ThreeBond

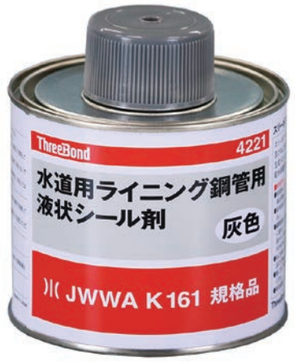
1100/4000/4200/4300 Series
4100/5200 Series

Pipe Sealants
Sealants for Construction

1100/4000/4200/4300 Series

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.



■ Applicable markets

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

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.
This product has excellent lubricity and can be used for both city gas and LP gas pipes.
This product has an applicable diameter of up to 80A when a rotating nozzle is attached.
Use without attaching a rotating nozzle when using this product for larger diameters.

4370

This is an aerosol type sealant that uses acrylic 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.

4221 4221B

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.

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 250°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.
JIS-compliant products are also available.

1100/4000/4200/4300 Series

Pipe Sealants

Property Table

Product name				1110F	1110G	4002	4004D
Characteristics			Unit				
Main component				Acrylate	Acrylate	Synthetic resin	Special synthetic rubber
Curing method				Anaerobic curing	Anaerobic curing	Solvent vaporization	Solvent vaporization
Features				Lubricity High strength	Lubricity Low strength	For general use	Propane gas City gas for anti-freeze
Appearance				White to Light yellow	Milky white	Gray	Gray
Viscosity			Pa•s	50.0	25.0	4.5	9.5
Specific gravity				1.08	1.12	1.30	1.26
Non-Volatile Content			%	Solventless	Solventless	77.0	58.0
State after curing				Solid	Solid	Dry adhesion	Rubber-like
Pipe pressure resistance	Initial	20A	MPa	3.4 or higher	3.4 or higher	-	-
		25A	MPa	-	-	-	0.49 or higher
		50A	MPa	-	-	-	0.49 or higher
	25°C/ 24h	20A	MPa	3.4 or higher	3.4 or higher	-	-
		25A	MPa	-	-	2.0 or higher	0.49 or higher
		50A	MPa	-	-	2.0 or higher	0.49 or higher
Chemical resistance	Mass change rate	Water*1	%	-	-	-	-2.6
		Anti-freeze*1	%	-	-	-	-3.2
	Gas resistance	4°C	%	-	-	-	0.1
		20°C	%	-	-	-	0.1
Removability				Difficult	Excellent	Relatively difficult	Normal
Operating temperature range (Est.)			℃	-40 to 150	-40 to 150	-30 to 130	-40 to 150
Remark(s)				For metallic pipes	For metallic pipes	For metallic pipes	Applicable diameter 15A to 50A

*1: Immersion conditions 85°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.

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
Non-Volatile Content		%	67.0	67.0	Solventless
Tack free time		min	-	-	15
Physical characteristics after curing	State		Dry adhesion	Dry adhesion	Rubber-like
	Hardness		-	-	A30
	Elongation rate	%	-	-	700
	Tensile strength	MPa	-	-	2.5
Water pressure resistance (20A)		MPa	2.5 or higher	2.5 or higher	2.5 or higher
Removability			Relatively difficult	Relatively difficult	Normal
Operating temperature range (Est.)		℃	-	-	120
Remark(s)			JWWA K 161 compliant	JWWA K 161 compliant	JWWA K161 compliant

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1100/4000/4200/4300 Series

Pipe Sealants

Property Table

Product name				4314D	4320B	4325	4325B	4332C	4370
Characteristics			Unit						
Main component				Special synthetic rubber	Alkyd resins	Alkyd resins	Alkyd resins	Silicone	Acrylic emulsion
Curing method				Solvent vaporization	Non-drying	Non-drying	Non-drying	Moisture-curing deamidation	Vaporization
Features				For city gas and LP gas	For city gas and LP 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	Ivory	Gray	Ivory	Ivory	Milky white
Viscosity			Pa•s	9.5	110	40.0	40.0	600	7.0 (mPa•s)
Specific gravity				1.26	1.46	1.67	1.67	1.23	1.01
Non-Volatile Content			%	58.0	96.3	98 or higher	98 or higher	96.2	33.0
State after curing				Rubber-like	Non-drying	Non-drying	Non-drying	Mastic	Rubber-like
Pipe pressure resistance	Initial	20A	MPa	-	-	-	-	0.49 or higher	-
		25A	MPa	0.49 or higher	0.5 or higher	-	-	-	-
		50A	MPa	0.49 or higher	-	-	-	-	-
	25°C/24h	20A	MPa	-	-	0.49 or higher	0.49 or higher	-	-
		25A	MPa	0.49 or higher	0.5 or higher	-	-	-	-
		50A	MPa	0.49 or higher	-	-	-	-	-
Chemical resistance	Mass change rate	Water		%	-1.9	-0.4	-	-	-	-
		Gas resistance	4°C*1	%	+0.10	+0.7	-	-	-	-
			20°C*1	%	+0.10	+0.2	-	-	-	(Excellent)
		Benzene*2		%	-	-33.1	-	-	-	(Excellent)
		Benzene vapor phase*2		%	-	-	-4.2	-4.2	-	-
		n-hexane*2		%	-	+3.8	-7.9	-7.9	-	-
		n-pentane*2		%	-	-	-10.1	-10.1	-	-
Removability					Normal	Excellent	Excellent	Excellent	Excellent	-
Operating temperature range (Est.)				℃	-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 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
*2: Immersion at 25°C×24h
*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%

