

## **SMT266 Spray Adhesive Product Datasheet**

Enhance Solder Joint Reliability

Eliminate Solder Joint Cracking

Eliminate Underfilling

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### **Description**

SMT 266 series spray adhesives have been designed to enhance solder joint reliability and eliminate solder joint cracking for CSP, BGA, Flip chip and PoP (package on package), particularly for lead free application. SMT 266 is a kind of polymer solution and a polymer film will be formed after spraying onto the component footprint of the print circuit board or substrate. During the reflow process, the polymer film removes metal oxide and allows solder joint to be formed, meanwhile, a 3-D polymer network starts to form and encapsulate individual solder joints with enhancing solder joint to eliminate some drawbacks of underfilling (large CTE above Tg, trouble process control). The performance of the drop test has been improved by two orders of magnitude compared with that with the use of solder paste. The polymer network can be removed using methyl ethyl ketone (MEK) or heating.

### **Typical Physical Properties**

|                                   |                               |
|-----------------------------------|-------------------------------|
| <b>Product Name</b>               | SMT 266 Spray Adhesive        |
| PROPERTIES OF UNCURED MATERIAL    |                               |
| Appearance                        | Colorless or yellowish Liquid |
| Specific Gravity (ASTM D 1475-60) | 0.9 – 1.0                     |
| Viscosity (Brookfield, 0.5 rpm)   | 6 – 10 cp                     |
| Quantitative Halide Content       | 0%                            |

|                                           |        |
|-------------------------------------------|--------|
| Extractable ions (MIL-STD-883E)           |        |
| Na+                                       | <5ppm  |
| K+                                        | <5ppm  |
| F-                                        | <5ppm  |
| Cl-                                       | <10ppm |
| Surface insulation resistance (J-STD-004) | Pass   |

## **Application**

It can be applied onto the component footprint of a print circuit board or substrate by manual spraying or auto-spraying system. It is recommended that the wet thickness of SMT 266 should be  $2 \pm 0.5$ mil in order to obtain the best performance. However, it is still necessary to adjust the thickness of wet adhesives according to bump height and size of a component. Listed is a simple process flow chart of SMT 266 application.

Print solder paste for other SMT components. Spray SMT 266 for CSP/BGA -> Place SMT components -> Solder reflow. Adhesives cure.

## **Reflow & Cure**

SMT 266 is completely comparable with the current SMT assembly process and all kinds of pad surface finishes such as Ni/Au, Immersion Ag, OSP. It can be used in convection, conduction, infrared, or vapor phase soldering systems under air or nitrogen atmosphere. The time from ambient temperature to peak temperature should be 4 to 5 min with a peak temperature from 230°C to 260°C.

## **Storage & Shelf Life**

6 months provided materials are kept in a sealed original container below – 20 °C. Storage beyond this period can produce higher viscosity. Protect from moisture, evaporation and foreign materials. Process ability of these products can be adversely affected by evaporation and contamination.



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### **Safety**

SMT 266 is a friendly, non-toxic material. However, general hygiene practice is recommended when handling this material. For detailed information please consult our SDS.

### **Package**

SMT 266 series spray adhesives are available in a 2oz and 8oz spray bottle. Other packages are available depending upon customer's request. Contact YINCAE for order information.