KOMPA

Organic Silicone Solutions for New Energy Power/ Energy Storage Battery Systems

KOMPA

江苏康北新材料有限公司

JIANGSU KOMPA NEW MATERIAL CO., LTD.

Add：No. 35 Ziwei Road, Zhonglou District, Changzhou City, Jiangsu Province
Tel：+86-18961222025
E-mail：kompasi@163.com
www.kompsisiliconematerial.com

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JIANGSU KOMPA NEW MATERIAL CO., LTD. 坚如磐石

Company Profile

Jiangsu KOMPA New Materials Co., Ltd. was established in 2018 with a registered capital of 70 million RMB. The factory covers an area of more than 25,000 square meters and is located in the Zhonglou District Economic Development Zone , Changzhou City. It has a superior geographical location and convenient transportation.

The company focuses on the research, development, and application of silicone-based new materials. The main products are silicone foam, battery core insulation materials, micro-foamed silicone foam, solid silicone sheet, ceramic solid silicone, thermal pad, silicone potting glue, ceramic fireproof silicone tape, thermal conductive structural adhesive and other silicone products.

Product Application Fields

The company's main R&D directions are damping and thermal conductivity of electronic components; insulation and shielding of power systems; shock absorption and flame retardancy of rail transit; thermal insulation and sealing in the new energy field; and safe material applications in the medical industry.

The products are mainly used in new energy vehicles, energy storage, rail transit, aircraft, charging piles, electrical control cabinets and other fields, providing new materials for lighting, HVAC equipment, drones, home appliances, outdoor appliances, 5G communications and other industries.

R&D Collaboration

Collaborating with distinguished engineers, specialists, and leading institutions including Harbin Institute of Technology and Beijing University of Chemical Technology, we persistently advance silicone applications through continuous dedication. Our comprehensive silicone solutions drive breakthroughs and innovations in industrial material science.

With over 20 authorized patents, state-of-the-art testing facilities, and exceptional R&D teams, we guarantee high-quality certified products for all users.

2W
Facility area: 25,000+ square meters

20+
Core patents: 20+

20%
3 consecutive years of >20% growth

30+
Core R&D team: 30+ members

1B
Annual revenue exceeding 100 million CNY

Certificate:

Quality Management System :ISO9001, ISO14001, ISO45001, and IATF16949;
Technical Compliance Certificate: EN45545-2, UL94-V0, and NSF61;
Safety Certificate: UL157-2007 Gaskets and Seals and CE;
Green Environmental Certificate: ROHS, PAHS, and REACH.

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Production Capacity

- Facility area: 25,000+ square meters.
- Die-cutting workshop: 8,000+ square meters.

Production Lines:
- 6 silicone foam production lines.
- 2 thermal pad production lines.
- 2 flame-retardant silicone sheet production lines.
- 2 ceramic fireproof silicone tape production lines.

Annual Output:
- 2.5 million square meters of silicone foam.
- 500,000 square meters of solid silicone sheet.
- 1,000 tons of thermal pad.

R&D Capabilities

R&D Strength
- Over 10 in-house R&D professionals, graduated from renowned domestic universities with expertise in polymer materials, chemical engineering, and related disciplines.
- Independent R&D and production capabilities, supported by advanced manufacturing processes and customized product solutions.
- On-site laboratory equipped with state-of-the-art testing instruments for precise material analysis.
- Testing covers physical properties, aging performance, chemical resistance, optical characteristics, and more.

New Product Development
- 3–5 new products developed annually.
- Over 20 national patents granted.

Product Series

Silicone Foam
Acts as thermal insulation and cushioning between battery cells to inhibit thermal runaway and delay thermal incidents.

Solid Silicone Sheet
Harder texture, ideal for general industrial applications.
Resistant to extreme temperatures, tearing, and most liquids.

Thermal Insulation Silicone Foam
A critical functional material in battery packs, widely used in new energy fields (e.g., EVs, energy storage systems) to enhance safety and stability.

Ceramic Fireproof Silicone Tape
Transforms into a ceramic-like structure under high temperatures, providing flame retardancy, thermal insulation, and fire resistance.

Thermal Pad
Fills air gaps between heat-generating components and heat sinks, adapting to uneven surfaces with flexibility and elasticity.

Custom Solutions
Exceptional compression resilience to accommodate cell expansion, buffer spacing between cells, and compensate for dimensional tolerances during assembly.

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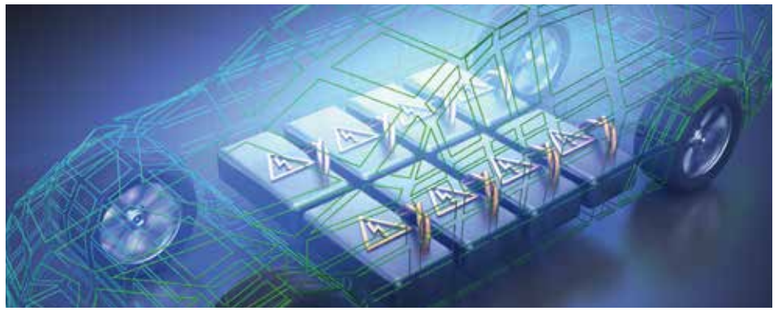
Application Fields

New Energy Vehicle Lithium Batteries

Sealing, dustproofing, anti-aging, and insulation for battery packs.