* - : Unmeasured
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Product name			ThreeBond Tape	ThreeBond Tape (JIS-compliant products)
Characteristics		Unit		
Main component			Unbaked fluororesin (Ethylene tetrafluoride raw tape)	Unbaked fluororesin (Ethylene tetrafluoride raw tape)
Appearance			White	White
Dimensions	Thickness	mm	0.1	0.1
	Width	mm	13	13
	Length	m	5 / 15	15
Physical properties	Tensile strength	MPa	6.8	7.0 or higher
	Elongation rate	%	20 or higher	20 or higher
Flammability			Non-combustible	Non-combustible
Operating temperature range (Est.)		℃	-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 non-combustible 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.

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4100/5200 Series

Sealants for Construction

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.

■ Applicable markets

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

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.

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.

5232C

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.).

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.

4100/5200 Series

Caulking Agent

Property Table

Product name		4102	4108	5211	5222M	5232C
Characteristics	Unit					
Main component		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	min	3	8	10	60	35
Physical characteristics after curing: Hardness		-	A7	A23	A28	A21
Physical characteristics after curing: Elongation rate	%	-	900	534	400	890
Physical characteristics after curing: Tensile strength	MPa	-	1.5	1.5	0.9	6.5
Tensile shear bond strength: Iron	MPa	-	-	1.4	1.2	-
Tensile shear bond strength: Aluminum	MPa	-	-	1.5	1.2	-
Tensile shear bond strength: Acrylic	MPa	-	-	1.1	0.5	-
Tensile shear bond strength: ABS	MPa	-	-	-	-	-
Tensile shear bond strength: Hard PVC	MPa	-	-	1.0	1.1	-
Tensile shear bond strength: Glass	MPa	-	-	1.2	-	-
Tensile shear bond strength: Tiles	MPa	-	-	1.23	-	-
Tensile shear bond strength: Concrete/Tiles	MPa	-	-	-	-	-
Tensile shear bond strength: Concrete	MPa	-	-	-	-	-
Tensile shear bond strength: Wood	MPa	-	-	0.84 (cedar) 0.94 (lauan)	-	-
Operating temperature range (Est.)	℃	-	-	-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	Different colors available 5222J: Black 5222L: Gray 5222M: White 5222N: Ivory	Great adhesion to concrete

*1: White, Gray, Clear, Ivory, Black, Aluminum, Amber
*2: White, Gray, Ivory, Black

* - : Unmeasured
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Product name		5262	5263	5264B	5268
Characteristics	Unit				
Features		Primer for silicone	Primer for silicone	Primer for silicone	Primer for silicone
Applications		Concrete Wood	Plastic(s)	Metal coated surface	Stainless steel Acrylic 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	-

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For Industrial Use Only Do not use this product for household purposes

This product was developed for general industrial use. Before using this product, the user must accept the following terms:

- The technical data given herein are not guaranteed values, but examples of experimental values obtained by our specified test methods. We do not guarantee that the uses described herein do not conflict with any intellectual property right.
- Users are asked to examine whether the product is appropriate to the purpose of use and can be used safely before they use it and bear all responsibilities and hazards involved in its use. Never use the product for medical implants that may be embedded, injected or left in the body.
- We are not liable for personal injury or property damage caused by improper handling of this product. If the properties and usage of this product are unknown, never use it.
- For detailed safety information of the product, see the Safety Data Sheet (SDS). To obtain the SDS, contact our sales office or customer service center.
- Information in this technical document is subject to change at our discretion without notice.

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

Your request: