

Japan Invention Awards

*Molecular gradient double tac tape *May clean gel
Liquid crystal polymer film



[Japan] ■ Head office and factories

〒359-0011 940 Minaminagai tokorozawa-shi saitama
TEL: +81-4-2944-5151 FAX: +81-4-2944-1396

■ Shiki Office

〒352-0001 No.2 Fukushima Bldg 4A Tohoku Niiza-shi Saitama
TEL: +81-48-485-2550 FAX: +81-48-485-2551

■ Tomioka factory

〒370-2321 1280 okamoto tomioka-shi gunma
TEL: +81-274-70-2611 FAX: +81-274-70-2612

[Overseas] ■ China(Suzhou) Sales Branch

TEL: +81-6-6998-0055 FAX: +81-6-6998-0033

Contact us

URL: <http://www.kgk-tape.co.jp>
E-mail: postbox@kgk-tape.co.jp

Challenge new things 「Shunkan adhesive tape」
 KGK Chemical Corp.

Philosophy

Respect for truth and new challenges

- Keep conventional technology.
- Continue to challenge new fields.
- Create new functions.

Through the above we will fulfill our duty to continue to be a member who contributes to the evolution of society and science.

Mission statement

Multifunctional technology

Based on coating technology we will create multifunctional films such as adhesion, gas barrier, thermoplastic, thermosetting, electrical conductivity, heat conduction, water activity.

Corporate Data

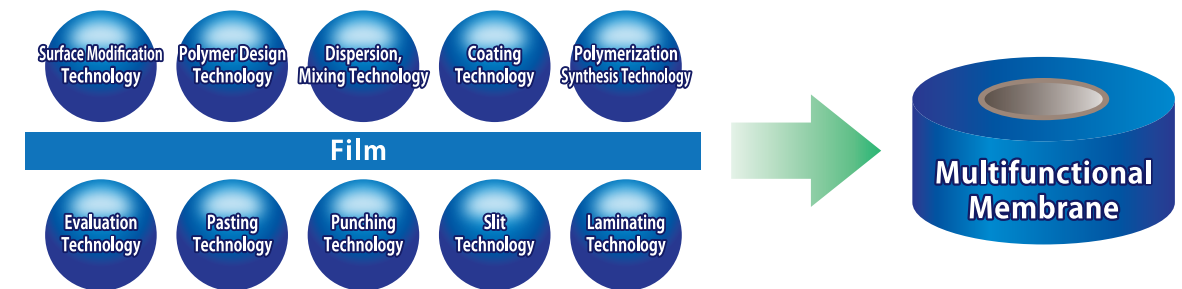
- Company Name :
KGK (KGK Chemical Corp.)
- Date of Foundation : Oct-1979
- Head Office :
359-0011 940 Minaminagai
Tokorozawa-city Saitama-pref. JAPAN
- President : Shokichi Hamano
- Number of Employees : 80 (Oct,2016)
- Paid-in Capital : 50million yen
- Our Business :
Manufacturing of adhesive tape ,
multi-functional film