Aerospace

Friction buffering for aircraft components, vibration damping, and noise reduction for seats and flooring.

High-Speed

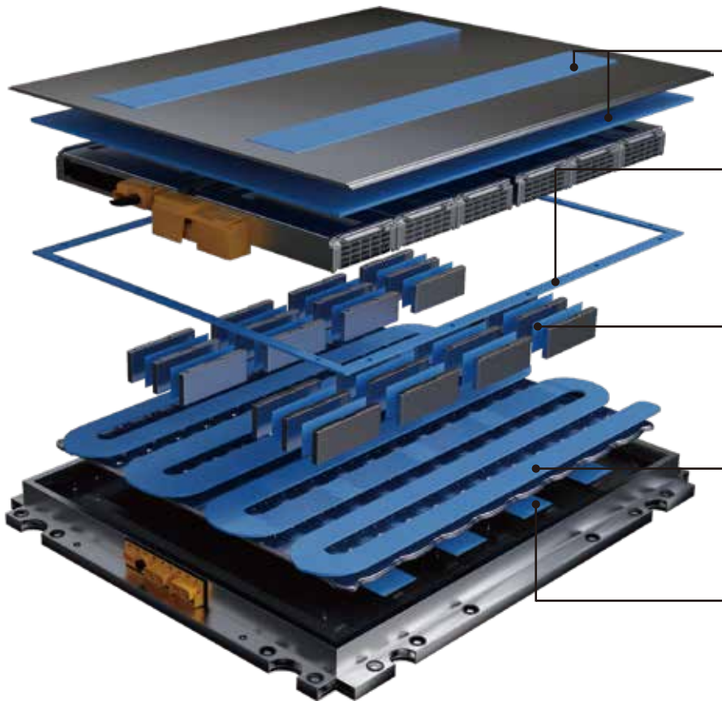
Thermal insulation, noise reduction, and shock absorption for carriages, flooring, and seats.

Electronics & Communications

Sealing and protection for outdoor communication and lighting equipment cabinets, offering flame retardancy, insulation, fire resistance, and shielding.

Honors and Qualifications

Application Scenarios



EV High-Voltage Distribution Boxes:

Waterproofing, sealing, dustproofing, and cushioning.

5G Equipment/ Base Stations

Waterproofing, electromagnetic shielding, electrical insulation, and aging resistance.

Energy Storage Batteries

Waterproofing, vibration damping, cushioning, and flame retardancy between cells.

Photovoltaic Inverters

Waterproofing, flame retardancy, sealing, UV resistance, and aging resistance.

Battery Packs

Sealing rings for upper/lower covers, cushioning between cells.

Liquid Cold Plates

Elastic support system for optimize thermal performance.

Charging Piles

Cabinet sealing, touchscreen waterproofing.

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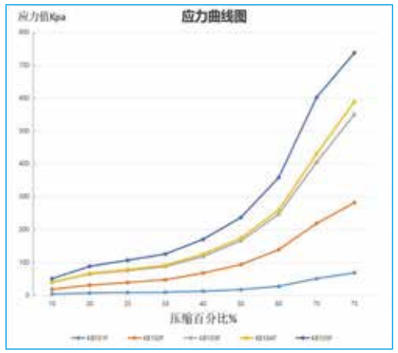
Product Overview

Silicone Foam KB100F Series

Silicone foam is an environmentally friendly foaming material made from addition-cured polyorganosiloxane, featuring a fine and uniform cell structure. Compared to foams made from traditional materials, this material offers advantages such as non-toxicity, environmental friendliness, excellent compression set resistance, superior creep resistance, good insulation, and flame retardancy. Additionally, it can withstand extreme temperatures, UV radiation, and ozone, while demonstrating excellent resistance to mechanical fatigue. These properties make it an ideal material for various high-performance applications requiring shock absorption, cushioning, sound insulation, protection, electrical insulation, and flame retardancy.



Key Features

1、Low compression set, high creep resistance.
2、Excellent flame retardancy, low smoke density and toxicity, high oxygen index.
3、High electrical insulation.
4、Wide operating temperature range, capable of continuous operation from -60°C to 200°C.
5、Environmentally friendly with zero VOC emissions.

Applications

1、Used for various damping and cushioning purposes in assembly lines of aerospace, high-speed rail, automotive, energy storage, and other industries;
2、Used for various sealing applications in assembly lines of new energy enclosure PACK, electrical cabinets, and other equipment;
3、Used for thermal insulation, flame retardancy, low VOC, sound insulation, electrical insulation, protection, and other functional requirements.

