

**DESCRIPTION:**

Tacusil™ 210060 is one component hot melt type with moisture curing polyurethane adhesive. This product has physical reactive by hot melt and then goes on chemical reactive by moisture in the air to get the final bonding strength. It also exhibits thermal resistance. This product is used for various materials bonding, including glass, ceramics, metals such as: stainless steels, aluminum alloy and plastics such as: PC, PET, ABS.

**FEATURES:**

- This resin has low viscosity at high temperature and is easy for applying the adhesive. User can control the viscosity by changing temperature. It also has sag resistance when operating as well as curing and is easy for rework in the short time.
- One component moisture curing adhesive, solid content is 100%, no volatile solvent, curing without corrosive gas.
- Fast curing, shock, acid and alkali resistance.
- Various materials bonding.
- Excellent weather resistance (-40°C~120°C) pass environmental test experiments of 85°C x 85%RH x 500hr.
- New aluminum package with special treatment of inner and outer, recyclable, more environmental protection, durable.
- This product complies to halogen free requirement.
- This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.
- This resin complies to the 2011/ 65/EU RoHS regulations.

**TYPICAL PROPERTIES:** All properties given are at 23 °C unless otherwise noted.

<b>Property: :</b>	<b>Value:</b>	<b>Unit:</b>
Color /Appearance	Clear milky solid	
Viscosity 110°C, S14 20rpm,	3,500	cps
Hardness	56	Shore D
Specific Gravity	1.07	
Glass Transition Temp. (MDSC)	99	°C
Water Absorption Ratio		
24hr@25 °C	0.31	%
24hr@80 °C	2.22	%

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1.5hr@97°C	1.26	%
Degradation Temp. (TGA 10°C /min)	337	°C
Elongation	>200	%
Bonding Strength		
Etched Aluminum	234	kg /cm <sup>2</sup>
Stainless Steel	230	kg /cm <sup>2</sup>
Green FRP	345	kg /cm <sup>2</sup>
Acrylic	390	kg /cm <sup>2</sup>
Polycarbonate	375	kg /cm <sup>2</sup>
ABS	345	kg /cm <sup>2</sup>
PC+ABS	370	kg /cm <sup>2</sup>
AL+PC	375	kg /cm <sup>2</sup>
AL+ABS	345	kg /cm <sup>2</sup>
Volume Resistivity	2.5*10 <sup>12</sup>	ohm-cm
Surface Resistivity	2.4*10 <sup>12</sup>	ohm
Dielectric Constant @1KHz	4.4	
Dielectric Strength	22	KV/mm
Thermal Temperature Range	-30~120	°C

It should test this product after putting more than 24 hours and the relative humidity should be above 50%RH (including). Please refer to ASTM D1002 - 05 Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal.

**Temperature and Viscosity Test\***

Temperature, °C	Viscosity, cps
100	About 8,400
110	About 4,600
120	About 3,500
130	About 2,800
140	About 1,900

Test Spindle: No. 17; Internal Diameter 1.17mm, Temperature 25°C x 60%RH. Test Condition: Aluminum package and spindle need to maintain uniform temperature

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**Open Time \***

Temperature, °C	Time, mins
100	1
110	1.5
120	2
130	3
140	6

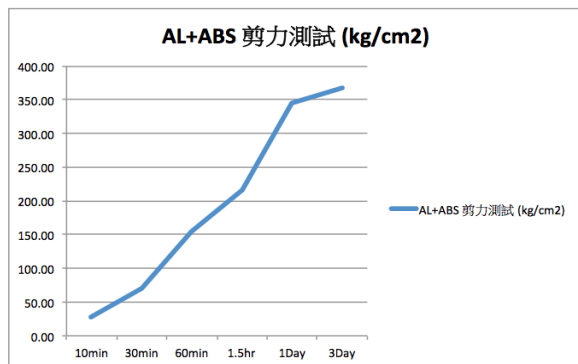
Depends on the materials

**Shear Strength 1**

Time	kg /cm <sup>2</sup>
10 min	34.84
30 min	84.45
60 min	185.23
1.5 hr	230.48
1 day	350.27
3 days	376.29

Specimen Material: Al vs. ABS, depends on curing condition

Test Method: Please refer to ASTM D1002 - 05 Standard Test Method for Apparent Shear Strength of Single-Lap- Joint Adhesively Bonded Metal Specimens. kg/ cm<sup>2</sup> should time 9.8 to become kg/ cm<sup>2</sup>.



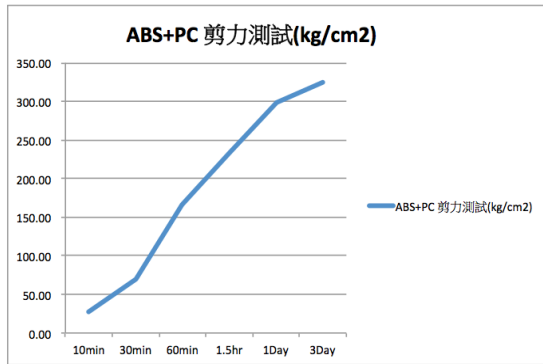
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**Shear Strength 2**

Time	kg /cm <sup>2</sup>
10 min	34.44
30 min	82.68
60 min	186.60
1.5 hr	247.24
1 day	323.02
3 days	354.48

Specimen Material: ABS vs. PC, depends on curing condition

Test Method: Please refer to ASTM D1002 - 05 Standard Test Method for Apparent Shear Strength of Single-Lap- Joint Adhesively Bonded Metal Specimens. kg/ cm<sup>2</sup> should time 9.8 to become kg/ cm<sup>2</sup>



**INSTRUCTIONS:**

1. This product should be stored at dry place to prevent the properties from changing.
2. Bonding surfaces should be clean, dry and properly prepared.
3. Cure time on the really part will depend upon factors such as part geometry, materials to be bonded, bondline thickness and efficiency of the oven. Cure schedule should be confirmed with actual production parts and equipment.
4. This product may be applied with commercial dispensing equipments.
5. It should prevent bubbles in the cured product in order to make the resin have the best performance.

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## DATA SHEET 210060

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### **STORAGE & SHELF-LIFE:**

This product should be kept without any possibility of moisture and heat to maintain the properties. Shelf life of this product is eight months at room temperature in original, unopened containers. It should let the product return to room temperature after opening the package and then put the product into aluminum foil bags with desiccative. Do not reuse this product more than three times after opening the package. If this product is left at room temperature more than seven days without the package and start to have moisture reaction, it will not be melted and extruded. It is recommended to discard the product and do not use it anymore.

### **CAUTION:**

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, contact with skin is likely to produce mild transient reddening. It is important to remove adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This product is of moderate acute toxicity by swallowing. If swallowed, call a physician. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet.

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