Corporate history

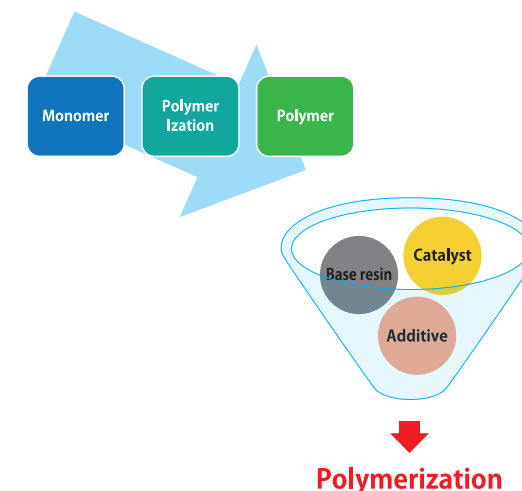
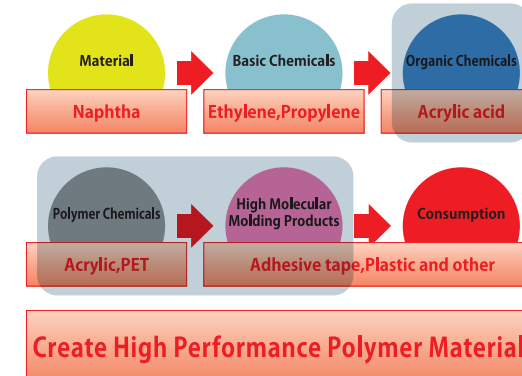
- 1979** Start production of adhesive tape (Tokorozawa factory)
- 1985** Introduction of clean room production machine
- 2001** New factory (Tomioka factory) established
- 2004** Tomioka factory expansion
- 2006** Acquired ISO 9001 · Eco Action 21
- 2009** Ministry of Education, Culture, Sports, Science and Technology Award
- 2013** Expansion of 2nd Tomioka factory
- 2014** Ministry of Economy, Trade and Industry Certified as Advanced Specific R & D Planning Company
- 2016** Acquire additional land for Tomioka factory

MULTI-FUNCTIONAL TECHNOLOGY COMPANY

We Solve Customer's Problems With Multifunctional Technology.



Our Technology Domain

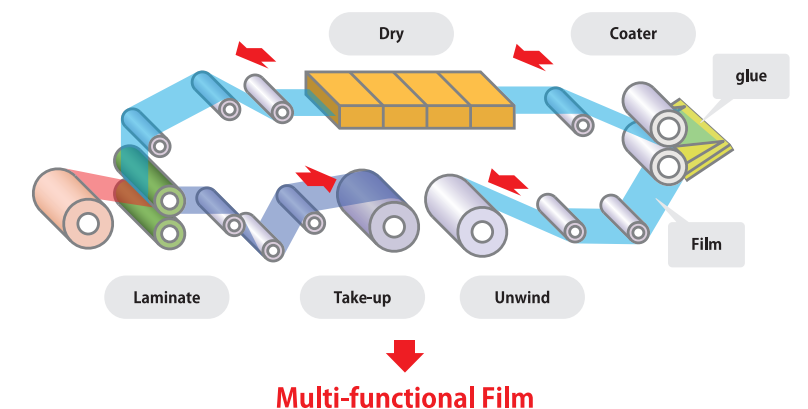


KGK started in 1979 as adhesive tape manufacturing and adhesion processing industry.

We have continued manufacturing and research and development with household electrical insulation, automobile interior use, building materials, electronic equipment, medical use, others.

Today we are trying to establish fundamental technologies to create polymeric materials with advanced functions based on monomer polymerization, polymer design and multifunctionalization technology and to lower manufacturing cost.

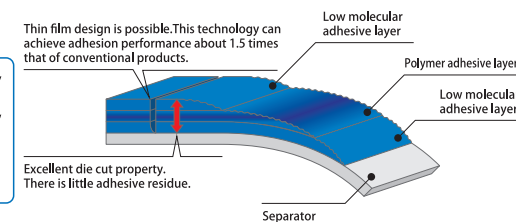
Based on that technology we will make social mission to build a comfortable environment for public safety, health and welfare



®Molecular gradient layer double tac tape

What is Molecular Gradient Layer?

Revolutionary double-sided tape which changed the conventional concept by molecular gradation. It is thin, has strong adhesive strength, high heat resistance, excellent punching properties, blocking resistance.



Structure: Three-layer gradation structure

First layer: low molecular acrylic adhesive layer

Second layers: polymer special adhesive layer

Third layers: low molecular acrylic adhesive layer

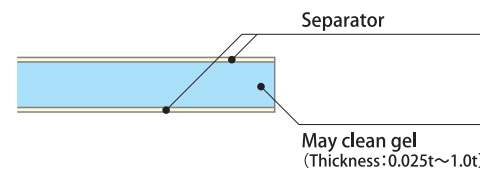
Features

- By applying gradation to the molecular weight with the same kind of resin from the center to the outside, it increases the interlayer strength and creates a very strong bonding force.
- The outer adhesive layer has selected a special low molecular weight adhesive layer that adheres well to adherends (dissimilar materials).
- This structure has a heat resistance, viscoelasticity, and adhesive strength of 1.5 to 2.0 times as compared with conventional double-sided tape, by comprehensively strongly enhancing the polymer properties of the layer and adhesion to the adherend.