Product Model	KB101FS	KB101F	KB102F	KB102FH	KB103F	KB104F	KB105F	Testing Standard
Color	White/Black/Gray/Red	White/Black/Gray/Red	White/Black/Gray/Red	White/Black/Gray/Red	White/Black/Gray/Red	White/Black/Gray/Red	White/Black/Gray/Red	Visual Inspection
Thickness(mm)	1mm-30mm	1mm-30mm	0.8mm-30mm	0.8mm-30mm	0.5mm-30mm	0.5mm-30mm	0.5mm-30mm	GB/T 17794-2021
Density(g/cm³)	0.16±0.03	0.19±0.03	0.24±0.03	0.28±0.03	0.37±0.03	0.40±0.03	0.50±0.05	ASTM D1056
Tensile Strength(KPa)	⩾80	⩾100	⩾120	⩾150	⩾300	⩾350	⩾400	ASTM D412&GB/T 528-2009
Elongation at Break(%)	⩾80	⩾80	⩾80	⩾80	⩾80	⩾90	⩾90	ASTM D412&GB/T 528-2009
25% Compression Set Stress(KPa)	15±10	20±10	30±10	35±10	60±10	90±25	110±25	ASTM D1056
100℃/22h Compression 50%	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	ASTM D1056
Water Absorption Rate(%)	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	⩽5.0	ASTM D570
Environmental Testing	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	REACH/ROHS 2.0
Operating Temperature (℃)	-60~200	-60~200	-60~200	-60~200	-60~200	-60~200	-60~200	ASTM D1056
Flame Retardancy	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	UL94-V0/EN45545
Flame Spread Index	＜35	＜35	＜35	＜35	＜25	＜25	＜25	ASTM E162
Smoke Density	＜50	＜50	＜50	＜50	＜50	＜50	＜50	ASTM E662-2005
Toxicity Emission Rating	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	Qualified	SMP-800C
Dielectric Strength (KV/mm)	⩾3.0	⩾3.0	⩾3.0	⩾3.0	⩾3.0	⩾3.0	⩾3.0	ASTM 149
Volume Resistivity (Ω·cm)	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	ASTM D257&GB/T 1695-2005
Thermal Conductivity (W/(m.k))	0.05	0.05	0.06	0.06	0.07	0.07	0.09	ASTM C518
Standard Width	500mm/1000mm	500mm/1000mm	500mm/1000mm	500mm/1000mm	500mm/1000mm	500mm/1000mm	500mm/1000mm	GB/T 17794-2021

Notes:

Model Number Coding Rules——KB102F-3GA									
KB	1	02	F	3	Color	G	Gray	F	A
						W	White		
						B	Black		
						R	Red		
KOMPA Abbreviation	Product Serial Number	Product Density	Sponge Foam	Thickness				Protective Film	Adhesive Backing

Notes:

1、Customized low density (density < 0.18 g/cm³) or high density (density ⩾ 7.0 g/cm³), ultra-thin (thickness ⩽ 1 mm) or ultra-thick (thickness ⩾ 20 mm);
2、Provide single-sided or double-sided pressure-sensitive adhesive backing for bonding surfaces with different interfaces;
3、Offer single-sided or double-sided lamination to maintain shape stability for die-cut products;
4、Maximum width: 1200 mm, minimum thickness: 0.5 mm, maximum thickness: 20 mm;
5、Foam silicone dimensional tolerance: Complies with **GB/T 18944.1-2003** (*Cellular polymeric materials, sponge and porous rubber products — Permissible dimensional tolerances*).

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Ceramic Silicone Foam KB1010CF Series

The Ceramic Silicone Foam KB1010CF Series is a rigid silicone foaming material made from addition-cured polyorganosiloxane, featuring a fine and uniform cell structure. As an environmentally friendly polymer material, it is designed at the material level to offer superior performance compared to ordinary silicone foams. In addition to the excellent properties of traditional silicone foams such as high resilience, low compression set, environmental safety, electrical insulation, and flame retardancy, this product further enhances thermal insulation, fire resistance, ablation resistance, and creep resistance.

Product Model	KB1012CF	KB1013CF	KB1014CF	KB1015CF	Testing Standard
Color	Black/Gray	Black/Gray	Black/Gray	Black/Gray	Visual Inspection
Thickness(mm)	0.8-30	0.5-30	0.5-30	0.5-30	GB/T 17794-2021
Density(g/cm³)	0.24±0.03	0.37±0.03	0.40±0.03	0.50±0.05	ASTM D1056
Tensile Strength(KPa)	⩾120	⩾300	⩾350	⩾400	ASTM D4129
Elongation at Break (%)	⩾80	⩾80	⩾90	⩾90	ASTM D412
25% Compression Set Stress(KPa)	30±10	60±10	90±25	110±25	ASTM D1056
100℃/22h Compression 50%	⩽5.0	⩽5.0	⩽5.0	⩽5.0	ASTM D1056
Water Absorption Rate(%)	⩽5.0	⩽5.0	⩽5.0	⩽5.0	ASTM D570
Environmental Testing	Qualified	Qualified	Qualified	Qualified	REACH/ROHS 2.0
Flame Retardancy	Qualified	Qualified	Qualified	Qualified	UL94-V0/EN45545
Flame Spread Index	<35	<25	<25	<25	ASTM E162
Smoke Density	<50	<50	<50	<50	ASTM E662-2005
Toxicity Emission Rating	Qualified	Qualified	Qualified	Qualified	SMP-800C
Dielectric Strength (KV/mm)	⩾3.0	⩾3.0	⩾3.0	⩾3.0	ASTM 149
Volume Resistivity (Ω·cm)	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	⩾1.0*10¹⁴	ASTM D257
Thermal Conductivity (W/(m.k))	0.06	0.07	0.07	0.09	ASTM C518
Standard Width	500/1000	500/1000	500/1000	500/1000	GB/T 17794-2021

Notes:

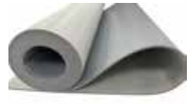
Model Number Coding Rules——KB1013CF-3GA									
KB	1	013	CF	3	Color	G	Gray	Single-sided Lamination	F
KOMPA Abbreviation	Primary Product ID	Sub-series ID	Ceramic Foam	Thickness		B	Black	Double-sided Lamination	DF

Key Features:

1、Low compression set and high creep resistance;
2、Excellent thermal insulation performance to delay thermal propagation between battery cells;
3、Ceramicizes at temperatures above 600°C to form a hard ceramic shell with ablation resistance;
4、Wide operating temperature range, capable of continuous operation from -60°C to 200°C.

