather strips Rubber lubrication, freeze prevention Rubber part lubrication	Vehicle parts Rust- preventing lubrication for brakes, suspension, transmissions, etc.	Vehicle parts Rust- preventing lubrication for brakes, suspension, transmissions, etc.	Brake grease Brake Lubrication for metal contact portions / Preventing resonance and squealing	Brake grease Brake Lubrication for metal contact portions / Preventing resonance and squealing	For screws Rust- preventing lubrication / Axial force stabilization	Galling and seizure prevention of mechanical parts Abrasion and chattering prevention	Galling and seizure prevention of mechanical parts Abrasion and chattering prevention	Brake noise prevention	Brake noise prevention Sliding portions around brakes	Galling prevention Lubrication	Rubber grease Maintenance and rust- preventing lubrication for brake parts and rubber parts	Engine oil additives	Engine oil additives for hybrid vehicles and fuel- efficient vehicles
	Features		Grease Excellent water resistance Strong rust prevention High lubrication Heavy load resistance	Good lasting effect for chains Excellent low-	For chains Excellent penetrability for pins and bushes Low stickiness Good lasting effect for chains Excellent low- temperature performance	Can be used for food machinery NSF standard 3H, H1 registrated	Low viscosity Excellent heat resistance, freeze resistance, and weather resistance due to silicone oil No damage to rubber, plastic, or paint	Silicone grease heat resistance, Excellent freeze resistance Excellent brakes oil resistance and water resistance No damage to rubber, plastic, or paint	Aerosol	Low flow at high-temperatures due to a high dropping point of above 280°C Excellent high temperature lubricating capability No damage to rubber, plastic, or paint	Low flow at high-temperatures due to a high dropping point of above 280°C Excellent high temperature lubricating capability No damage to rubber, plastic, or paint	Lubricating capability for	Contains molybdenum disulfide High lubricity Heavy load resistance High heat resistance, can be used at 400°C (for galling prevention, 800°C)	Contains molybdenum disulfide Aerosol	Dry spray type Contains molybdenum disulfide Dry molybdenum film forms in a short time	Spray grease type Contains molybdenum disulfide Grease-like lubricant Heat resistance: 250°C Mixing consistency: Equivalent to JIS3	Contains molybdenum disulfide Excellent gas resistance	Contains molybdenum disulfide Excellent lubricating capability No damage to rubber or plastic	4-cycle engine Car dedicated oil additives	Oil additives for hybrid vehicles and fuel- efficient vehicles
	Appearance		Light brown	Blue	Yellow	Light yellow	Colorless	Beige	Beige	White	White	Light yellow	Black	Black	Gray-black	Gray-black	Black	Dark gray	Light brown	Brown
	Viscosity	mPa∙s	Paste	80	80	80	1000	Paste	Paste	Paste	Paste	185	Paste	25	-	-	-	1.1	-	-
	Specific gravity		-	0.81	0.81	0.92	0.97	0.97	0.97	-	-	0.82	1.40	1.60	0.8	0.9	0.90	0.91	0.93	0.95
	Solid content	%	-	70	70	95	100	-	100	99.7	99.7	-	96.5	-	10	65	99.0	31.0	-	-
Rust	prevention capability		0	0	0	×	Δ	Δ	Δ	0	0	0	0	0	-	-	-	-	-	-
	Lubricity		0	0	0	0	Δ	Δ	Δ	0	0	0	0	0	0	0	0	0	-	-
High	speed resistance and load resistance		0	0	0	0	×	×	×	-	-	-	0	0	0	0	0	0	-	-
	Penetrability		×	0	0	0	×	×	×	-	-	-	×	×	×	×	×	×	-	-
	Heat resistance		0	-	-	-	0	0	0	0	-	-	0	0	0	0	-	0	-	-
>	Polycarbonate		0	-	-	×	0	0	0	-	-	-	-	-	-	-	-	-	-	-
atibilit	ABS		0	-	-	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-
Plastic compatibility	Polystyrene		0	-	-	Δ	0	Δ	Δ	-	-	-	-	-	-	-	-	-	-	-
Plastic	Hard PVC		-	-	-	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-
	Overall evaluation		0	×	×	0	0	0	0	0	0	×	×	×	-	-	-	0	-	-
	Remark(s)		Aerosol	Aerosol	Aerosol	Aerosol	Aerosol	Tube	Aerosol	Tube	Aerosol		Can Paste	Aerosol	Aerosol	Aerosol	Can Paste	Aerosol		

^{* -:} Unmeasured

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.

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Electrical Contact Point Protectors



These are electrical contact point protectors that are oil or grease agents for rust prevention, lubrication, and protection at electric contacts.

By applying these, it is possible to reduce contact resistance due to their lubricity, which can prevent noise and abrasion from sliding, and prevent sulfuration and oxidation corrosion by their barrier properties. They also have a cleaning effect that can soften and remove adsorbates and wear debris attached to contact surfaces, and prevent surface leakage current.

They can be used at contact points such as connectors, sockets, slide switches, toggle switches, and DIP switches.

2501 L, 2501 S

This is a general use grade with excellent lubricity. An oil type and an aerosol type are also available.

2585 G

It has a great anti-plastic property.

It is for lubrication of plastic parts such as ABS and polycarbonates. This is a grease-type product.

Property Table

	perty Ta						
	Pr	roduct name		2501L	25015	2583G	2585G
	Charact	eristics	Unit				
Appearance				Colorless	Colorless Colorless		White
Viscosity		Pa∙s	0.45	0.55	-	-	
	Consistency			-	-	311	325
	Specific	gravity		1.00	1.00	0.83	0.86
	Solid co	ontent	%	99 or higher	99 or higher	-	99 or higher
	Featı	ures		Lubricity Oil type	Aerosol version of 2501L	Rust- preventing lubricant for electric contact	Lubrication of plastic parts Grease type
		Light load (0 to 30g)		×	×	-	×
	Slide switch	Medium load (30 to 50g)		Δ	Δ	-	×
		Heavy load (50g or higher)		×	×	-	×
	IC	socket		0	0	-	×
	Cor	nnector		0	0	-	×
tions	DIP	switch		0	0	-	×
Applications	Togg	le switch		0	0	-	×
Ā	Rotary switch			×	×	-	×
	Pow	er switch		Δ	Δ	-	×
	1	uner		×	×	-	×
	Vo	olume		×	×	-	×
	Te	rminal		0	0	-	×
	Mechanic	cal lubrication		0	0	-	0
	Oil filn	n strength	Pa	687	687	-	932
	Coefficie	ent of friction		0.15	0.15	0.10	0.15
istics	Dropp	ing points	°C	-	-	198	200 or higher
Characteristics	Copperp	late corrosive		0	0	0	0
Cha		Feel		0	0	-	0
	Freeze	resistance		0	0	-	Δ
	Fluidity	/ resistance		Δ	Δ	-	0
τ̈́	Poly	styrene		×	×	0	0
atibili	Polyc	arbonate		×	×	0	0
comp		Acryl		×	×	0	0
Plastic compatibility		ABS		-	-	0	-
А	Overall	evaluation		×	×	0	0
0	perating te range	emperature (Est.)	°C	0 to 80	0 to 80	-	-30 to 100
	Rema	rk(s)					

The value listed in the property table is an example of a measured value and is not the guarantee level.

