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West of Dayabay, Huizhou City, Guangdong, P.R. China  
TEL (86 752) 5533798 FAX (86 752) 5533798-811

### DESCRIPTION:

Tacusil™ 210007 is a two-components, fire retardant, environment friendly, transparent PU casting resin, with excellent performance of electronic insulation, shock resistance, water and humidity isolation, and weather fastness. It is suitable for electronic devices potting to meet the requirements of shock proof, humidity proof, insulation, and anti-corrosion. It is used for filling PCB control boards such as household washing machines, dishwashers, gas igniters, toilets and so on.

### CHARACTERISTICS:

|   |  |
|---|--|
| Appearance<br>Part A<br>Part B                                | Yellow transparent liquid<br>Yellow transparent liquid |
| Viscosity @23°C, mPa.s<br>Part A<br>Part B<br>Mixed           | 250±100<br>750±200<br>400±150                          |
| Density @23°C, g/cm <sup>3</sup><br>Part A<br>Part B<br>Mixed | 1.10±0.05<br>0.96±0.05<br>1.05±0.05                    |
| Mix ratio by mass   | 100 : 100  |
| Gel time @ 30°C, min, 20g                                     | 30±10  |
| Condition of curing °C/h                                      | 60/3~6 or 23/48~72                                     |
| Hardness @ 23°C Shore A                                       | 35±10  |
| Volume resistivity @ 23°C Ω.cm                                | ≥1.0×10 <sup>11</sup>                                  |
| Loss tangent @50 Hz   | <11  |
| Dielectric constant @ 23°C KV/mm                              | >16  |
| Permittivity@ 50Hz  | 5.5±1.5  |
| Extension strength, Mpa                                       | ≥0.2   |
| Elongation rate, %  | ≥40  |
| Water absorption rate, % @23°C, 24h                           | < 0.3  |
| Flammability rating   | Approvable to V-0                                      |
| Mildew proof grade, ASTM G21-09                               | 0  |
| Operating temperature, °C                                     | -60~100  |
| Storage life, Sealed at room temperature 5~35°C               | 6 months   |

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\* Curing time can be adjusted regarding the device size, device structure, curing temperature, casting weight and ambient temperature.

**Proposed Process for Application:**

1. Preheating

When the ambient temperature is lower than 25°C, the product should be placed in the aging room in advance to preheat to ensure that the product temperature is not lower than 25 °C. Avoid the inconvenience of material extraction due to high viscosity.

2. Pumping

Agent A and agent B are separately extracted into the corresponding material tank. During the extraction process, pay attention to observe the bubble formation. When the bubbles reach the top, they should be discharged in time to prevent the bubbles from sucking into the vacuum system.

3. Heating

It is suggested that the temperature should be generally controlled at 50 - 60 °C to reduce the viscosity of the material, which is conducive to the flow rate and the effect of vacuum pumping.

4. Defoaming

When the material temperature rises to 50-60 °C, the vacuum begins to be pumped. It is usually recommended that the vacuum time be 30-60 minutes

5. Filling

Adjust the flow rate and test several times before filling. Measure whether the ratio is correct, and then start filling.

6. Curing

It can be cured at room temperature and at elevated temperature. Generally, the curing environment under elevated temperature is relatively dry, which is conducive to reducing reaction bubbles.

**Storage and transportation**

1. Storage conditions: The environmental conditions are 5~35°C and relative humidity <85%RH. Sealed in dark, cool and dry place. In winter, if the ambient temperature is lower than 5°C, thermal insulation measures should be taken.
2. Storage period: The shelf life is 6 months from the date of production (if the seal is not damaged).
3. Transportation as normal chemicals, since the product is non-dangerous goods.
4. Propose to clean the mixing chamber and the injection head of the potting machine daily, if auto potting machine is used.

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**Package**

Material A: 18kg per blue barrel

Material B: 18kg per white barrel

1. It is suggested to use automatic mixing equipment, which not only can mix accurately in the correct proportion, but also cannot introduce air to produce bubbles.
2. PCB boards should be dried before filling. Otherwise, there will be tiny bubbles on the edges of boards and components.
3. When the ambient temperature is lower than 25 °C, the material should be preheated to prevent bubbles from occurring due to excessive viscosity.
4. In manual operation, attention must be paid to neither introducing too many bubbles nor contacting with water and moisture.
5. When the machine is used for filling, the material temperature needs to rise. Open the vacuum to remove bubbles and adjust the flow rate control according to the requirement.
6. When materials are not used or not used up after opening, they must be sealed and stored in nitrogen or vacuum.
7. Mix the A\B components in proportion in a short time. The mixed resin can only be used in limited time (gel time). Otherwise, it will not be used. Therefore, each time it must be used before the gel.
8. The curing time is related to the amount of mixing and the ambient temperature. When the amount of mixing is large or the temperature is high, the curing time will be shortened relatively. On the contrary, the curing time will be prolonged. Catalysts will greatly shorten the curing time.
9. The resin before curing is easier to clean. The cured resin should be soaked, softened and peeled with special cleaning agent.

**Remarks**

The performance data listed above is the typical values after fully curing, based on the standard condition, ambient 23°C, relative humidity 60%. The data is a reference for customer applications. The data cannot be guaranteed at the special application condition on customer site. Customers should finish necessary verification tests before application, and assure our products meet your requirements of process and application based on actual experimental data. The reliability quality depends on the customer and us. We reserve the rights to revise the technical data. Please subject to the actual experimental data when use this product.