Applications:

1、Primarily used for thermal insulation and fire prevention between battery cells;
2、Applied in cushioning and thermal insulation for unmanned aerial vehicles (UAVs), aerospace, and high-speed rail sectors.



Tear-Resistant Silicone Foam KB100FT Series

The KB100FT tear-resistant foam material is suitable for mechanical application that require high strength and deformation tolerance at the same time. The KB100FT foam material has a glass fiber base material layer, which is directly bonded to our KB100F foam during the processing. This glass fiber layer has wear-resistant and anti-tear properties, and can play the role of flexibly supporting the base material during mechanical installation.

Product Model	KB102FT	KB103FT	Testing Standard
Color	Gray/White	Gray/White	Visual Inspection
Thickness(mm)	0.8-30	0.5-30	GB/T 17794-2021
Density(g/cm³)	0.25±0.05	0.40±0.05	ASTM D1056
Tensile Strength(KPa)	⩾6.0	⩾6.0	ASTM D4129
Fiberglass-to-Silicone Foam Bonding Performance	Qualified	Qualified	Internal Standards
100℃/22h Compression 50%	⩽5.0	⩽5.0	ASTM D1056
Water Absorption Rate(%)	⩽5.0	⩽5.0	ASTM D570
Environmental Testing	Qualified	Qualified	REACH/ROHS 2.0
Flame Retardancy	Qualified	Qualified	UL94-V0
Volume Resistivity (Ω·cm)	⩾1.0*10¹³	⩾1.0*10¹³	ASTM D257

Notes:

Model Number Coding Rules——KB103FT-3B									
KB	1	02	TF	3	Color	G	Gray	F	A
KOMPA Abbreviation	Primary Product ID	Product Serial Number	Tear Foam	Thickness		B	Black	Protective Film	Adhesive Backing

Key Features:

1、The product width is 500mm or 1000mm.
2、It has high anti-tear strength and is easy to bend.
3、It is composed of KB100F series foam materials directly bonded to the glass fiber base material layer.

Advantages:

1、Withstand harsher environments.
2、Provides good tear resistance strength.
3、Provides flexible and sturdy mechanical support for installation.

Product Specifications:

Rolls: The standard width is 500mm or 1000mm. Customization according to customer requirements is acceptable, and die-cutting can be carried out according to customer drawings.
Backing Adhesive Service: Without backing adhesive, single-sided or double-sided backing adhesive is available.

Customized products:

1. Maximum width is 1200 mm, minimum thickness is 0.5 mm, maximum thickness is 30 mm, standard width is 1000 mm and 500 mm;
2. Single-sided or double-sided pressure-sensitive adhesive backing is provided to facilitate bonding of surfaces with different interfaces;
3. Single-sided or double-sided lamination is provided to keep the die-cut products in shape;
4. Dimension tolerance: in accordance with GB/T18944.1-2003 dimensional tolerances for polymer porous elastic materials, sponges and porous rubber products.

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Micro-foamed Silicone Foam KB1020MF

The KB1020MF silicone micro-foam is a micro-foamed material that combines lightweight properties with high strength. Featuring adjustable cell expansion ratios, this product is widely used in industries requiring specialized compression stress performance.

KB1020MF silicone foam is eco-friendly, non-toxic, and odorless. It delivers fire resistance and flame retardancy with exceptional low smoke density and

Product Model:KB1020MF-DF			
Item	Unit	Nominal Value	Testing Standard
Color	——	Black/Gray	Visual Inspection
Thickness	mm	0.5-5.0	Thickness Specification
Density	g/cm^3	0.6-1.2	ASTM D1056
Tensile Strength	KPa	⩾400	ASTM D412
Elongation at Break	%	⩾120	ASTM D412
25% Compression Set Stress	KPa	⩾200	ASTM D1056
Volume Resistivity	Ω·cm	10^{13}	ASTM D149
Flame Retardancy	/	V0	UL-94
Thermal Conductivity	W/(m·k)	⩽0.2	ASTM C518

Notes:

Model Number Coding Rules——KB1020MF-2B									
KB	1	020	MF	2	Color	G	Gray	Single-sided Lamination	D
KOMPA Abbreviation	Primary Product ID	Sub-series ID	Slight Foam	Thickness		B	Black	Double-sided Lamination	DF

Applications:

Cushioning and shock absorption between square cells of power batteries in new energy vehicles; shock absorption, cushioning and lamination in the power

Storage and Transportation: Store in the original packaging at room temperature, keep away from open flames. Handle and transport it as general chemicals.