®May clean gel (Junction for optical tape)

®May clean gel

It is an optical bonding tape of acrylic gel made by our proprietary technology. Acrylic bonding tape for optical gel technology are making our own. It is an optical gel with high transparency and high cohesive strength.



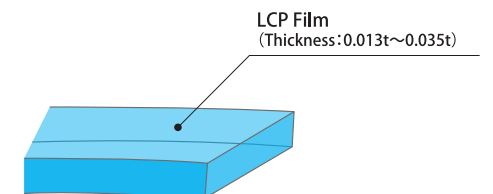
Features

Extremely high transparency. Excellent in shock absorption, Prevent glass breakage. Since it has high cohesive force, it is excellent in rework-ability and has less adhesive residue. No attack to the ITO film.

Liquid Crystal Plastic (LCP) film 「SARAS」

Characteristics of K GK LCP

K GK's special super engineering plastic ®K GK's Liquid Crystal Plastic (LCP) film is a special thermoplastic resin whose molecules align (liquid crystal state) when melted. It is an aromatic polyester resin obtained by ester linkage in a linear chain with basic structure such as parahydroxybenzoic acid.



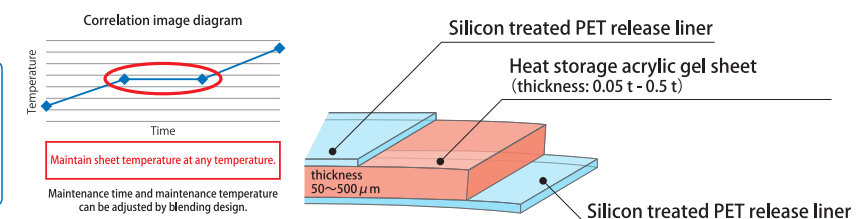
Features

The feature of LCP is heat resistance / high strength (crystallinity) which is a feature of super engineering plastics. The unique features of LCP are low moisture absorption properties, low dielectric properties at high frequencies, and high insulation properties at high frequencies. Good energy characteristics at high frequencies. The unique feature of LCP's K GK has the property that molecules are regularly aligned when melted (Amorphous condition). In other words, by selecting the solution casting method (molding using a solvent) instead of melt molding (Melt molding) in order to eliminate imbalance due to unbalanced center of gravity, suppleness and high strength characteristics can be realized. Conclusion With K GK Special solution casting method Liquid crystal polymer film made. In other words, it is Special Solution Casting Thermotropic Liquid Crystalline Polyester Film.

Heat storage / soaking gel sheet FREY

What is FREY?

Acrylic heat storage adhesive sheet mixed with heat storage filler. Maintain sheet temperature at any temperature with high transparency and high cohesive strength.



Features

- Heat storage material, To store heat in substances. It is a technology to extract heat when needed.
- Sensible heat storage method It utilizes the specific heat of the substance (the amount of heat necessary to raise the temperature of the substance).
 - Latent heat storage method ... It utilizes the heat of transition associated with the phase change of a substance. It is a technology to store and utilize transition heat as thermal energy.
 - Chemical heat storage method It utilizes heat absorption / heat generation during chemical reaction (absorption, mixing, hydration).