^{*} Before using, confirm the adequacy and safety for the relevant application.



Industrial Parts Cleaners





This is a series of cleaning agents for industrial use.

There is an aerosol type that is easy to use degreaser for mechanical parts.

There is also a cleaning agent for industrial use that can remove oil stains, etc., from

2706

This is an aerosol type parts cleaner. Degreasing is easy by simply spraying. There is virtually no influence on rubber and plastic.

2706 D

This is an aerosol type cleaning lubricant for air tools such as impact wrenches, air hammers, air nippers, etc. Since cleaner and lubricant are combined, you can clean and inject lubricant at the same time using a single can.

2706 J

This is a degreasing cleaning agent for machine parts. Because it is a slow-drying type, it can reduce problems such as drying before removing dirt and oils.

2720 C

This is a temporary lubricant to mount rubber or plastics. When it is diluted with 20 parts water and applied with a brush or sprayed on rubber or plastic parts, the parts can be mounted easily with lubrication.

It can be used for window frame weather strips for vehicles, rubber grommets, tire fitting, etc.

2771 D

This is a water soluble type neutral floor cleaning agent for industrial use.

It can easily remove oil stains from factory floors, etc. It can be used as an undiluted solution or diluted up to 5 times depending on the dirtiness.

2777 E

This is a water soluble type alkaline floor cleaning agent for

It can easily remove oil stains from factory floors, etc. It can be used as an undiluted solution or diluted up to 5 times depending on the dirtiness.

Property Table

	Product name Characteristics	Unit	2702	2706	2706C	2706D	2706E	2706J	2720C	2750
	Applications		Mechanical part cleaning	Mechanical part cleaning	Mechanical part cleaning	Cleaning and lubrication of pneumatic tools such as impact wrenches	Mechanical part cleaning	Mechanical part cleaning	Lubrication when attaching rubber and plastic parts	Mechanical part cleaning
	Features		Non- hazardous material under the Fire Service Act	Prevention of Organic Solvent	Quick- drying Ordinance on Prevention of Organic Solvent Poisoning not applicable	connecting to the plug of an air tool and	Prevention of Organic Solvent	Quick- drying Ordinance on Prevention of Organic Solvent Poisoning not applicable	Attach rubber parts smoothly, aqueous/ organic rules not applicable, used in 20 times dilution	Water-based parts cleaner Low- foamability type so it is good for spray cleaning
	Main component		Alcohol- based solvent		Hydrocarbon- based solvent	Hydrocarbon- based mixed solvent Rust- preventing lubricant		Hydrocarbon- based solvent	Water-soluble acrylic	Non-ionic surfactant
	Appearance		Colorless transparent	Colorless transparent	Colorless	Brown	Colorless	Colorless	Colorless transparent	Light yellow transparent
	Specific gravity		0.87	0.67	0.67	0.81	0.67	0.68	1.03	1.10
	Solid content	%	-	0.0	0.0	0.0	0.0	0.0	6.0	7.0
	Polypropylene		-	0	0	-	0	-	0	-
	Nylon		-	0	0	-	0	-	0	-
	Polyethylene		-	0	0	-	0	-	0	-
	Phenol		-	0	0	-	0	-	-	-
atibility	ABS		-	0	0	-	0	-	0	-
Material compatibility	PPO®		-	0	0	-	0	-	0	-
Materia	Iron		-	0	0	-	0	0	0	-
_	Aluminum		-	0	0	-	0	0	0	-
	Brass		-	0	0	-	0	0	-	-
	Copper		-	0	0	-	0	0	0	-
	Zinc		-	0	0	-	0	0	-	-
	Remark(s)		18L can	Aerosol	Aerosol	Aerosol	Aerosol	18L can	15L can	18L can

- * -: Unmeasured

 * The value listed in the property table is an example of a measured value and is not the guarantee level.

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



Cleaning agent Property Table

	Troperty rabic										
	Product name		2771C	2771D	2777E						
	Characteristics	Unit									
	Applications		Concrete floor cleaning	Cleaning of concrete and resin flooring	Concrete floor cleaning						
	Features		Environmen- tally-friendly product Undiluted solution or diluted up to 5 times	Environmen- tally-friendly product Neutral type Undiluted solution or diluted up to 5 times	Environmentally-friendly product Neutral type Undiluted solution or diluted up to 5 times						
ı	Main component		Non-ionic surfactant	Surfactant	Surfactant						
Appearance			Yellow transparent	Colorless transparent	Blue						
	Specific gravity		1.02	1.00	1.04						
	Solid content	%	12.7	7.6	12.9						
	Polypropylene		0	-	-						
	Nylon		-	-	-						
	Polyethylene		0	-	-						
	Phenol		-	-	-						
atibility	ABS		0	-	-						
l comp	PPO®		-	-	-						
Material compatibility	Iron		0	-	-						
_	Aluminum		0	-	-						
	Brass		0	-	-						
	Copper		-	-	-						
	Zinc		-	-	-						
	Remark(s)		18L can * -: Unmeasured	17L can	18L can						

 ^{-:} Unmeasured
 The value listed in the property table is an example of a measured value and is not the guarantee level.
 Before using, confirm the adequacy and safety for the relevant application.



Dilution-Use Solvents



This is a series of mixed solvents for dilution of solvent dispersion-type liquid gaskets, screw-locking agents, and adhesives, etc.

They can be used for viscosity adjustment, etc., mainly for target products.

2801

This is a mixed solvent that uses toluene and methyl ethyl ketone as the main components.

It is mainly used for dilution of solvent dispersion-type liquid gaskets and adhesives.

2802

This is a mixed solvent that uses toluene, methyl ethyl ketone, and ethyl acetate as the main components.

It is mainly used for dilution of solvent dispersion-type liquid

2803

This is a mixed solvent that uses methanol and isopropyl alcohol as the main components.

