
United
Adhesives
密封胶粘剂
Sealants & Adhesives

▶ 加热固化型胶粘剂密封剂 Heat Cure Adhesives & Sealants

本公司设计生产的加热固化粘合剂和密封剂主要有下列特征：

- 与铝、常规金属、常用塑料之间有很强的粘结力。
- 依据有机硅树脂粘合剂的优良的柔软性，有效地降低热应力。
- 多数为中性、无腐蚀的粘合剂和密封剂。
- 有良好的对潮湿，油类和化学制品的抵抗能力。

【应用领域】

它们可用于粘结和密封电子设备，部件，电源设备，电能和控制的连接部位，器件的封盖，等等。其中有机硅树脂密封剂系列(Bondseal)对高温度和高湿度可提供有效的抵抗性。而环氧树脂系列则提供高强度结构性粘结，同时能有效地抵抗震动的破坏，以及油类和化学品的侵蚀。

United Adhesives' heat cure version adhesives and sealants made from high performance silicones and epoxies provide following major features:

- Strong bonding to aluminum and most common metals.
- Strong bonding to most common plastics.
- Thermal stress compliant with silicone adhesives.
- Automated dispensable
- Non-corrosion sealants and adhesives
- Excellent moisture, oil and chemical resistance

They are used to bond and seal electronic devices, components, electrical equipment, power and control connections, cover plates, housings, etc. The silicone series, Bondseal, provides stress release and resistance to high temperature and humidity. The epoxy series provides strong structural bonding for vibration applications and resistance to oil and chemicals.

Name	Features / Advantages	Rheology	Hardness / Modulus	Elongation	Adhesion Al/Al, psi	Cure Profile
BS8311	Heat cure to form silicone rubber. Non-corrosion sealant. Strong bonding to most plastics	1-part, dispensable 25,000 cPs	Shore A = 47	280%	> 600	125°C 60 min
BS8350	Heat cure to form silicone rubber. Non-corrosion sealant. Strong bonding to most plastics	1-part paste non-sag 45,000 cPs	Shore A = 62	250%	550 psi	125°C 60 min
BS8440	Two part. Heat cure to form silicone rubber. Non-corrosion sealant / adhesive.	1:1 mixing 40,000 cPs	Shore A = 51	240%	> 550 psi	25°C 12 hrs 125°C 30 min
EP1611	Flexible epoxy, room temp curable	60,000 cPs	Shore A = 60	50%	> 1500	85°C 60 min 125°C 30 min
EP1646	High voltage resistant sealant based on non-slump epoxy	2-part (2:1) 22,000 cPs	6.2 GPa	N/A	> 1600	25°C 12 hrs 100°C 15 min 125°C 8 min

Typical adhesion to different substrates

Adhesion to Substrates	MC7010	MC7130	Bondseal 8440	EP1611
Aluminum	Excellent	Excellent	Excellent	Good
Cupper	Excellent	Excellent	Excellent	Good
PBT	Excellent	Fair	Good	Excellent
Nylon	Excellent	Good	Good	Excellent
PPS	Good	Fair	Fair	Excellent
Polycarbonate	Prohibit	Good	Excellent	Excellent
Epoxy Resin	Excellent	Excellent	Fair	Excellent
Silicone Rubber	Good	Fair	Fair	Fair

▶ 流程指南 Process Guidance

▶准备
对于50cc，200cc的连体双管，我们推荐使用EFD手动或气动涂胶枪和活塞。胶粘剂连体双管很容易装入涂胶枪，并通过静态混合管混合滴灌。这可以避免对粘合剂,封装剂，和涂料的称重及混合。对于可以随时使用的单组分的注射器，罐装，桶装产品，从冰箱中取出来后，请先让它解冻到室温。