Product Specifications:

Rolls: The standard width is 500mm or 1000mm. Customization according to customer requirements is acceptable, and die-cutting can be carried out according to customer drawings.

Backing Adhesive Service: Without backing adhesive, single-sided or double-sided backing adhesive is available.

Thermal Insulation silicone Foam KB1047HIF

KB1047HIF insulation foam utilizes a modified polymer matrix integrated with multiple thermal barrier fillers to form a multi-layered structure. These fillers feature ultra-low thermal conductivity, creating effective heat-blocking barriers within the foam that significantly impede thermal transfer. Simultaneously, they enhance the foam's mechanical properties by improving compressive strength and abrasion resistance.

Engineered for application-specific optimization, KB1047HIF can be customized to balance thermal insulation, lightweight characteristics, and mechanical strength - delivering optimal thermal management and comprehensive performance tailored to distinct operational requirements.

The foam is environmentally compliant, non-toxic, and odorless. It exhibits fire resistance and flame retardancy with exceptional low smoke density and toxicity. Additional properties include outstanding weather resistance (UV/ozone resistance), thermal stability across extreme temperatures, and superior electrical insulation performance.

Product Model:KB1047HIF			
Item	Unit	Nominal Value	Testing Standard
Color	——	Black/White	Visual Inspection
Thickness	mm	0.8~3.0	Thickness Specification
Density	g/cm^3	0.6-0.9	ASTM D1056
Tensile Strength	KPa	⩾400	ASTM D412
Elongation at Break	%	⩾120	ASTM D412
Volume Resistivity	Ω·cm	10^{13}	ASTM D149
Flame Retardancy	/	V0	UL-94
Thermal Conductivity	W/(m·k)	⩽0.2	ASTM C518
Thermal Insulation	Hot/Cold Surface Temperature Differential ≈250°C		

Notes:

Model Number Coding Rules——KB1047HIF						
KB	1	047	HIF	Color	B	Black
KOMPA Abbreviation	Primary Product ID	Sub-series ID	Heat - insulating Foam		W	White

Applications:

Cushioning and shock absorption between square cells of power batteries in new energy vehicles; shock absorption, cushioning and lamination in the power industry.

Storage and Transportation: Store in the original packaging at room temperature, keep away from open flames. Handle and transport it as general chemicals.

Product Specifications:

Rolls: The standard width is 500mm or 1000mm. Customization according to customer requirements is acceptable, and die-cutting can be carried out according to customer drawings.

Backing Adhesive Service: Without backing adhesive, single-sided or double-sided backing adhesive is available.

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Solid Silicone Sheet KB3000S Series

KB3000S Solid Silicone Sheets are continuously manufactured through calendering processes. Their exceptional heat and chemical resistance enables broad applicability. These sheets deliver long-term service at 180°C, withstand 200°C+ environments for weeks while retaining elasticity, and endure instantaneous exposure exceeding 300°C.

To enhance toughness and tensile strength, composite versions incorporate fabric reinforcement cores including: Polyester fabric，Nylon mesh，Fiberglass cloth，PTFE (Teflon®) fabric.

Product Model	Standard Type KB3100S	Flame-retardant Type KB3200S	Cryogenic Type KB3300S	High-temperature Type KB3400S	Ceramifiable Type KB3500CS	Testing Standard
Flame Retardancy	/	V0/HF-1	/	/	V0/HF-1 Surface Ceramification	UL-94
Hardness Shore A	20-75	30-75	30-75	30-75	30-75	ASTM D2240
Tensile Strength (MPa)	⩾5.0	⩾2.0	⩾3.0	⩾3.0	⩾2.0	ASTM D412
Elongation at Break (%)	⩾200	⩾200	⩾200	⩾200	⩾200	ASTM D412
Density(g/cm³)	1.1±0.5	1.4±0.1	1.1±0.1	1.1±0.1	1.6±0.1	ASTM D1056
Temperature Resistance (℃)	-55~200	-55~200	-70~220	-55~280~350	No cracking observed after 30 minutes at 1000℃	ASTM D412
Environmental Testing	Qualified					ROHS2.0/REACH
Specifications (mm)	0.5-8.0					ASTM D347
Color	Red, Black; Other colors customizable.					Visual Inspection
Surface Treatment	Glossy finish, Matte finish, Textured (fabric-like) finish.					Visual Inspection
Base Material	Polyester fabric, Nylon fabric, Fiberglass fabric, PTFE-coated fabric (e.g., Teflon®), etc.					Visual Inspection
Note: The above specifications are for reference only. Final parameters shall be confirmed by actual samples or mutually agreed standards.						

Product Characteristics:

1、Electrical properties: When it is affected by moisture, water, or an increase in temperature, its electrical properties change slightly. Even if a short - circuit occurs, the generated carbon dioxide is still an insulator, which ensures the continuous operation of electrical equipment. Therefore, it is suitable for manufacturing wires, cables, and lead - in wires.

2、Excellent physiological stability: It can withstand repeated harsh disinfection conditions. It has good resilience and low permanent deformation (not more than 50% after 48 hours at 200℃), and its breakdown voltage is (20 - 25 KV/mm).