It is mainly used for dilution of screw-locking agents.

2810

This is a mixed solvent that uses toluene and a glycol ether-based solvent as the main components.

It is mainly used for dilution of epoxy-resin paints.

Property Table

Cha	Product name	Unit	2801	2802	2803	2810	2811	2812
Mair	n component		Toluene Methyl ethyl ketone	Toluene Methyl ethyl ketone Ethyl acetate	Methanol Isopropyl alcohol	Toluene Glycol ether-based solvent Methyl isobutyl ketone	Xylene Ethyl benzene Trichloro- ethylene	Ethylene glycol-n- butyl ether Isopropyl alcohol
A	ppearance		Colorless and transparent	Colorless and transparent	Colorless and transparent	Colorless and transparent	Colorless and transparent	Colorless and transparent
Spe	ecific gravity		0.86	0.86	0.79	0.87	0.96	-
F	lash point	°C	2	2	22	11	28.5	22
Applid	cable products		1102 1501 1521 4101 etc.	1111B 1103B 1105 1105B etc.	1401 4002 etc.	Epoxy-resin paint etc.	1184 etc.	3801
	ation according to e Service Act		Category 4, class 1 petroleums (water- insoluble)	Category 4, class 1 petroleums (water- insoluble)	Category 4 Alcohols	Category 4, class 1 petroleums (water- insoluble)	Category 4, class 2 petroleums (water- insoluble)	Category 4, class 2 petroleums (water- insoluble)
F	Remark(s)							

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



Electrical Part Protective Agent · **Coating Agent**



This is a series of coating agents that are used for surface protection and static charge prevention of various materials.

2901

2907 E

This is a silicone resin-based aerosol type electrical part-protection coating agent.

By simply spraying it to electronic circuit parts and electric insulating materials, it forms an insulating film with excellent heat resistance that protects parts from humidity, rust, sulfuric gas, etc.

2910B

2907D are liquid types.

2907 D

This is a coating agent suitable for materials used in interior products.

It contains silazane compound and a special binder, allowing it to adhere to leather and fabric products.

Applying this product forms a film with excellent wear resistance, abrasion resistance, and soiling resistance on the surface.

This is an aerosol type antistatic agent with a surfactant as the main component.

It is a single-component water repellent coating agent containing

Because it cures with moisture, it exerts the same durability as

glass and forms an excellent water-repellent coating.

It is easy to remove dirt adhered with simple washing.

silane compound as a main component.

By simply spraying, it prevents static on textiles, plastic products, and electronic products, and can prevent dust from attaching. It is colorless and transparent, has no stickiness, and does not damage rubber or plastic.

2921 D

This is a dust blower for industrial use that contains no CFCs or CFC alternative.

By simply spraying, it is possible to easily remove dust and dirt attached to computers, office equipment, photo-typesetters, cameras, lenses, etc., with its air pressure.

A special absorbent that is inside of the can prevents spraying liquid when used upside down.

2941

This is a room-temperature drying one-component epoxy coating agent that has a modified epoxy resin as its main component. It has a good adhesiveness to various materials and may be applied to surfaces which are wet with any kind of paint. It is used for metal rust prevention primers, construction/exterior primers, adhesive for porcelain tiles, etc.

Property Table

110	Property lable								
	Product name		2901						
	Characteristics	Unit							
	Main component		Silicone resin						
	Features		Electrical part protective coating Hard coating film						
	Appearance		Colorless						
	Viscosity	mPa∙s	35						
	Specific gravity		0.97						
(Solid content Nonvolatile content)	%	35						
	Tack free time	min	15 (Thickness 20μ)						
C	complete drying time	h	24 (Thickness 40μ)						
ing	Storage modulus (25°C)	MPa	-						
Physical characteristics after curing	Volume resistivity	Ω·m	1×10 ¹³ or higher						
racteristic	Dielectric breakdown strength	kV/mm	60 or higher						
ysical cha	Water absorption rate (100°C×2h)	%	-						
Ph	Peel strength (Film formation/Glass)	N/m	-						
,	Polystyrene		×						
Plastic compatibility	Polycarbonate		×						
ic comp	Acryl		×						
Plasti	ABS		×						
	Overall evaluation		×						
	Remark(s)								

- * -: Unmeasured
- * The value listed in the property table is an example of a measured value and is not the guarantee level.

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

Product name		2907D	2907E
Characteristics	Unit		
Main component		Silane compound	Silazane compound
Features		One- component water- repellent coating agent Water repellent glass hard coating	One- component water- repellent coating agent Water repellent glass hard coating
Appearance (Hue)		Light yellow	Colorless
Appearance (Transparency)		Clear	Clear
Specific gravity		0.83	0.96
Solid content (Nonvolatile content)	%	27.0	5.0
Tack free time	min	less than 90	less than 20
Complete drying time	h	-	-
Water contact angle	angle	103 or higher	-
Remark(s)		-	Aerosol

- * -: Unmeasured
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Products Guide

Property Table

		Product name		2910B					
	Cha	racteristics	Unit						
	Main	component		Surfactant					
	F	- eatures		Fast-acting type No damage to rubber or plastic					
	Ар	pearance		Colorless					
	Spe	cific gravity		0.79					
		iction-charged rostatic potential test	V	11					
eristics	Half	life measurement experiment	sec	Less than 1					
Characteristics	e resistivity test	Polyester	Ω	1.49×10 ¹¹					
	Surface resisti [*] test	Nylon	Ω	1.22×10 ¹²					
	R	emark(s)							

<sup>The value listed in the property table is an example of a measured value and is not the guarantee level.
Before using, confirm the adequacy and safety for the relevant application.</sup>

	Product name		2921D
	Characteristics	Unit	
	Main component		DME/ Carbon dioxide
	Features		No CFCs Prevention of liquid spray when used upside down
	Specific gravity		0.66
	Polystyrene		0
	Polycarbonate		0
llity	Acryl		0
Plastic compatibility	ABS		0
stic co	NR		0
Pla	SBR		0
	CR		0
	NBR		0
	Remark(s)		

Pencil hardness change : 20°C Pencil hardness change : 2		Product r			2941						
Peatures One-pack type ambient temperature dry type epoxy coating Transparent yellow				Unit							
Appearance		Main componen	t		On a mark to						
Viscosity Specific gravity Specific gravity Solid content 96 25		Features									
Specific gravity Solid content Acid value (KOH) Tack free time 20°C min 50		Appearance			Tra	ansparent yello	ow				
Tack free time 20°C min 50	S	Viscosity		mPa∙s		90					
Tack free time 20°C min 50	eristic					pe ambient temperature repe epoxy coating resparent yellow 90 0.90 25 Less than 1 50 Less than 5 20µ B B B B H B H H H H H A A A A A A A A					
Tack free time 20°C min 50	racte										
Tack free time 50°C min Less than 5	Cha	Acid value (KOH)									
Standard drying conditions Film thickness 10µ 20µ 30µ 30µ 1 days after F B 38 2 days after H H B 28 3 days after H H H B 5 days after H H H H H H H H H		Tack free time									
Film thickness 10µ 20µ 30µ 1 days after F B 3B 3B 2 days after H HB 2B 2B 3 days after H H B 2B 3 days after H H B B 5 days after H H H B 5 days after H H H H H H H H H		6. 1.11.		min		Less than 5					
1 days after		Standard drying cond			10	20	20				
Pencil hardness change : 20°C 2 days after H HB 2B					·	·	·				
Adhesion Test (Cross-cut Testing Method): 1 mm square × 100 20µm thick × 20°C =100 / 100 Porcelain tiles ALC GRC PET PVC Acryl resin Description of the continuation of the continua	stics										
Adhesion Test (Cross-cut Testing Method): 1 mm square × 100 20µm thick × 20°C =100 / 100 Porcelain tiles ALC GRC PET PVC Acryl resin Description of the continuation of the continua	teris		,								
Adhesion Test (Cross-cut Testing Method): 1 mm square × 100 20µm thick × 20°C =100 / 100 Porcelain tiles ALC GRC PET PVC Acryl resin Description of the continuation of the continua	narad	Pencil hardness change : 20°C				HB 2B H 2B H B H B H H H 2 days 3 days					
Adhesion Test (Cross-cut Testing Method): 1 mm square × 100 20µm thick × 20°C =100 / 100 Porcelain tiles ALC GRC PET PVC Acryl resin Description of the continuation of the continua	ng cl		,				Modified epoxy resin e ambient temperature e epoxy coating sparent yellow 90 0.90 25 ess than 1 50 ess than 5 20µ 30µ B 3B HB 2B H B B H H H H H H 12 days 3 days				
Adhesion Test (Cross-cut Testing Method): 1 mm square × 100 20µm thick × 20°C □=100 / 100 ALC GRC PET PVC Acryl resin Adhesion, lifting, etc. No problem Polyester resin Adhesion, lifting, etc. No problem Adhesion, lifting, etc. No problem Polyester resin Adhesion, lifting, etc. No problem	Curi										
Curing time Polished soft steel material Rusted steel material after Keren Copperplate Aluminum Chrome-plated board Tin plate Stainless steel Porcelain tiles ALC GRC PET PVC Acryl resin Urethane resin Wet on wet property to various coating systems Curing time 1 day 2 days 3 days 3 days O O Copperplate Aluminum O O Copperplate Aluminum O O Copperplate Aluminum O O Chrome-plated board Tin plate X X X O Copperplate ALC O O											
Adhesion Test (Cross-cut Testing Method): 1mm square × 100 20µm thick × 20°C □=100 / 100 ALC GRC PET PVC Acryl resin Wet on wet property to various coating systems Polished soft steel material Rusted steel material after Keren Copperplate Aluminum Chrome-plated board X X X X Chrome-plated board X X X											
Rusted steel material after Keren Copperplate Aluminum Chrome-plated board Tin plate Stainless steel Porcelain tiles ALC GRC PET PVC Acryl resin Wet on wet property to various coating systems Wet on wet property to various Coating systems Rusted steel material after Keren Copperplate Aluminum Chrome-plated board X X ALC CHROM ALC GRC PET PVC Adhesion, lifting, etc. No problem Alkyd resin Alkyd resin Alkyd resin Alkesion, lifting, etc. No problem Adhesion, lifting, etc. No problem						·	s 3 days				
Adhesion Test (Cross-cut Testing Method): 1mm square × 100 20µm thick × 20°C					_	-	_				
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	<u>s</u>				-	_	_				
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	iteria				-	-					
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	ıs ma					_					
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	arion	•					_				
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	to v	·	·				_				
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	sion	○=100 / 100									
GRC PET PVC Acryl resin Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem	Adhe										
PVC Acryl resin Adhesion, lifting, etc. No problem Wet on wet property to various coating systems Wet on wet property to various Adhesion, lifting, etc. No problem NC lacquer Adhesion, lifting, etc. No problem											
PVC Acryl resin Adhesion, lifting, etc. No problem Wet on wet property to various coating systems Wet on wet property to various Adhesion, lifting, etc. No problem NC lacquer Adhesion, lifting, etc. No problem			PET		0	0	0				
Wet on wet property to various coating systems Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem			PVC			0					
Wet on wet property to various coating systems Urethane resin NC lacquer Alkyd resin Adhesion, lifting, etc. No problem			Acryl resin		Adhesion,	, lifting, etc. No	problem				
Polyester resin Adhesion, lifting, etc. No problem	oility				Adhesion	, lifting, etc. No	problem				
Polyester resin Adhesion, lifting, etc. No problem	oatak		NC lacquer		Adhesion	, lifting, etc. No	problem				
Polyester resin Adhesion, lifting, etc. No problem	ob cc	coating systems	Alkyd resin		Adhesion	x x x x x x x x x x x x x x x x x x x					
Drying conditions Salt spray (120°C) Hot water immersion (40°C × 120h) Moisture resistance (120°C) Alkali resistance Acid resistance Sterilization lamp irradiation Drying conditions 20°C×7 days O O O Salt spray (120°C) O O O Alkali spray (120°C) O O Alkali resistance O Sterilization lamp irradiation Drying conditions 20°C×7 days O O Salt spray (120°C) O O Alkali spray (120°C) O Alkali resistance O Sterilization lamp irradiation AE 8.7 72h AE 11.7	Ė		Polyester resin		Adhesion	, lifting, etc. No	problem				
Salt spray (120°C) Hot water immersion (40°C × 120h) Moisture resistance (120°C) Alkali resistance Acid resistance Acid resistance Sterilization lamp irradiation Salt spray (120°C) O Alkali resistance O Sterilization lamp irradiation AE 8.7	tion	Drying conditions			20°C×7 days	110°C×	30 min				
Hot water immersion (40°C × 120h) Moisture resistance (120°C) Alkali resistance Acid resistance Acid resistance 24h ΔE 8.7 T2h ΔE 11.7	colora	Salt spray (120°C)			0						
Moisture resistance (120°C) Alkali resistance Acid resistance Acid resistance 24h ΔE 8.7 72h ΔE 11.7	ole, dis	Hot water immersion (40°C \times 120h)			0						
Alkali resistance Acid resistance Acid resistance 24h ΔE 8.7 Sterilization lamp irradiation 72h ΔE 11.7	durab	Moisture resistance (120°C)			0						
Acid resistance 24h ΔE 8.7 Sterilization lamp irradiation 72h ΔE 11.7	ntand	Alkali resistance			0						
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	resista	Acid resistance			0						
Steriii Zation iamp irradiation 72h ΔE 11.7	osion-ı	Ctarilization lamp impediation	24h	ΔΕ		8.7					
	Corre	Sterilization lamp irradiation	72h	ΔΕ		11.7					