对于大量的应用，各种类型的自动液体分配滴灌设备可以用于这些粘合剂。它们包括：手工分配/时间压力阀;螺旋式的阀门;线性活塞泵和喷射阀。设备选型应以应用需求来决定。有关设备选型和工艺优化，用户应采纳相应供应商的技术服务的建议。

▶脱气
对于单组份产品，或用自动分配设备滴灌A / B胶时，只要没有气泡被截留在机械零件的下方，通常不需要脱气，因为它们出厂前预先被脱过气。

对于手工混合A / B胶时，脱气是必需的。可以是635毫米汞柱（25英寸汞柱）或更大的真空下脱气。真空脱气时，注意观察未固化流体的气泡形成,逐步增加真空度，以避免流体快速发泡溢出。保持真空度直至气泡在液体表面崩溃。

▶基材制备
基材应该免费灰尘，油污和指纹的脏污。使用适当的工业清洗技术用于清洁光电表面。如果使用烃类溶剂清洗（例如己烷，甲苯），建议再用试剂级异丙醇作最终漂洗干燥。如果使用含水洗涤剂清洗，建议再用去离子水作多次最终漂洗干燥,或用试剂级异丙醇作最终漂洗干燥。对于某些塑料，例如聚乙烯，聚丙烯和氟塑料的表面可以进行预处理，比如化学蚀刻或等离子蚀刻，以改善粘合剂的粘合性。

有机硅产品，应与清洁的基片材料固化粘结。避免使用在一些表面上含有诸如，硫，胺，磷，有机金属，酸和某些丁基，亚硝酸盐，氯化，和EPDM弹性体，某些塑料与浸出增塑剂，和某些粘合剂的固化残留物，包括紫外线固化环氧树脂和胺固化环氧树脂。可以在粘结表面某些施加涂层或粘合促进剂以增强粘合力。

▶固化时间
根据粘合剂的TDS所列出的相应的温度和时间进行固化。一般对于有机硅产品，推荐在升高的温度下固化，以增强粘附力。

▶Preparation
For 50cc, 200cc ducal cartridges, we recommend use EFD manual or pneumatic dispensing applicator and plunger. Adhesive filled with cartridges are easily loaded into the dispensing gun and dispensed through static mixers. This eliminates the need to weigh or mix adhesives, potting compounds, and coatings.

For products that is supplied in a ready-to-use one component syringe, jar, and pail, please let it thaw to room temperature after pull out from refrigerator.

For high volume application, a variety of auto dispensing equipment types are suitable for applying these adhesives. They include: hand dispense / time pressure valve; auger style valve; linear piston pump and jet valve. Selection of equipment should be determined by application requirements. For advice on equipment selection and process optimization users should contact the corresponding supplier's Technical Services.

▶De-aeration
De-aeration is typically not needed for one-component products, or auto dispensing with A/B parts, as long as no pockets of air are trapped beneath mechanical parts. For manually mixed A/B parts, the de-aeration is required. The assembly may be vacuum deaerated using a pressure of 635 mmHg (25 inHg) or greater. Apply the vacuum while observing the uncured fluid for presence of bubble formation and increase vacuum slowly enough to avoid rapid foaming. Hold vacuum until bubbles at the fluid surface collapse.

▶Substrate Preparation
Substrates should be free of dust, oil, and fingerprint soils. Use suitable industrial techniques for cleaning electro-optics. If using hydrocarbon solvent cleaning (e.g. hexane, toluene), a final rinse with reagent grade isopropanol is recommended. If using aqueous detergent cleaning, multiple final rinses with de-ionized water or a single rinse with reagent grade isopropanol followed by drying is recommended. For certain plastics, such as polyethylene, polypropylene, and fluoroplastics, the surface may be pre-treated with chemical etching or plasma etching to improve the adhesion.

For silicones products, it needs to cure in contact with most properly cleaned substrate materials. Avoid using them on any place that contains sulfur, amine, phosphorous, organo-metals, acid, and certain butyl, nitrite, chlorinated, and EPDM elastomers, certain plastics with leachable plasticizers, and the cure residues of certain adhesives including UV-cured epoxies and amine-cured epoxies. A certain primer or adhesion promoter may be applied on bonding surfaces to enhance the adhesion.

