



Guangzhou Huitian New Material Co., Ltd.

Address 1: No. 6, Qibei Road, Xinhua Street, Huadu District, Guangzhou City

Address 2: No. 16, Yanjiang Avenue, Huadu District, Guangzhou City

Tel.: 020-36867996; Fax: 020-36867991

Zip Code: 510800; Website: www.huitian.net.cn

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Automotive Electronics Product Manual

The Largest Adhesive R&D Manufacturer in China

- Six production bases cover Shanghai, Guangzhou, Changzhou, Xiangyang and Yicheng, and total floor area exceeds 1,200,000 m²



About US

Huitian New Material (stock code: 300041) is the sole enterprise of Chinese adhesive new material industry with the longest history and most categories. With 46 years of development history, Huitian focuses on the research and development of adhesive new materials and owns over 2,000 products in six major disciplines. These products are widely used in fields such as photovoltaic new energy, new energy automobile, 5G communications, consumer electronics, aviation & aerospace and others, providing comprehensive solutions for adhesive new materials.

Huitian is the sole enterprise of Chinese adhesive new material industry with the widest layout and highest research and development investment. It has established five major research and development bases in Shanghai, Guangzhou, Xiangyang, Yicheng, and Changzhou, as well as industrial bases in Vietnam. Huitian has a core research and development team of over 300 people, including doctors and masters, and has obtained more than 300 patented technologies. It is the first "National Enterprise Technology Center" in the domestic adhesive new material industry.

Huitian is the sole enterprise of Chinese adhesive new material industry focusing on core tracks and fully replacing import enterprises. It has established strategic cooperation with benchmark customers in three core tracks: photovoltaic new energy, lithium battery industry and communication electronics, such as Huawei, CATL, LONGi and Nissan, making it the preferred brand for domestic replacement of adhesive new materials.

Huitian is the sole enterprise of Chinese adhesive new material industry with sustained growth and the strongest development momentum. Its performance has continued to grow steadily over the 13 years since its listing, effectively promoting the development of national adhesive new materials. Huitian has always adhered to the mission of "serving the industry and society", striving to empower employees, satisfy customers, achieve win-win partnerships, increase shareholder value, and gain trust from society, thus contributing to the dignity of national enterprises.



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Electric Product Layout of New Energy Automobile



Complete Adhesive Product Solution



- « Silicone
- « PU/PUR
- « Epoxy
- « UV
- « MS
- « Acrylic acid



Charging Gun



Potting Protection 8252 Series

The charging gun after potting protection can improve the electrical and electronic performance to reach the anti-rolling, water-proof, insulating and flame retarding effect.

- ◆ Fast curing in normal temperature
- ◆ High adhesion strength
- ◆ Excellent electrical performance

Technical Parameters

★ Potting Adhesive for Charging Gun

Product Name	Appearance	Viscosity mPa*s	Density g/cm ³	Mix Ratio	Operating Time min	Initial Curing Time h	Hardness (Shore D)	Thermal Conductivity W/(m•K)	Flame Retardant Rating (UL94)	
8252H	Part A	Black	12,500-14,500	1.50-1.56	5:1	4-6	1-4	40-50	0.7	V-0(4mm)
	Part B	Light brown	2,900-3,500	1.38-14.2						
8252L	Part A	Black	6,500-7,800	1.55-1.60	5:1	4-6	1-4	60-70	0.6	V-0(4mm)
	Part B	Light brown	100-170	1.22-1.24						

DC Charging Module

Shallow Potting 52XX Series

It is applied in coastal area, metallurgy, coal mine, electroplating and other extreme environment or scene to avoid the invasion of water steam and dust.