<sup>The value listed in the property table is an example of a measured value and is not the guarantee level.
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 ^{-:} Unmeasured
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Hand Cleaners



This is a series of hand cleaners that have cleaning power for solidified paint and oil stains.

5903 B

This is a hand cleaner for removal of paint that does not apply to the PRTR Law and that contains benzyl alcohol as an alcoholbased solvent and silica scrubbing particles.

5905 C

Contains biodegradable plant-based scrubbing particles

This is a hand cleaner that contains a plant-based scrubbing particles that are biodegradable, pose no risk of marine pollution, and provide cleaning.

It meets the Uniform National Effluent Standards (0.1w/v% aqueous solution) determined in the Water Pollution Control Act (BOD/COD).

It also contains hyaluronic acid Na that has high moistureretaining property.

Property Table

Product name		5903B	5905C
Characteristics	Unit		
Main component		Alcohol- based solvent Surfactant	Surfactant
Features		For removal of paint	Contains aplant based scrubbing particles Contains moisturizing ingredient
Appearance		Red	White
Viscosity	Pa∙s	3.5	3.5
Specific gravity		1.03	0.92
рН		6.5	6.8
Cleaning ability*1		Completely emulsified	Completely emulsified
Water quality index BOD*2	mg/L	-	150
Water quality index COD*2	mg/L	-	71

^{*1:} Cleaning ability 10wt% aqueous solution

0.1w/v% aqueous solution

- * -: Unmeasured
- * The value listed in the property table is an example of a measured value and is not the guarantee level.
- Before using, confirm the adequacy and safety for the relevant application

Wet-Wipers Deodorizers

This is a series of wet wipers and deodorizers with a high antifungal effect.

6701B Antifungous wet wiper (7 sheets)

This is an antibacterial wet wiper of olefinic non-woven fabric impregnated with cleaner solution that has a cleaning (antistatic) effect as well as an antibacterial effect (using hinokitiol). It can be used to clean vehicle dashboards, OA devices, etc.

* Comes in a clear film pouch containing seven sheets.

6701 C Antimicrobial mold-proof wet wiper

This is a high-function wet wiper with a cleaning liquid impregnated into an acryl microfiber nonwoven fabric. It has an antifungal and mildew-proof effect because it contains hinokitiol.

* Comes in 150 sheets.

6701 D Antimicrobial wet wipers

This is an industrial wet wiper of 100% rayon non-woven fabric impregnated with anhydrous metamorphic ethanol. It is used for cleaning adhesive parts of polyethylene gas piping,

for connecting electric cables, for the final polishing step of the product inspection/shipment process, and for removing oil in the manufacturing process of metal parts, glass/mirror surface parts,

* Comes in a plastic container holding 80 sheets.

6726D Anti-allergen deodorizing spray

This is an air freshener that includes components (anti-allergen agents) that adsorb or reduce house dust that can be allergenic. It reduces allergens efficiently as well as eliminates odor just by spraying in the room or inside the vehicle.

It is a product of high safety that does not include highly toxic materials such as pesticide components.

6722 Car Interior Deodorant

This is a deodorizing antibacterial agent that contains benzalkonium chloride.

It has long-lasting effects and can be used on fabric products, including the seats and floor mats of automobiles and showroom sofas.

This product can also be applied with a pulse tornador gun (sold separately) to increase working speed and maximize the effectiveness of the liquid agent.

6731 Silver-deposited titanium oxide photocatalytic spray

This is an aerosol type deodorizer that has a photocatalytic effect from the silver-deposited titanium oxide for breaking down harmful substances that exist in room air, and also has an antifungal effect from the silver.

6735 Visible light responsive photocatalyst spray

Tungsten oxide visible light type photo catalyst agent is sprayed with aerosol throughout the interior of automobile.

After construction, deodorizing effect by tungsten oxide photocatalytic effect can be obtained.

The injection lever can be fixed with one push and the entire amount is injected in the form of mist. It can be applied to the whole interior of the car with simple work.

Titanium oxide with supported silver catalyst deodorizing spray for air-conditioning ducts

This deodorizing and antibacterial aerosol contains titanium oxide with a supported silver photocatalyst that can sprayed as an aerosol into the air conditioning ducts of automobiles. It takes just 1 minute to spray a full can.

^{*2:} BOD/COD water quality indexes



Industrial Paper Wipers Double Faced Adhesive Tape







This is a series of double faced adhesive tapes and paper wipers for use in factories.

6910 Caulking tape

This is a tape to seal PC joints (resin coating cast steel joints) that uses butyl rubber as its main component. It prevents water intrusion and electrical conduction, thereby protecting against rust and electric erosion.

* 3mm×23mm×5m dimensions

6950 Paper wiper roll for industrial use

This is a roll type paper wiper that has the merits of both paper and cloth products.

It has excellent absorbability and resistance to water and various solvents.

- * 169m (580 sheets) dimensions
- * 325m (1110 sheets) dimensions

6930 B Highly sticky double-sided tape for molding

This is a highly sticky double-sided tape with a pressure-sensitive adhesive applied on both sides that uses polyethylene foam as the base material and has good adhesion to painted boards. Thick type, 6930C, is also provided.

6950 B Paper wiper sheet for industrial use

This is a sheet-type paper wiper that has the merits of both paper and cloth products.

It has excellent absorbability and resistance to water and various solvents.

* Comes in 100 sheets.



Desiccant





This is a series of desiccants for use in factories.

9970 Natural desiccant

9900 Series

This is a new type of desiccant made from seawater minerals. A small amount can effectively absorb moisture chemically for a wide temperature range.

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Automotive Chassis Paint Agents

Auto Aftermarket

This is a series of coating agents with excellent rust prevention for the lower part of car bodies and spot welded portions of the chassis, etc.