▶Cure Schedule
Cure the assembled part at corresponding temperature and time according to the TDS of the adhesives. Generally for silicone products, a cure at elevated temperature is recommended for adhesion enhancement.

▶ 常温固化型密封剂 RTV Adhesives and Sealants

Silicone rubber based RTV sealants / adhesives from United Adhesives Inc. provide strong bonding to most common plastics and metals with excellent thermal stress release and water resistance. Epoxy based sealants / adhesives provide strong structural bonding to most common plastics and metals with strong oil and chemical resistance.

Some major features are like this:
- Strong bonding to aluminum and most common plastics.
- Thermal stress compliant with silicone RTV sealants.
- Automated dispensable
- Excellent moisture resistance from RTV silicone sealant
- Excellent oil and chemical resistance from epoxy RTV

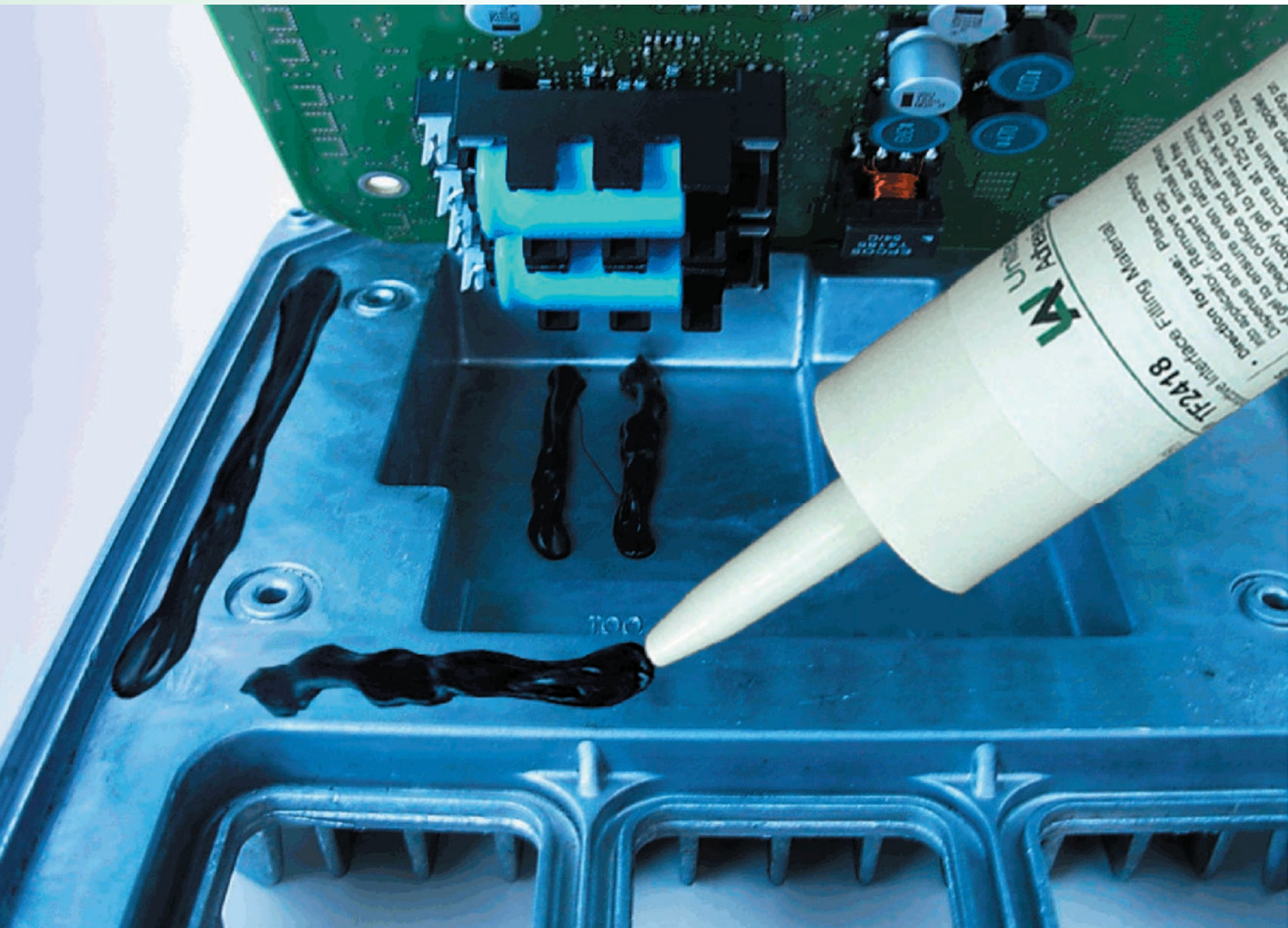
They are used to bond and seal electronic devices, components, equipment, connections, cover plates, housings, etc; make formed-in-place gaskets; assemble and repair electronic devices. They can also be applied as general-purpose sealants for other applications.