KGK PRODUCT APPLICATION

01 Product Line

Smart Phone・Tablet

Use	Product
Application Waterproof and fix frame and touch panel	Product Waterproof molecular gradient double tac tape



02 Product Line

Automotive

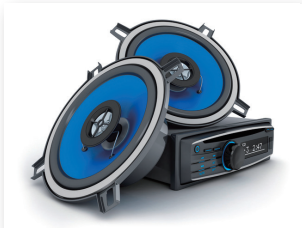
Use	Product
Application Laminate the automotive display	Product May clean gel



03 Product Line

Hi-Res Audio

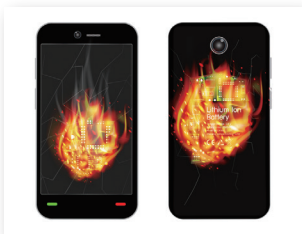
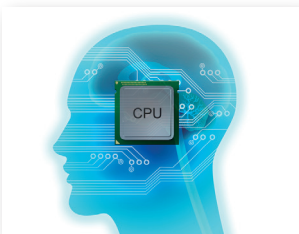
Use	Product
Application Diaphragm for speaker and microphone	Product Liquid Crystal Plastic (LCP) film「SARAS」



04 Product Line

CPU・Battery

Use	Product
Application Thermal solution for CPU and battery	Product Heat storage / soaking gel 「FREY」



®Molecular gradient layer double tac tapa

High Adhesion・Followability

Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature・Application	Max Width (mm)	Length (m)	Remarks
200 A 5	0.005	Low Molecule Acrylic Adhesive Layer High Polymer Acrylic Adhesive Layer Low Molecule Acrylic Adhesive Layer Separator	5.0	Ultra Thin,high adhesive strength. Excellent heat resistance, curved surface compliance, holding power. Good die-cut property. Fixing plate, insulation material, difficult adhesion body, high molecule polyethylene.	1000	50	BTO Double Separator Specification
200 A 10	0.01		8.0				BTO Double Separator Specification
200 A 20	0.02		9.0				BTO Double Separator Specification
200 A 30	0.03		10.0		1200	50	
200 A 50	0.05		18.0				
300 A 80	0.08	Black Low Molecule Acrylic Adhesive Layer Black High Molecule Acrylic Adhesive Layer Black Low Molecule Acrylic Adhesive Layer Separator	20.0				BTO
300 A 100	0.1		22.0				
200 A 30 B	0.03	Black Low Molecule Acrylic Adhesive Layer Black High Molecule Acrylic Adhesive Layer Black Low Molecule Acrylic Adhesive Layer Separator	9.0	*Black double tac tape with high functionality of molecule gradient membrane. Digital camera barrel part, lens surrounding, light shielding of LCD.	1200	50	BTO
200 A 50 B	0.05		15.0				

Waterproof・Chemical resistance Molecular gradient layer double tac tapa

High Adhesion・Waterproofness・Chemical Resistance

Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature・Application	Max Width (mm)	Length (m)	Remarks
300 Z 150 B / W	0.15	Low Molecule Acrylic Adhesive Layer Polymer Acrylic Adhesive Layer Low Molecule Acrylic Adhesive Layer Separator	32.0	Since the foam substrate is not used, there is no fear of flooding due to air bubbles and it is excellent in water-proof. Double tac tape with high adhesion to each resin as well as metal. Fixed / water-proof application of electronic products such as mobile phones and digital cameras. B at the end of the part number is a black tape, and W is a white tape.	1000	50	BTO
300 Z 200 B / W	0.2		36.0				
300 Z 250 B / W	0.25		39.0				
300 Z 300 B / W	0.3		44.0				
300 Z 400 B / W	0.4	Low Molecule Acrylic Adhesive Layer Polymer Acrylic Adhesive Layer High Strength Layer Low Molecule Acrylic Adhesive Layer Separator	45.0				
400 Z 150 B / W	0.15		18.5				
400 Z 200 B / W	0.2		22.5				
400 Z 250 B / W	0.25		25				
400 Z 300 B / W	0.3		28				

Heat resistant type molecule gradient layer double tac tapa

High Heat・Resistance

Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature・Application	Max Width (mm)	Length (m)	Remarks
200 Y 12.5	0.0125	Low Molecule Acrylic Adhesive Layer Heat Resistant Polymer Acrylic Adhesive Layer Low Molecule Acrylic Adhesive Layer Separator	7 (11.5)	It can withstand high temperature environment. Room temperature lamination is possible. Punching is good. Lamination of heat resistant film and motor parts.	1000	50	BTO Double Separator Specification
200 Y 30	0.03		8.5 (15)		1000	50	
200 Y 50	0.05		10 (22)				