6101B

Oil-based serosol

This is an aerosol type quick-drying vehicle chassis coating agent. It is good for completing maintenance quickly.

6110C

Oil-based aerosol

This is a quick-drying black type vehicle chassis coating material. It is suitable when maintenance needs to be completed quickly.

6111D

This is an oil-based black type vehicle chassis coating material. Because it uses an alkyd resin as a base, even after hardening once, cross-linking continues as a reaction to oxygen in the air, causing the formation of a strong coating membrane.

6112B

This is an oil-based black type vehicle chassis coating material. It forms a quick-drying and high-gloss coating membrane. Because it uses an alkyd resin as a base, even after hardening once, cross-linking continues as a reaction to oxygen in the air, causing the formation of a strong coating membrane.

6151 G

This is a black anti-rust agent for vehicle bodies, which contains petroleum sulfone acid metal salt, etc. as its main components. It forms a flexible coating membrane with self restoring ability, and uses antifreezing and salt damage prevention agents to provide long term protection against rust.

Low viscosity type, low viscosity clear (no color) type, and aerosol black type are also available.

6107 G

Thick film

This is a vehicle chassis coating agent for forming thick films with excellent chipping resistance.

It protects from flying pebbles while driving and against corrosion from salt. It provides strong protection against corrosion.

6110G

Chassis coating agent with excellent quick drying property. It is good for completing maintenance quickly.

6111E

This is a phthalic acid resin jet black type vehicle chassis coating material. It forms a strong and high-gloss coating membrane. As it is oil based, it is quick-drying.

6115

This is an anti-rust lubricant to protect vehicle tire houses and the lower part of the vehicle body from flying stones during driving, and from salt damage.

It forms a rubber base flexible coating membrane.

6154

This is a clear type wax anti-rust agent to provide long term protection for vehicle bodies. It forms a flexible coating membrane with self restoring ability, to provide long term protection against salt damage and rust caused by acid rain.

It is possible to apply it just after the car has been washed, so it is also extremely efficient. Thicker coating type and aerosol type are also available.

6155 D

This is a water-based black type long term anti-rust agent to prevent salt damage.

It is gray immediately after application and turns black after drying.

It is also possible to apply it to the lower part of a vehicle or the sealer part that is applied on the tire house.

6163

This is a water-soluble black type chassis coating material. It is excellent at preventing rust on the chassis and maintaining the vehicle's beauty.

6165 G

This is a water-soluble black type fast drying chassis coating material.

It forms a quick-drying and high-gloss coating membrane. It forms a strong membrane over time by self reactions since it uses alkyd resin as a base.

6170C

This is a water-soluble orange type vehicle chassis coating material

It is excellent at preventing rust on the chassis of trucks, etc. and maintaining the vehicle's beauty.

6161

Water-based

This is an aqueous type chassis coating agent.

It is very effective for rust prevention and maintaining the good appearance of the chassis.

Clear (no-color) type is available too.

6164

This is a water-soluble black type fast-drying chassis coating

It is excellent at preventing rust on the chassis and maintaining the vehicle's beauty.

It dries quickly and forms a beautiful gloss coating membrane. A disposable container type and clear (no color) type are also available.

6168

This is a water-soluble black type strong anti-rust chassis coating material.

It is excellent at preventing rust on the chassis and maintaining the vehicle's beauty.

6171 C

This is a water-soluble red type vehicle chassis coating material. It is excellent at preventing rust on the chassis of trucks, etc. and maintaining the vehicle's beauty.

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Property Table

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Product name		6101B	6102	6102C	6107G	6110C	6111D	6111E	6112B
Characteristics	Unit								
Main component		Natural bitumen	Water soluble Acryl resin	Water soluble Acryl resin	Synthetic resin	Natural bitumen	Alkyd resin	Phthalic resin	Alkyd resin
Features		Oil-based type Aerosol	Aqueous type Aerosol	Aqueous type Aerosol	Oil-based type Aerosol	Oil-based type	Oil-based type	Oil-based type	Oil-based type
Appearance		Black	Black	Colorless	Black	Black	Black	Black	Black
Viscosity	mPa∙s	15	74	32	1900	22.5	53	80	17
Specific gravity		0.91	0.96	0.88	1.13	0.92	0.91	0.95	0.97
Solid content	%	30	20	19	50	39	33	39	36
Tack free	min	5 to 10	20 to 25	30 or less	30 or less	10 or less	20	20	5 or less

Product name		6115	6151G	6151H	6151J	6151K	6151M	6151N	6154
Characteristics	Unit								
Main component		Synthetic resin	Petroleum sulfonic metallic salt	Petroleum sulfonic metallic salt	Wax				
Features		Oil-based type	Oil-based type	Oil-based type	Oil-based type	Oil-based type Aerosol	Rust preventive for inside door, rocker panel etc. Oil type semi- dry type	Rust preventive for inside door, rocker panel etc. Oil type semi- dry type	Oil-based type, aerosol available
Appearance		Black	Black	Black	Milky white	Black	Milky white	Milky white	Dark brown
Viscosity	mPa∙s	1810	800	350	350	250	190	170	65
Specific gravity		1.10	0.95	0.95	0.92	0.9	0.9	0.9	0.78
Solid content	%	48	60	52	53	30	27	42	15
Tack free	min	Less than 30	-	-	-	-	-	-	-

Product name		6154B	6154C	6154D	6154E	6154H	6154J	6155D	6161
Characteristics	Unit								
Main component		Wax	Wax	Wax	Wax	Silicone resin	Silicone resin	Synthetic resin	Acryl resin-based emulsion
Features		Oil-based type, aerosol available	Oil-based thick type, aerosol available	Oil-based thick type, aerosol available	Oil-based heat resistant type, aerosol	Oil-based type For mufflers, aerosol	Oil-based type For mufflers, aerosol	Aqueous type	Aqueous type
Appearance		Black	Dark brown	Black	Silver	Black	Black	Black	Black
Viscosity	mPa∙s	115	1240	2300	800	-	-	3000	200
Specific gravity		0.80	0.81	0.85	0.82	1.27	1.1	1.15	1.01
Solid content	%	24	30	45	30	44	34	62.5	24
Tack free	min	-	-	-	-	60	60	-	25

*	-:	Unmea	su	r

^{*} The value listed in the property table is an example of a measured value and is not the guarantee level.