- ◆ High mobility
- ◆ Anti-poisoning
- ◆ Excellent heat-conducting property, adaptive to higher power module



One-part Fixing / Dam Adhesive 9765C

- ◆ High extruding
- ◆ High Aspect Ratio (H/W)
- ◆ No toxic reaction to the addition-type potting glue

Technical Parameters

★ Shallow Potting Adhesive of Charging Module

Product Name	Appearance	Viscosity mPa*s	Mix Ratio	Density g/cm ³	Thermal Conductivity W/(m•K)	Hardness (Shore A)	Operating Time min	Curing Condition	Dielectric Strength kV/mm	
5280	Part A	Gray	2,000~3,500	1:1	1.80	≥0.6	20-40	≥60	80°C 30min	≥14
	Part B	White	2,000~3,500							
5299	Part A	Gray	2,000~3,000	1:1	1.59	≥0.6	50-60	≥70	80°C 30min	≥20
	Part B	White	1,800~3,000							
5290D	Part A	Gray	4,500~7,500	1:1	2.75	2.0	30-45	≥60	80°C 30min	≥13
	Part B	White	4,000~7,000							

★ Fixing / Dam Adhesive of Charging Module

Product Name	Appearance	Density g/cm ³	Thixotropy	Thermal Conductivity W/(m•K)	Hardness (Shore A)	Shear Strength MPa	Dielectric Strength kV/mm	Flame Retardant Rating (UL94)
9765C	White paste	1.70-1.85	3-5	0.8	75-85	2.0	≥18	UL94 V-0

On-board Power Supply (DC-DC、OBC)



Shell Sealing FIPG: 9661 Series

- ◆ Universality for substrate
- ◆ High adhesion strength and elongation at break
- ◆ No corrosion to substrate

Magnetic Device Heat Conducting and Protection 529X Series

Huitian potting adhesive integrating the structural and thermal characteristics of magnetic devices can be tailored to match products with different modulus and heat-conducting property. It can provide good protection and thermal insulation for devices, such as inductors and transformers, effectively preventing problems such as core cracking and excessive temperature rise.

- ◆ 1.0~4.0W/(m·K) products are optional
- ◆ Low modulus and low CTE
- ◆ Self-adhesion
- ◆ Anti-poisoning

Technical Parameters

★ Shell Sealant FIPG

Product Name	Color	Extruding g/s	Surface Dry min	Hardness (Shore A)	Tension Strength MPa	Elongation at Break %	Shear Strength MPa	Product Features
9661	Black / white / grey	14.9	15	35	2.5	413.5	2.53	Anti-yellowing

Power device heat conducting 2.0-6.0W/ (m.K) Thermal Gel Series

With the increasing power density of devices, the heat generated during operation also increases. Coating the interface between heating device and heat sink with thermal gel can effectively improve the heat conducting efficiency and prevent making damage to device caused by excessive temperature rise.

- ◆ High extruding and good workability
- ◆ Low oil extraction rate
- ◆ Excellent insulation performance
- ◆ High reliability

Technical Parameters

★ One-part Thermal Gel of Power Device On-board Power Supply

Product Name	Appearance	Extruding g/min	Density g/cm ³	Thermal Conductivity W/(m·K)	40psi Interface Thickness mm	40PSI Thermal Resistance °C·cm ² /W	Dielectric Strength kV/m	Volume Resistivity Ω·cm
9503	Blue	40	2.1	2.0	0.120	0.701	≥5	≥1×10 ¹²
9503L (Post-cured type)	Pink	120	2.9	3.0	0.022	0.11	≥6	≥1×10 ¹³
9504	Pink	30	3.2	4.0	0.100	0.37	≥6	≥1×10 ¹³
9506	Blue	30	3.4	6.0	0.085	0.18	≥4	≥1×10 ¹²

★ Dual-component Thermal Gel of Power Device On-board Power Supply

Product Name	Appearance	Viscosity Pa·s	Curing Condition	Density g/cm ³	Thermal Conductivity W/(m·K)	40PSI Thermal Resistance °C·cm ² /W	Hardness (Shore 00)	Elongation at Break %	Dielectric Strength kV/m
5272	Part A	White paste	80°C 30min	2.8	2.5	0.60	50	0.40	10
	Part B	Blue paste							
5274	Part A	Blue paste	120°C 20min	3.2	3.8	0.55	50	0.25	9
	Part B	White paste							
5276	Part A	White paste	60°C 30min	3.3	6.0	0.41	60	0.35	9
	Part B	Blue paste							