3、Good solvent resistance: It has good stability at room temperature against aliphatic, aromatic, and chlorinated hydrocarbon solvents, various petroleum - based fuel oils, hydraulic oils, and some synthetic oils, such as ester - based lubricating oils and silicone ester hydraulic fluids.

Applications:

It can work in environments with low and high temperatures and in oil media. It can also be used as a shock-absorbing and energy-absorbing material for new energy battery packs.

Flame - Retardant Silicone Sheet KB3200S Series

The Kompa solid silicone sheet KB3200S series is a general - purpose flame - retardant silicone rubber sheet. It has a harder texture and is very suitable for general - purpose industrial applications.

Product Model	KB3230S	KB3240S	KB3250S	KB3260S	KB3270S	Testing Standard
	Black/Gray/White/Custom Colors					Visual Inspection
Thickness (mm)	0.1-8.0					ASTM D374
Hardness Shore A	30±5	40±5	50±5	60±5	70±5	GB/T531.1-2008
Density(g/cm³)	1.4±10%					GB/T6343-2009
Tensile Strength (MPa)	⩾3.0	⩾3.5	⩾5.0	⩾5.0	⩾5.0	ASTM D412
Elongation Rate (%)	⩾200					ASTM D412
Volume Resistivity Ω·cm	$\geqslant 10^{13}$					ASTM D257
Voltage Resistance (mA)	⩽1.0					3000V DC 60s
Flame Retardancy	V0					UL-94
Temperature Range (°C)	-60~200					SAE J-2236
Environmental Testing	Qualified					ROHS&REACH&ELV
Surface Treatment	Glossy Finish、Matte Finish、Satin Finish、Textured Finish、Fabric Texture Finish					Visual Inspection
Specifications(mm)	Broad Width 500/1000					ASTM D347
Note: The above specifications are for reference only. Final parameters shall be confirmed by actual samples or mutually agreed standards.						

Key Features:

1、Low compression set and high creep resistance.

2、Excellent flame - retardancy, low smoke density and toxicity, and high oxygen index.

3、High insulation performance.

4、Wide operating temperature range, which can operate continuously from -60°C to 200°C.

5、Good weather resistance (resistant to ultraviolet rays, ozone, and weathering), with a long service life.

6、Environment - friendly, non - toxic, and odorless.

Applications:

1、Cushioning and shock absorption between square cells of power batteries in new energy vehicles.

2、Cushioning, shock absorption and dust prevention between components of mechanical or electronic devices.

Remarks:

The maximum width is 1200mm, the minimum thickness is 0.1mm and the maximum thickness is 8mm.

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Ceramic fireproof silicone tape KB201C Series

The KB201C insulating Ceramic fireproof silicone tape is a silicone - based composite material developed by KOMPA New Materials that can be ceramized at high temperatures. When this product is burned at high temperatures, its surface can be transformed into a "ceramized" hard solid, thus playing a very good role in flame - retardancy, heat insulation, and fire resistance. In order to improve the mechanical properties and the temperature resistance to burning through of this material, modified glass fiber cloth is selected as the substrate. On the premise of ensuring the bonding strength, the ceramic - silicon material can be coated on the glass - fiber - based substrate on one side or both sides, which plays the role of shock absorption, fire ablation resistance, and high - temperature insulation.

Product Model	KB201CS	KB201CD	Testing Standard
	Single-sided Lamination	Double-sided Lamination	
Composite Materials	Fiberglass Reinforcement		/
Thickness(mm)	0.2~3.0		ASTM D374
Density(g/cm³)	1.3~1.8		ASTM D792
Hardness (Shore A)	60±10		ASTM D2240
Tear Strength(KN/m)	⩾10		GB/T-529-2008
Tensile Strength(MPa)	⩾18		ASTM D412
Flame Retardancy	VTM-0或V-0		UL94
Thermal Conductivity (W/(m·k))	⩽0.4		ASTM E1461
Water Absorption Rate(%)	⩽3%		GB/T 1034-2008
Operating Temperature (℃)	-60~220		SAEJ -2236
Volume Resistivity (Ω·cm)	10^{14}		ASTM D257
Volume Resistivity at 800°C (Ω·cm)5min	⩾3MΩ		IEC 60243
RoHS2.0/ELV	Qualified		RoHS2.0/ELV
Silicone Surface Finishes	Glossy Finish、Matte Finish、Fabric-Embossed		Visual Inspection

Key Features:

1. Burn at 1200°C for 30 minutes: no burn-through
2. Burn at 800°C for 5 minutes and still maintain 500MΩ;
3. Flame retardant reaches UL94-VO/EN45545-2;
4. Be ceramic body above 650°C;
5. Lightweight, flexible, and maintains elasticity in a wide temperature range of -60°C~220°C;
6. Low VOC, low smoke density, smoke toxicity, and heat release rate during combustion;
7. Complies with RoHS2.0/REACH standards.

Applications:

Used in shock-absorbing foam for new energy battery packs and other temperature-resistant and corrosion-resistant industrial environments to provide heat insulation and fire protection.

Thermal pad KB5100S Series

Thermal pad fill air gaps between heat-generating components and heat sinks or metal bases. Their flexibility and elasticity enable conformal coverage over highly irregular surfaces. Heat transfers from discrete components or entire PCB to metal enclosures or spreader plates, enhancing the efficiency and lifespan of electronic assemblies.