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

Product name		6161C	6163	6164	6164C	6165C	6165F	6165G	6168
Characteristics	Unit								
Main component		Acryl resin-based emulsion	Acryl resin-based emulsion	Water soluble Acryl resin	Water soluble Acryl resin	Water- soluble alkyd	Synthetic resin	Water- soluble alkyd resin	Synthetic resin
Features		Aqueous type	Aqueous type	Aqueous type Disposable container type available	Aqueous type	For vehicle bogie Aqueous type	For vehicle bogie Aqueous type	High-gloss coating Quick-drying Aqueous type	Water-based high rust- prevented type
Appearance		Colorless	Black	Black	Light yellow transparent	Gray	Gray	Black	Black
Viscosity	mPa∙s	230	210	41	62	500	250	100	200
Specific gravity		1.00	1.00	0.94	0.94	1.04	1.06	0.97	1.01
Solid content	%	24	25	21	21	24	28	24	24
Tack free	min	30	30 or less	3	10	Less than 45	-	20 or less	25

Product name	6170C	6171C		
Characteristics	Characteristics Unit			
Main component		Synthetic resin	Synthetic resin	
Features		Aqueous type	Aqueous type	
Appearance		Orange	Red	
Viscosity	mPa·s	600	600	
Specific gravity		1.01	1.01	
Solid content	%	28	28	
Tack free	min	25	25	

^{-:} Unmeasured
The value listed in the property table is an example of a measured value and is not the guarantee level.
Before using, confirm the adequacy and safety for the relevant application.

Property Table

Product name		6122	6123E	6123F	6123G
Characteristics	Unit				
Main component		Synthetic resin	Silicone resin	Silicone resin	Silicone resin
Features		Silver coating agent	Antirust color ring coat for disc brake caliper part	Antirust color ring coat for disc brake caliper part	Antirust color ring coat for disc brake caliper part
		For repair	Blue type	Red type	Gold type
Appearance		Silver	Blue	Red	Gold
Viscosity	mPa∙s	-	170	300	240
Specific gravity		0.96	1.2	1.1	1.2
Solid content	%	24	49	45	51
Tack free	min	20	25	25	25

Product name	6141C	
Characteristics		
Main component		Zinc dust
Features		Plating damaged parts, rust preventive for welded parts, zinc- rich paint for repair
Appearance		Gray
Viscosity	mPa∙s	-
Specific gravity		2.02
Solid content	%	71
Tack free	min	30 or less

Product name	6191B	6192		
Characteristics	Characteristics Unit			
Main component		Solvent mixed with silicone wax	Solvent mixed	
Features		Pastar remover	Three raster exclusive remover	
Appearance		Yellowish green	Colorless	
Specific gravity	mPa∙s	0.81	0.80	

- * -: Unmeasured
- The value listed in the property table is an example of a measured value and is not the guarantee level.
- * Before using, confirm the adequacy and safety for the relevant application.



Brakes & Parts Cleaners

Auto Aftermarket

This is a series of degreasing and cleaning agents for cleaning automobile brake shoes, brake drums, mechanical parts, and other parts with oil and grease stains.

6602L

6600 Series

Undiluted solution / Slow-drying type

This is a slow-drying, undiluted solution type cleaning agent with good workability designed for automobile brake shoes, brake drums, and mechanical parts. It is possible to easily clean oil and grease stains on mechanical parts.

6602S

Undiluted solution / Quick-drying type

This is a quick-drying, undiluted solution type cleaning agent with good workability designed for automobile brake shoes, brake drums, and mechanical parts. It is possible to easily clean oil and grease stains on mechanical parts.

6651F

Aerosol / Non-combustible / Quick-drying type

It is nonflammable detergent with no flash point.

It has the same detergency as the solvent type detergent of the second petroleum, and has good workability due to quick drying.

6602 P, 6602 R

Aerosol / Quick-drying type

This is a quick-drying, aerosol type cleaning agent with good workability designed for automobile brake shoes, brake drums, and mechanical parts. It is possible to easily clean oil and grease stains on mechanical parts.

6602R is a high volume type which can be used upside down.

6651 D

Undiluted solution / Semi-agueo

This is a semi-aqueous cleaning agent with good workability designed for automobile brake shoes, brake drums, and mechanical parts, and it is not a hazardous substance under the Fire Service Act. It is safer than conventional hydrocarbon cleaning agents, and has better drying performance than water-based cleaning agents.

Property Table

Product name Characteristics Unit		6602L	6602P	6602R	6602S	6602U	6651D	6651F	6658
Main component		Hydrocarbon- based compound	Hydrocarbon- based compound	Hydrocarbon- based compound	Hydrocarbon- based compound	Hydrocarbon- based compound	Alcohol- based	Fluorine solvent	Water
Features		Undiluted solution Slow-drying type	Aerosol Quick- drying	Aerosol Large type	Undiluted solution Quick- drying	Undiluted solution	Undiluted solution Semi- aqueous	Aerosol, non- combustible, quick-drying	Alkaline electrolytic water Undiluted solution
Appearance		Colorless	Colorless	Colorless	Colorless	Colorless	Colorless and transparent	Colorless	Colorless
Solid content	%	0.00	0.00	0.00	0.00	0	0.00	0	0.00
Drying performance	sec	480	30	30	30	90	550	20	600
Cleaning ability Brake fluid		Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable	Acceptable (Emulsified)
Classification according to Fire Service Act		Category 4, class 2 petroleums (water-insoluble)	Category 4, class 1 petroleums (water-insoluble)	Category 4, class 1 petroleums (water-insoluble)	Category 4, class 1 petroleums (water-insoluble)	Category 4, class 1 petroleums (water-insoluble)	Non- hazardous material	Non- hazardous material	Non- hazardous material

- * The value listed in the property table is an example of a measured value and is not the guarantee level.
- * Before using, confirm the adequacy and safety for the relevant application.

Compatible with the 1100 Series

These are dispensing devices for liquid gaskets.

Simple dispensing machine



Tank for tube Air dispenser (minicoater C5)

Applicable package type: Tube The discharge amount is adjusted by means of the dispensing time and tank pressure.



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

Applicable package type: 1kg can This dispenser is for a low-viscosity material. Dispensing is done by pulling the gun lever.

Automatic dispenser



Tank for 1-kg or less bottle or can (TG1-T) Dispensing valve (HPNV-50) Pressure controller (coater S4) Desktop robot (RT7 Series)

Applicable package type: 1kg or less bottle or can This device pressure-feeds a material from a tank and applies the material by controlling the valve. When the dispenser is combined with a robot, it applies the material appropriately to a programmed position.

Compatible with the 1200 Series

These are dispensing devices for silicone-based liquid gasket agents.

Simple dispensing machine



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 types. For the details, contact one of our sales engineers.