本公司设计生产的有机硅橡胶类常温固化粘合剂和密封剂（RTV）对常用塑料和金属有着较强的粘合力，有良好的抗水性和较小的热应力。而环氧树脂类常温固化粘合剂和密封剂对常用塑料和金属能提供强力结构性粘结。同时具有较强的抗油和抗化学品侵蚀的能力。

它们具有如下的一些主要的功能：

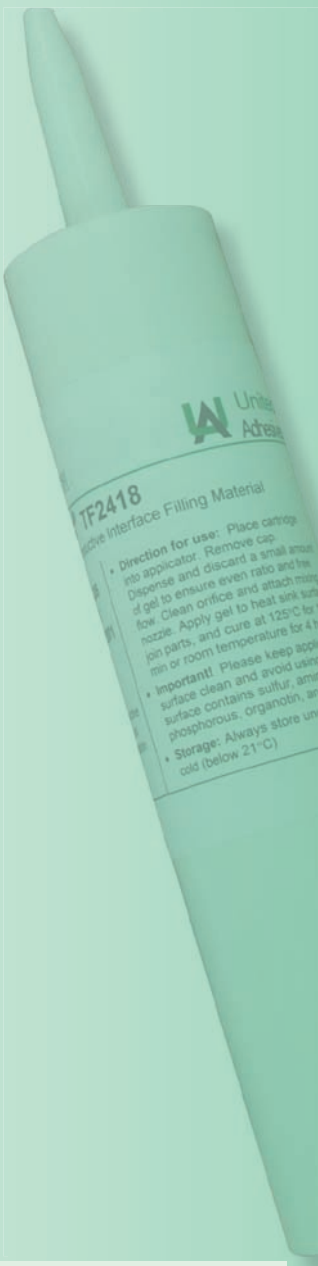
-对铝及其它一些金属和最常见的塑料具有强粘接力。
-有机硅RTV密封胶具有很小的热应力。
-有机硅RTV密封胶具有良好的防潮性。
-环氧树脂RTV具有优异的耐油和耐化学性。
-可以实现自动化上胶。

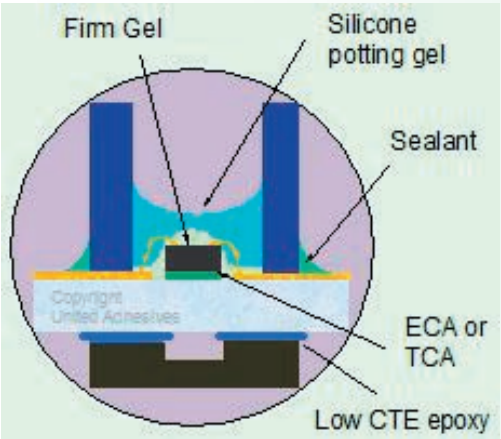
它们主要用于粘结和密封电子装置，构件，设备，接头接口，封盖，底座，等等；制作既成式(form-in-place)的垫圈；用来组合和修理电子设备等。它们也能够在其它工业和应用领域作为粘合剂和密封剂来使用。