※ The inside of () is after Heat bonding

®May clean gel

Shock Absorption・High Adhesion

Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature・Application	Max Width (mm)	Length (m)	Remarks
MGCS 50	0.5	PET Separator Gel Sheet	35	Acrylic gel sheet excellent in shock absorbing/ vibration damping / water-proof. Cushion material such as LCD・touch sensor.	500	0.5	BTO
MGCS 100	1.0	PET Separator	40				

Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature・Application	Max Width (mm)	Length (m)	Remarks
21MGCS 100	1.0	Separator Gel Sheet PET Carrier Layer Gel Sheet	31	Acrylic gel sheet excellent in shock absorbing/ vibration damping / water-proof. Cushion material such as LCD・touch sensor.	500	0.5	BTO
21MGCS 200	2.0	Separator	41				

®May clean gel				High transparency · High Adhesion			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
MGSF 2.5	0.025	<div>PET Separator</div> <div>Gel sheet</div> <div>PET Separator</div>	11.0	High transparent acrylic gel sheet. Improvement of visibility by filling the gap. Stability and reliability. Adhesive sheet for bonding optical products. It is used for bonding the touch sensor members so as not to attack metal films such as ITO.	500	100	BTO
MGSF 5	0.05		13.0				
MGSF 7.5	0.075		15.0				
MGSF 10	0.1		20.0				
MGSF 12.5	0.125		21.0				
MGSF 15	0.15		21.0				
MGSF 17.5	0.175		22.0			50	
MGSF 20	0.2		22.5				
MGSF 25	0.25		23.0				
MGSF 30	0.3		26.0				
MGSF 35	0.35		30.0				

※ () Is a value obtained by removing the light reflection loss of the interface by calculation.
※ The adherend is usually SUS, the May clean gel uses glass
※ If you have any questions please contact our sales representative.

Renesas Gel				Reworkability			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
RSG 15	0.15	PET Separator Gel Sheet PET Separator	19.0	Repairability is good. Even after sticking with its own technology, it can be peeled off. It can be repaired by stretching it with its tip. It can be used for various purposes.	500	100	BTO

Nonwoven fabric carrier double tac tape							
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
205 ER <small>[Elegance corresponding to environment]</small>	0.14	Strengthened Nonwoven Fabric	15.0	Reliable adhesion to various adherends. Remove cleanly without glue residue. Double tac tape for recycling with high breaking strength. Fixing of recycled members such as home appliances and OA equipment. VOC material is not used as a raw material.	1200	50	BTO
201	0.12	Nonwoven Fabric	15.0	It is often used for fixing industrial materials. Good adhesion, heat resistance, processability.	1000	50	BTO
201 V <small>[Elegance corresponding to environment]</small>	0.14	Nonwoven Fabric	16.0	Standard double tac tape with basic adhesive performance. It is low VOC type.	1200	50	
201 M	0.11	Nonwoven Fabric	20.0	Excellent initial tack. Good adhesion at low temperature. Used for bonding with foam material. Non toluene type.	1000	50	
201 TH	0.13	Nonwoven Fabric	21.0	Good adhesion to low polar surface such as PP. Fixing the nameplate of metal or resin.		50	
207	0.25	Nonwoven Fabric	14.0	Joining to rough surface.		30	

Foam carrier double tac tape							
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
247 200	0.20	Special Foam	20.5	Thin film foam carrier double tac tape. High adhesive strength. Excellent waterproof property due to low foaming density. Fixing and waterproofing of electronic products.	1000	50	BTO
2400	0.75	Special Foam	25.0	It is often used for fixing industrial materials. Good adhesion, heat resistance, processability.		11	
2403	0.45	Special Foam	25.0	Standard double tac tape with basic adhesive performance. It is low VOC type.		33	
241 B	0.70	Special Foam	21.0	Excellent initial tack. Good adhesion at low temperature. Used for bonding with foam material. Non toluene type.		15	