Product Model	Color	Thermal Conductivity (W/m*k)	Hardness (Shore 00)	Thickness (mm)	Density (g/cm3)	Dielectric Strength (KV/mm)	Flame Retardancy	Volume Resistivity (Ω·cm)
KB5110S	Customization	1.0±0.5	40~70	0.5~5.0	2.60±0.05	⩾12	UL94-V0	⩾10^{13}
KB5120S	Customization	2.0±0.5	40~70	0.5~5.0	2.83±0.05	⩾12	UL94-V0	⩾10^{13}
KB5130S	Customization	3.0±0.5	40~70	0.5~5.0	3.05±0.05	⩾12	UL94-V0	⩾10^{13}
KB5140S	Customization	4.0±0.5	40~70	0.5~5.0	3.23±0.05	⩾12	UL94-V0	⩾10^{13}
KB5150S	Customization	5.0±0.5	40~70	1.0~5.0	3.40±0.05	⩾12	UL94-V0	⩾10^{13}

Note: The above parameters are for reference only. Final specifications shall be subject to actual sample confirmation or mutually agreed standards.

Key Features:

1. Self-adhesive, no need for additional surface adhesive and adhesive backing, good elasticityand recovery, can adapt to pressure changes and temperature fluctuations;
2. Good heat conduction, effectively protect the life and safety of the working body;
3. Different thicknesses and sizes can be provided according to actual applications;
4. Good processing performance, easy installation and pressing, no adhesion to the sealing surface, easy disassembly;
5. Low hardness, good compliance, low stress, more effective protection of electrical components;
6. Excellent high and low temperature resistance, chemical and mechanical stability, weather resistance, radiation resistance andexcellent dielectric properties.

Applications:

Applicable to all electronic, medical, battery, mobile phone, computer and other industries that require heat dissipation, such as computer storage chips, display driver ICCD-ROM/DVD, LCD TV backlight unit, communication equipment between CPU and radiator, etc.

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Customize Silicone Products

Silicone rubber stands out among synthetic rubbers. It is odorless and non-toxic, and it can withstand high temperatures and resist the cold. It can maintain a certain strength and elasticity even at extremely low temperatures of -100°C and high temperatures of 350°C. Silicone rubber also has excellent electrical insulation properties, good resistance to oxygen aging, light aging resistance, mildew resistance, and chemical stability. Kangbei New Materials specializes in the customized production of silicone products with a variety of colors and complex structures. Relying on its rich production experience, exquisite process technology, and a complete management system, it provides customers with comprehensive customized solutions.



Molded Solid Silicone Products:

Molded silicone products are usually formed by putting solid silicone raw materials with added vulcanizing agents into high-temperature molds and applying pressure through a vulcanizing machine to achieve solidification through vulcanization. The hardness of molded silicone typically ranges from 25A to 80A. Color pastes are mixed with the raw materials to blend colors according to the Pantone color number. The shape of the mold determines the shape of the molded silicone products. Molded silicone products are one of the most widely used types in the silicone industry at present. They are mainly used to produce industrial silicone accessories, buttons, silicone gifts, silicone wristbands, silicone watches, key pouches, mobile phone cases, silicone kitchen utensils, silicone pads, ice trays, cakes, and so on.

Liquid Silicone Products:

Liquid silicone products are formed by injection molding of silicone. The products are soft, and the hardness can reach from 6A to 70A. Due to their soft characteristics, they are widely used in simulated human organs, medical silicone, coating adhesives, mold silicone, self-adhesive silicone, etc. Currently, the company's main products include liquid silicone products for medical use, coating and adhesive liquid silicone (environmentally friendly, with low viscosity and can be used directly without dilution), self-adhesive liquid silicone (suitable for PET, fiberglass, PC, PA66, etc.), low-hardness mold silicone (lipstick mold silicone), high-transparency liquid silicone (resistant to yellowing with a light transmittance of over 94%), etc.


Special Products:

Special silicone products are made based on the chemical properties of silicone or the addition of certain auxiliary raw materials. These special silicone products can withstand high temperatures (up to 350 degrees Celsius). They are food-grade (fully compliant with the US FDA/LFGB standards), medical-grade, and flame-retardant (meeting the UL-V0 standard). By adding auxiliary raw materials, they can also possess characteristics such as luminescence, negative ion generation, and color-changing.

Customize Rubber Products

Our advantage lies in our ability to provide customized products and services according to customers' usage requirements. We jointly develop the most suitable sealing solutions with customers. Relying on the processing and manufacturing capabilities of our factory, which adheres to high-standard management, we can offer sealing products with stable quality and excellent performance, thus creating value for our customers.

The main products include the research, development, manufacturing, sales and technical services of rotary shaft lip seals, reciprocating oil seals, skeleton oil seals, water seals, Y-rings, O-rings and molded products. These products are widely used in industries such as home appliances, automobiles, power tools, garden tools, agricultural machinery and other construction machinery.

Our company currently provides products such as Viton (fluororubber), FVMQ (fluorosilicone rubber), FFKM (perfluororubber), EPDM (ethylene propylene diene monomer rubber), VMQ (silicone rubber), conductive silicone rubber, NBR (nitrile butadiene rubber), HNBR (hydrogenated nitrile butadiene rubber), CR (chloroprene rubber), PU (polyurethane rubber), and PTFE spring-energized seals, etc.