★ Thermal Potting Adhesive of Magnetic Device

Product Name	Appearance	Viscosity mPa·s	Density	Thermal Conductivity W/(m·K)	Hardness (Shore A)	Dielectric Strength kV/mm	Volume Resistivity Ω·cm
5296	Part A	2,800-4,800	1.95	1.0	30-40	≥18	≥1.0×10 ¹⁴
	Part B						
5297G	Part A	2,000-4,000	2.52	1.5	Shore 00 50-60	≥16	≥1.0×10 ¹³
	Part B						
5297C	Part A	5,500±2,000	2.65	1.7	10-20	≥16	≥1.0×10 ¹²
	Part B						
5290G	Part A	4,500-7,500	2.75	2.0	5-15	≥16	≥1.0×10 ¹⁴
	Part B						
5294G	Part A	14,000-22,000	3.15	4.0	Shore 00 40-70	≥10	≥1.0×10 ¹²
	Part B						

Motor controller



Shell Sealing CIPG: 9516

- ◆ It can be assembled and disassembled repeatedly
- ◆ Excellent resilience
- ◆ Resistant to multiple medium oils

Power Device Heat Conducting 9504LH

It is used for interface heat dissipation between IGBT module baseplate and liquid cooling plate. The operation process and BLT can be comparable to silicone thermal grease, and its reliability is improved greatly compared with silicone grease.

- ◆ High heat conductivity: 4.0W/(m.K)
- ◆ Low thermal resistance: 0.07°C·cm²/W
- ◆ It can significantly improve pump-out problem

Technical Parameters

★ Shell Sealant (CIPG)

Products	Curing Condition	Appearance	Density g/cm ³	Hardness (Shore A)	Shear Strength AI 6061 MPa	Shear Strength PBT+30GF MPa	Tension Strength MPa	Elongation at Break %
9516	150°C/30Min 130°C/60Min	Grey paste	1.1	49	3.4	2.2	4.7	400

★ Power Device Thermal Gel

Product Name	Appearance	Extruding g/min	Density g/cm ³	Curing Condition	Thermal Conductivity W/(m·K)	40psi Interface Thickness mm	40PSI Thermal Resistance °C·cm ² /W	Dielectric Strength kV/m	Volume Resistivity Ω·cm
9504LH	Light green	50	3.2	125°C heating platform 10min	4.0	0.012	0.07	≥6	≥1×10 ¹³



Encapsulation Gel 5298 Series

IGBT modules, as the core part of motor controllers in new energy automobiles, play a crucial role in power control. The sealing adhesive is used and can enable chip with anti-vibration and insulation effects, enhancing the overall waterproof and anti-condensation performance of module.

Shell Adhesion 9516FW

- ◆ Heating and fast curing
- ◆ High adhesion strength
- ◆ Friendly matching with potting adhesive

- ◆ Extremely low modulus
- ◆ Self-adhesion
- ◆ High insulating
- ◆ Excellent heat resistance
Excellent heat resistance

Technical Parameters

★ IGBT Shell Sealing Adhesive

Product Name	Appearance	Viscosity Pa·s	Density g/cm ³	Curing Time	Hardness (Shore A)	Tension Strength MPa	Elongation at Break %	Shear Strength MPa
9516FW	White paste	120~250	1.1	120°C/1h	35	4.5	350	4.0