Strong adhesive PET carrier double tac tape				High Adhesion · Good Workability			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
400 P 10	0.01	Acrylic Adhesive Layer PET Carrier Layer Acrylic Adhesive Layer Separator	6.0	Good Punching processability due to PET substrate. Thin film and strongly adhesive double-sided tape. Good followability to curved surfaces is good. Fixing the home appliance parts, the exterior parts, LCD members, nameplates ,FPC, Smart phones. B at the end of the part number is a black tape, and W is a white tape.	1200	50	BTO
400 P 30	0.03		10.0				
400 P 50	0.05		15.0				
400 P 80	0.08		20.0				
400 P 100	0.1		20.5				

Conductive tape				High Conductivity				
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Volume Specific Resistivity (Ω / cm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
SWEC 60 C	0.06	Conductive acrylic adhesive layer	9.0	< 1	An adhesive tape with acrylic conductive adhesive applied to soft aluminum foil. Excellent initial tack. Follows a curved surface. It is excellent in conductivity. Static electricity removal of Smart phone and PC. Electromagnetic wave shield of FPC.	500	50	Make-to-order production
		Soft aluminum foil carrier						
		Conductive acrylic adhesive layer						
		Separator						

Electromagnetic wave shielding tape				Electromagnetic Wave Shielding			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
500 E	0.09	Aluminum foil	19.0	High adhesion. Aluminum foil adhesive tape. Electromagnetic wave shield. Cooling of the refrigerator.	1000	50	No shiny · glossy
501 E		Acrylic adhesive layer Separator					

Heat thermal conductive gel sheet "Tathaga"				High Thermal Conductivity				
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Thermal Conductivity (W / m / K)	Feature · Application	Max Width (mm)	Length (m)	Remarks
KBS 30	0.3	PET Separator	5.0	1.3	High thermal conductive acrylic gel sheet. It has high thermal conductivity. Good adhesion, Shock absorption, Durability. It is suitable for thermal conductivity and fixing of electronic parts.	500	20	BTO
HTAG 30		Thermal Conductive Acrylic Adhesive Layer	4.0	3.0				

※ Measurement : GHP ASTM E 1530

※ Measurement : GHP ASTM E 1530

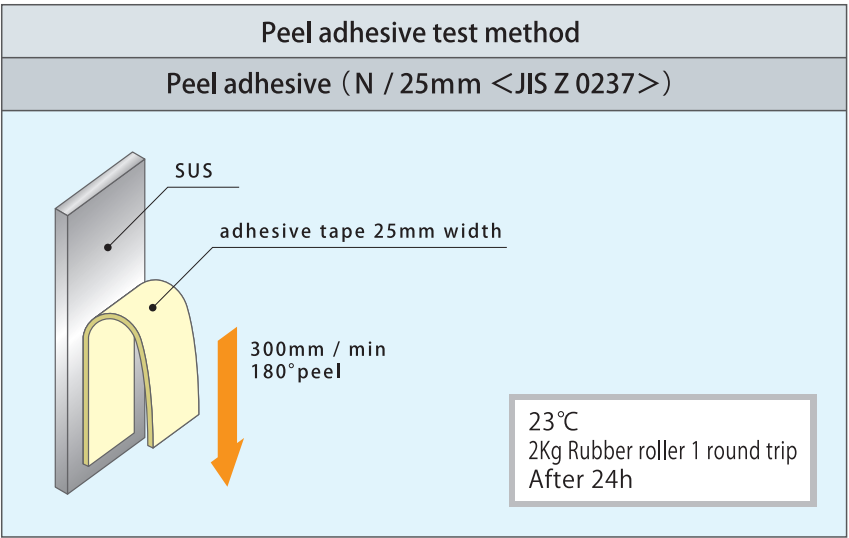
Heat storage / soaking gel sheet FREY				Heat absorption · Heat cushioning · Heat uniformity				
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Melting Point (℃)	Feature · Application	Max Width (mm)	Length (m)	Remarks
FREY 10	0.1	PET Separator Thermal Storage Gel PET Separator	5.0	40℃ (FREY)	Acrylic heat storage adhesive sheet mixed with heat storage filler. Maintain sheet temperature at any temperature. It is suitable for thermal measures and fixing of electronic parts.	500	50	BTO
FREY 50	0.5		10.0				0.5	
FREY K10	0.1		5.0	60℃ (FREY K)			50	
FREY K50	0.5		10.0				0.5	