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Rubber Material Selection Guide:

Material Type		Natural Rubber	Butyl Rubber	EPDM Rubber	Ethylene-Vinyl Acetate	Neoprene	Chlorosul-fonated PE	Nitrile Rubber	Polyacry-late	Polyure-thane	Silicone Rubber	Fluoro-rubber
Abbr.		NR	IIR	EPDM	EVA	CR	CSM	NBR	ACM	PU	SI	FPM
RAW RUBBER PROPERTIES	Specific Gravity (g/cm³)	0.91~0.93	0.91~0.93	0.86~0.87	0.98~0.99	1.15~1.25	1.11~1.18	1.00~1.20	1.09~1.10	1.00~1.30	1.80~1.82	1.80~1.82
	Refractive Index (ND)	1.59	1.508~1.509	~	~	1.353~1.560	~	1.521	~	~	~	~
	Solubility Parameter SP	7.9~8.1	7.7~8.06	7.9~8.0	~	8.85	8.1~9.3	9.64	~	10	7.3	7.3
	Mooney Viscosity (ML1+4100℃)	90~150	45~75	45~120	20~30	45~120	30~55	30~100	45~60	25~60	~	65~180
	Processability	A	C	B	A	A	B	A	C	C	B	C
CURED RUBBER MECHANICAL PROPERTIES	Hardness (Shore A)	30~100	20~90	30~90	50~90	10~90	50~90	15~100	40~90	10~100	30~90	50~90
	Tensile Strength (kg/cm2)	30~300	50~150	50~200	70~200	50~250	70~200	50~250	70~120	200~450	40~100	70~200
	Elongation at Break(%)	100~1000	100~800	100~800	100~600	100~1000	100~500	100~800	100~600	300~800	50~500	100~500
	Elasticity	A	C	B	B	A	B	B	C	A	A	C
	Tear Strength	A	B	C	B	B	B	B	C	A	C~D	B
	Compression Set	A	C	B	B	A	B	A	D	A	A	B
	Abrasion Resistance	A	B	B	B	A~B	A	A	B	A	C~D	A
	Flex Crack Resistance	A	A	B	B	B	B	B	B	A	B~D	B
CURED RUBBER PHYSICAL CHARACTERISTICS	Max. Service Temperature	100	150	150	100	120	150	120	160	80	250	250
	Brittle T emperature	-50~-70	-30~-55	-40~-60	-20~-30	-35~-55	-20~-60	-10~-20	0~-30	-30~-60	-70~-120	-10~-20
	Aging Resistance	B	A	A	A	A	A	B	A	B	A	A
	Ozone Resistance	D	A	A	A	B	B	D	A	A	A	A
	UV/Weather Resistance	B	A	A	A	A	A	B	A	A	A	A
	Flame Resistance	D	D	D	D	B	B	C~D	C~D	C~D	B~D	A
	Radiation Resistance	B~C	D	B	B	B~C	B~C	B~D	B~D	B	A~C	B~C
CURED RUBBER ELECTRICAL CHARACTERISTICS	Volume Resistivity(Ω.cm)	10^{14}~10^{15}	10^{15}~10^{16}	10^{15}~10^{16}	10^{12}~10^{14}	10^{12}~10^{13}	10^{12}~10^{14}	10^{10}~10^{12}	10^{8}~10^{10}	10^{9}~10^{12}	10^{13}~10^{16}	10^{12}~10^{13}
	Dielectric Strength(kV/mm)	20~30	25~35	35~45	~	15~20	20~25	~	~	~	20~30	20~25
	Dielectric Constant	3.0~4.0	3.0~4.0	2.5~3.5	~	5.8~8.0	4~6	5.0~12.0	~	~	3~5	3~6
MEDIA RESISTANCE OF CURED RUBBER	Gasoline	D	D	D	D	B	B	A	A	A	C~D	A
	Benzene/Toluene	D	C	C	D	D	C~D	C~D	D	C~D	C~D	A
	Trichloroethylene	D	D	D	D	D	D	D	D	D	B~D	B
	MEK/Ethyl Acetate	B~C	A	A	D	B~C	C	D	D	D	B	D
	Acids	C	A	B	B	B	A	B	C	D	C	A
	Alkalis	B	A	A	A	A	A	B	C	D	A	D
Primary Applications		Tires, rubber shoes, rubber hoses, rubber belts, miscellaneous items, etc.	Inner tubes, wires and cables, rubber hoses, raincoats, waterproof roll materials, etc.	Electrical wires and cables, door and window weatherstripping, waterproof rolled materials, etc.	Micro-porous chemical shoes, etc.	Electrical wire and cable industrial supplies, shock-absorbing rubber, sealing strip adhesives	Linings, rubberized fabric, corrosion-resistant seals, anti-aging coatings, etc.	Oil seals, leather cups, O-rings, oil resistance, petroleum accessories, etc.	Oil seals, etc.	Rubber rollers, solid tires, seals, synchronous timing belts, etc.	Electrical products, medical products, high-temperature resistant products, cold-resistant products, etc.	High-temperature and oil-resistant products,Oil seals, seals,Rubber hoses, etc.

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