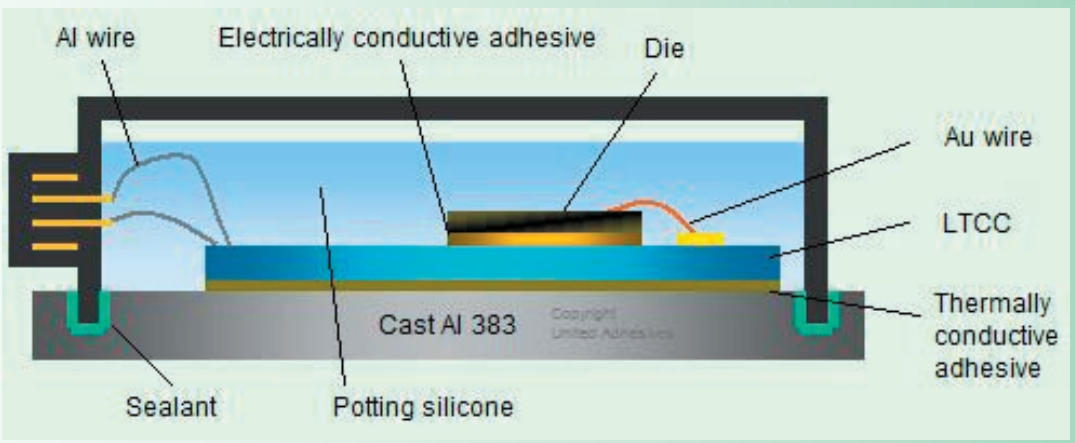


▶ 常温固化型密封剂技术参数 RTV Sealant Technical Datasheets

性能 Property	单位Units	MC7010	MC7130
材料化学特点 Material Chemistry		Amine	Oxime
Color / Component 颜色/组件		Light Grey	Light Grey
Density 密度	Gram /cc	1.3	1.3
Extrusion Rate (3 mm nozzle, 0.62 Mpa, 24C) 挤出速率（3毫米喷嘴，0.62兆帕，24C）	Gram / sec	2 to 5	240
Skin Over Time (25°C 55%R.H.) 结皮的时间（25℃55%R.H.）	Min	20	18
Tack Free Time (25°C 55%R.H.)| 表干时间（25℃，55%R.H.）	Min	45	45
Weight loss in cure 固化过程中的失重	Weight %	< 5%	< 0.6%
Color after cure 固化后的颜色		Light Grey	Light Grey
Hardness 硬度	Shore A	43	18
Tensile Strength 抗拉强度	Mpa	2.5	1.3
Elongation 伸长率	%	300	600
Adhesion (Al/Al lap shear @25C) 附着力（铝/铝搭接剪切@25℃）	psi	150	140
Dielectric Constant介电常数	@100Hz	3	3
Dissipation Factor 耗散因数	@100 Hz	< 0.01	< 0.01
Dielectric Strength 介电强度	Volt/mil AC	> 400	> 420
Volume Resistivity 体电阻率	Ohm-cm	> 10E+13	> 10E+14
Tg	°C	-120	-120
Useful Temperature Range 有效使用温度范围	°C	-55 to 180	-55 to 200







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The data presented in this leaflet are in accordance with the present state of our knowledge, but do not absolve the user from carefully checking all supplies immediately on receipt. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. For technical, quality, or product safety questions, please contact directly to United Adhesives Inc.

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