Heat resistant film silicone adhesive tape				High Heat Resistance · Low Adhesive Residue			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
171	0.065	Polyimide Film Silicone Adhesive Layer Separator	0.1	High heat resistant masking tape. The adhesive residue is extremely small at high temperature. It is easy to remove again. Surface protection under high temperature environment (171). Parts fixation (172) Masking of glass and wafers. Fixing lead frame.	450	50	BTO
172	0.040		3.0				

Heat resistant film Acrylic adhesive tape				High Heat Resistance · Siloxane Free			
Product	Thickness (mm)	Structure	Peel Adhesive (N / 25 mm)	Feature · Application	Max Width (mm)	Length (m)	Remarks
178	0.0875	Polyimide Film Heat-resistant Acrylic Adhesive Layer Separator	2.5 (4.5)	Heat resistant polyimide · Nylon film Acrylic adhesive tape Excellent adhesive properties even at high temperature. Fixing and protection of electronic components and semiconductor chip members.	480	100	BTO
179	0.0125		3 (5)				
179 X	0.01	Nylon Film Heat-resistant Acrylic Adhesive Layer Separator	3.5			50	
178 N	0.2375		1.0				

※The inside of () is after Heat bonding
※The adherend is usually SUS, the May clean gel uses glass
※Please ask the sales staff about detailed specifications.

Super engineering plastic film Liquid Crystal Plastic(LCP)film「SARAS」				High Heat Resistance · High Strength · Flexibility			
Product	Thickness (mm)	Structure	Heat Resistant (°C)	Feature · Application	Max Width (mm)	Length (m)	Remarks
SAR 13	0.013	LCP film (brown)	280 °C	Super engineering plastic film. Melting point of 280°C. Good low hygroscopicity, high gas barrier properties, high insulating properties, low shrinkage, 3-D moldability and folding processability.	300	30	BTO
SAR 20	0.02						
SAR 35	0.035						



Caution

- The data in our catalog is not a guaranteed value.
- Descriptions and specification values may be changed without notice.
- Sales may be canceled without notice.
- Please use after confirming that it meets each application.
- Please remove the oil, moisture, dirt, etc adhering to the surface of the object to be pasted cleanly and stick it so that it does not touch the adhesive surface.
- Please be sure to check stock status at the time of ordering.
- It is recommended that the application temperature be around 20°C (68°F).
- Please apply sufficient pressure after pasting.
- There may be connection points in the product.

Storage condition

Products should be kept indoors to avoid condensation and direct sunlight.
It is recommended that it be stored vertically under the following temperature and humidity conditions.
Temperature : 10 to 25 °C (50 to 77°F) Humidity : 30 to 70%

Warranty

- We can not control the process conditions of each customer. Therefore, we can not guarantee process-dependent characteristics and quality.
- Although the results of our technical data are based on actual data, we do not guarantee that customers will obtain equivalent results when using that product.
- Seller's obligation is only to replace the product proved to be defective and we are not responsible for any injuries or damage resulting from incomplete handling of the product. Please check before using whether it is suitable for use.

Notes for safety

- When handling products, individual differences may cause allergic symptoms such as skin irritation, rash, headache due to odor, discomfort etc.
- Therefore work in a ventilated environment. Or wear appropriate protective equipment such as gloves, masks, protective eyewear.
- Our products also have flammable materials. Please comply with laws and keep it or discard it.
- Please wear gloves so as not to cut your hand at the edge of the film.
- Please do not leave the peeled separator on the floor because it is slippery.