Double-acting pump for pails (AP-30) High-pressure flow gun type (High-pressure flow gun)

Applicable package type: Pail This dispenser is excellent in high-speed dispense and operability as the result of a combination of high-pressure feeding pump for pails and a high-pressure flow gun.



Tank for tube Air dispenser (minicoater C5)

Applicable package type: Tube The discharge amount is adjusted by means of the dispensing time and tank pressure.

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

Compatible with the 1200 Series

Automatic dispenser



Pump for pails (PBIII) Single-component fixed-quantity booster (fixed-quantity booster) Desktop robot (RT7 Series)

Applicable package type: Pail When a high-pressure feeding pump designed for automatic application and a constant-speed dispense head are combined with a robot, high-precision and uniform linear application that is not affected by changes in the environmental temperature is possible.



Single-acting pump for pails (PBⅢ-45)

Applicable package type: Pail This is a pump for streaming a high viscosity liquid agent efficiently. When it is combined with a robot, uniform linear application

is possible.



Cartridge-type pump (PCB-20)

Applicable package type: Cartridge This is a high-pressure feeding pump designed for automatic application. When it is combined with a robot, uniform linear application is possible.

Compatible with the 1300 Series

These are dispensing and application devices for anaerobic adhesives and sealants.

Simple dispensing machine



Transfer-type simple applicator (coater R)

Application to threaded portion is done by lightly pressing the threaded portion of a bolt to the outer portion of the rotating rotor.



Air dispenser (minicoater C5)

The discharge amount is adjusted by means of the dispensing time and air pressure.

Automatic dispenser



Tank (PV2) Rotary applicator (DR1 Series)

Applicable materials: TB 1386 Series This is a unit for applying and pressure feeding anaerobic sealant to the inside of a cylinder.

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and Others

Compatible with the 1500 Series

These are dispensing devices for adhesives for industrial use and for single-component, moisture-curing elastic adhesives.

Simple dispensing machine



Tank for tube Air dispenser (minicoater C5)

Applicable package type: Tube
The discharge amount is adjusted by means
of the dispensing time and tank pressure.



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 types. For the details, contact one of our sales engineers.

Automatic dispenser



Cartridge-type high-pressure pumping unit (PCT)

Applicable package type: Cartridge A cartridge plunger is pushed by a high driving force to pump at high pressure. It is good for high-speed discharge or when the piping from the pressure source to the dispensing port is long.



Cartridge-type tank (LVCT-AC)
Dispensing 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.

Compatible with the 1700 / 7700 Series

These are dispensing devices for instant adhesives.

Simple dispensing machine



Tubing pump

This dispenser is suitable for dispensing low-viscosity material in a very small amount.

Automatic dispenser



Tank with level sensor detection (TG1-TE) Extremely small-quantity and fixed-quantity valve (TDV) Exclusive controller

This is an extremely smallquantity instant adhesives dispenser with excellent durability and stability.

Compatible with the 2000 Series

These are dispensing devices for two-component epoxies.

Simple dispensing machine



Hand gun for two-component liquid cartridge

Applicable package type: Twin cartridge This is a hand gun dispenser that mixes two components with a static nozzle.

Automatic dispenser



Gear pump type two-component mixer and dispenser

The gear pump sends each agent to the dynamic mixer which mixes and then dispenses the mixture. It is manufactured according to specifications such as the mixing ratio and dispensing rate.

Compatible with the 2000 / 2100 Series

This is an agitating and defoaming device for epoxy resins.

Agitator



Agitating and defoaming device

This is a device for quickly performing agitation and defoaming by rotating or revolving the high-viscosity material in the container.

Compatible with the 2200 Series

These are dispensing devices for single-component epoxy resins.

Simple dispensing machine



Air dispenser (minicoater C5)

The discharge amount is adjusted by means of the dispensing time and air pressure.



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

Applicable package type: 1kg or less bottle or can This dispenser is for a low-viscosity material. Dispensing is done by pulling the gun lever.

pplication Equipmer and Others

Compatible with the 2200 Series

Automatic dispenser



Gear pump type dispenser for single-component agent

This is a dispenser for accurate application that performs pumping with a gear pump.



Tank for 1-kg or less bottle or can (TG1-T)
Dispensing valve (HPNV-50)
Pressure controller (coater S4)
Desktop robot (RT7 Series)

Applicable package type: 1kg or less bottle or can This device pressure-feeds a material from a tank and injects the material by controlling the valve of the nozzle section. When the dispenser is combined with a robot, it applies the material appropriately to a programmed position.

Compatible with the 3000 / 3100 Series

These are dispensing devices for UV-curable resins.

Simple dispensing machine



Air dispenser (minicoater C5)

The discharge amount is adjusted by means of the dispensing time and air pressure.

Automatic application by machine is possible.



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.

Automatic applicator



Tank for a 333ml cartridge (LVCT-AC)
Dispensing valve (HPNV-50)
Pressure controller (coater S4)
Desktop robot (RT7 Series)

It pressure-feeds a liquid agent from the cartridge and applies the agent by controlling the open/closevalve. When it is combined with the robot, it applies the agent to a programmed position.

Others



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.



Micro point dispenser (DT-1)

This dispenser is used for approximately 100µm diameter point application of material.

Material entered into the tank is bonded by the internally set pin in single point application.

Others

3911 D Gasket remover

This is a non-chloride type gasket remover.

It has excellent releasing performance. By spraying it onto solid gaskets and cured liquid gaskets, it makes sealant removal much easier. It is also possible to remove dirt.

It is an environmentally-friendly product because no chlorinated solvent is used.

3991 Liquid paraffin (for delaying curing of silicone-based sealant)

This is a cure-delaying liquid paraffin for silicone sealants. It prevents contact between uncured silicone sealant with moisture in the air so that curing is delayed.

By immersing the injection nozzle of the automatic dispensing machine on standby, it is possible to delay the sealant curing at the nozzle tip.

By filling it into the oil cup portion of a ThreeBond power booster, the paraffin can also be used for lubrication at the drive portion and prevent curing for the pump unit.

3914 Floor wax remover

Releasing agent of resin wax for floors made of chemical products, such as polyvinyl chloride type. Safe, with no unpleasant smell, and little effect on floor materials. Use by diluting 5-11 times with water depending on the situation.

6660 Gas leak tester · Gas leak detection agent

It is a gas leak detection agent that can easily detect gas / air leaks by lightly spraying on piping junction (air, city gas, propane gas, etc.)

It conforms to JIS Z 2329 (foam leakage test method)