★ IGBT Potting Adhesive

Product Name	Appearance	Viscosity mPa·s	Density g/cm ³	Curing Condition	Cone Penetration 1/10 mm	Dielectric Constant 1.2MHz	Dielectric Strength kV/mm	Volume Resistivity Ω·cm	Long-term Working Temperature °C	
5298C	Part A	Transparent	500-1,500	0.97	80°C 30-60min	Whole cone 250-350	2.6	≥20	≥1×10 ¹⁵	-50~150
	Part B	Transparent	500-1,500	0.97						
5298D	Part A	Transparent	300-600	0.98	80°C 30-60min	1/2 cone 130-230	2.5	≥20	≥1×10 ¹⁵	-50~175
	Part B	Transparent	300-600	0.98						
5298E	Part A	Transparent	300-600	0.99	80°C 30-60min	1/2 cone 130-230	2.6	≥20	≥1×10 ¹⁵	-50~200
	Part B	Light brown	300-600	0.99						

Drive motor



Stator / Rotor Potting 6312T

- ◆ Good mobility
- ◆ The product has excellent heat resistance
- ◆ Good solvent resistance

Magnetic Steel Bonding Adhesive 6065 Series

- ◆ One-part heating and curing
- ◆ High adhesion strength
- ◆ Excellent heat resistance

Technical Parameters

★ Stator / Rotor Potting Adhesive

Product Name	Appearance	Viscosity mPa*s	Density	Ratio	Mixed Viscosity mPa*s	Curing Condition	Dielectric Strength kV/mm	Volume Resistivity Ω*cm	Thermal Conductivity W/(m*K)	Working Temperature °C
6312T	Part A black	12,000-20,000	1.70	100:13	1,000-3,000	60°C/3h	≥20	≥1.0×10 ¹⁴	≥0.6	-40~155
	Part B light yellow	30-90	0.98							

★ Magnetic Steel Bonding Adhesive

Product Name	Appearance	Viscosity mPa*s	Density g/cm ³	Curing Condition	Hardness (Shore D)	Shear Strength MPa	Working Temperature °C
6065	Grey paste	550,000	1.55	120°C/30min 150°C/15min	≥75	≥18	-40~150
6065H	Grey paste	120,000	1.73	120°C/40min 150°C/15min 180°C/10min	≥75	≥10	-40~200

Universal Adhesive

Technical Parameters

★ Conformal Coating (UV+ Moisture)

Product Name	Appearance	Viscosity mPa*s	Solid Content %	Curing Energy J/cm ²	Dielectric Strength kV/mm	Volume Resistivity Ω*cm	Working Temperature °C	Reworkability
361216	Amber and transparent	100	>99.5%	1-3	≥25	≥10 ¹⁴	-65~150	During the process of using three proofing glue, the cleaning agent 1050 can be used for cleaning
3610H3	Amber and transparent	300	>99.5%	1-3	≥25	≥10 ¹⁴	-65~150	
3612H6	Amber and transparent	600	>99.5%	1-3	≥25	≥10 ¹⁴	-65~150	After curing, the paint film can be removed with the highly effective repairing agent 1060

★ Heat conducting and fixing adhesive solution

Product Name	Appearance	Viscosity mPa*s	Thixotropic Index	Thermal Conductivity W/(m*K)	Density g/cm ³	Surface Dry Time min	Hardness (Shore D)	Shear Strength MPa	Working Temperature °C
9661E	Grey / white paste	30,000-50,000	3.0-4.0	0.6	1.75	5~15	65-76	≥2.0	-40~150
9765	White slumping fluid	4,500-55,000	2.5-3.5	1.0	1.85	5~10	65-85	≥2.0	-40~150
9665ET	White microflow	60,000-120,000	3.0-4.0	2.0	2.7	1~5	75-95	≥2.0	-40~150

★ Silicone thermal grease

Product Name	Appearance	Viscosity mPa*s	Density g/cm ³	Thermal Conductivity W/(m*K)	Thermal Resistance 0.1mm	Cone Penetration 1/10cm	Working Temperature °C	Product Characteristics
0112	White	200,000	2.6	1.5	0.3	340	-40~150	Easy for paint coating, and low oil leakage
0116Y	Blue	140,000	3.1	3.2	0.11	290	-40~150	High heat conductivity, and easy for paint coating
0117	White	120,000	3.3	4.0	0.07	290	-40~150	High heat conductivity, and good insulativity