

Room 9,11 Floor, Chuangxin Building Block 1#, No.1, Technology Road, Technology  
Chuangxin Park, West of Dayabay, Huizhou City, Guangdong, P.R. China  
TEL (86 752) 5533798      FAX (86 752) 5533798-811

**Description:**

Tacusil™ 810059 is a moisture-curing MS resin (STPU) that is primarily a moisture-curing adhesive developed for rapid hardening needs. This product releases neutral alcohols after reaction with moisture in the air, further producing a hardening reaction. The resin does not have the malodor of the deacidified silicon and the toxicity of the isocyanate (NCO) in the conventional polyurethane. It is a polymer material that combines process and safety. This product has a much stronger bonding strength to plastic than Silicone.

**Features:**

- This product could be used on various bonding applications.
- This resin has flexible properties and fracture energy.
- This product has stable properties in a wide range of temperature.
- This product does not volatilize low molecular weight siloxane compounds. It will not pollute the electronic devices.
- This resin is one component product without mixing. It is easy to use.
- This product has stable properties and is able to store in the room temperature.
- This resin will fast cure in the air. It can have surface dryness in a short time.
- This product complies to the 2011/65/EU RoHS regulations.
- This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

**Typical Properties:**

All properties given are at 25°C unless otherwise noted.

<i>Property:</i>	<i>Value:</i>	<i>Unit:</i>
<b>Color</b>	Clear	
<b>Appearance</b>	Liquid	
<b>Viscosity 25 °C, S14 20rpm</b>	8,000 - 12,000	cps
<b>Specific Gravity</b>	1.04	

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<b>Hardness</b>	30	Shore A
<b>Surface Dry Time, 25°C</b>	3	min
<b>Initial Cured Time, 25°C</b>	30	min
<b>Through Cured Time, 25°C</b>	3	days
<b>Glass Transition Temperature (DSC)</b>	-23	°C
<b>Coefficient of Thermal Expansion (T<sub>g</sub>)</b>	203	ppm
<b>Water Absorption Ratio (25 °C (24h))</b>	1.89	%
<b>Elongation</b>	259	%
<b>Volume Shrinkage</b>	3.02	%
<b>Thermal Conductivity</b>	0.2	W/mK
<b>Shear Strength</b>		
PC vs. PC	29	kgf/cm <sup>2</sup>
ABS vs. ABS	16	kgf/cm <sup>2</sup>
PMMA vs. PMMA	18	kgf/cm <sup>2</sup>
PET vs. PET	20	kgf/cm <sup>2</sup>
PVC vs. PVC	35	kgf/cm <sup>2</sup>
Copper vs. Copper	34	kgf/cm <sup>2</sup>
SUS vs. SUS	30	kgf/cm <sup>2</sup>
Glass vs. Glass	10	kgf/cm <sup>2</sup>
Al vs. Al	23	kgf/cm <sup>2</sup>
<b>Volume Resistivity</b>	2.3* 10 <sup>11</sup>	ohm-cm
<b>Surface Resistivity</b>	2.1* 10 <sup>12</sup>	ohm
<b>Dielectric Constant</b>	3.8 3.6 3.2	100Hz 1KHz 1MHz
<b>Dielectric Strength</b>	14	KV/mm
<b>Temperature Range</b>	-40 - 100	°C

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**Thermal Strength/ Thermal Aging:**

Strength, Al vs. Al after curing, 25°C*50%RH*7 days	kgf/cm <sup>2</sup>
Temperature	Shear Strength
25°C	23
50°C	20
80°C	18
100°C	15
120°C	9

Aging, -40°C (1hr)~ 100°C (1hr)	kgf/cm <sup>2</sup>
Cycles	Shear Strength
0	23
100	19
200	17
300	14
400	11
500	9

High Temp & Humidity, 80°C * 90%RH	kgf/cm <sup>2</sup>
Time, Hour	Shear Strength
0	23
24	24
72	21
168	19
500	16
1000	12

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# TECHNICAL DATA SHEET 810059

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## **INSTRUCTIONS:**

1. It should be applied to a clean surface which is free of dirt, grease or mold release. In many cases, a simple solvent wipe is sufficient.
2. Pour or brush this product onto the substrates, it does not recommend to stir to avoid interfusing the air. This product will be cured with the air. The curing properties depend on its thickness, curing temperature and relative humidity.
3. The bottom of the resin might not be cured in thicker application, such as casting, because the bottom of the resin contacts with moisture rarely. It is recommended to prolong the curing time in order to let the moisture spread from the surface to the bottom. It can also cast the resin two times. Cast the resin to the half height at the first time. When the surface is tacky, cast the resin for the second time.
4. Use this product as soon as possible after opening the original packages. When not using, please replace the lid tightly and store in a cool and dry place.
5. Cure time on the really part will depend upon factors such as part geometry, materials to be bonded, bondline thickness and humidity. Cure schedule should be confirmed with actual production parts and equipment.
6. The cured resin is not harmful to human when touching the skin.

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

This product should be kept without any possibility of moisture exposure. Replace the lid immediately after use. This product has a six-month minimum shelf life when stored in dark place below 14~34°C in original, unopened containers.

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