

BP 256 Ball Attach Adhesives Product Datasheet

Enhance Solder Joint Reliability

Eliminate Cleaning Process

Eliminate Underfilling

Description

BP 256 ball attach adhesives have been designed to enhance solder joint reliability and eliminate cleaning process for ball bumping process of CSP, BGA, Flip chip and PoP (package on package) and so on, particularly for lead free applications. BP 256 is a kind of polymer adhesive. During the reflow process, this polymer adhesive removes metal oxide and allows solder joint to be formed; meanwhile, a 3-D polymer network starts to form and encapsulates individual solder bump with enhancing the joint to eliminate some drawbacks of later underfilling (large CTE above T_g, trouble process control). The performance of 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

Product Name	BP 256 Ball Attach Adhesive
Appearance	Colorless or yellowish Liquid
Specific Gravity (g/cc)	1.05
Viscosity (Brookfield, 0.5 rpm)	25 – 65 kcp
Quantitative Halide Content	0%

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

Application

BP 256 can be applied using printing or pin transfer methods. It is recommended that the thickness of BP 256 should be 85 – 95 % of bump height for dipping to obtain the best performance. However, it is still necessary to optimize the thickness of BP 256 adhesives according to detailed information of a component. Listed is a simple process flow chart of BP 256 application.

Apply BP 256 onto Pads -> Ball Placement -> Reflow

Reflow & Cure

BP 256 is completely comparable with 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 system 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 sealed original container at – 20 °C or below. 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.

Safety

BP 256 Series products are friendly, non-toxic materials. However, general hygiene practice is recommended when handling these materials. For detailed information, please consult the product SDS.

Package

BP 256 series dip adhesives are available in 5cc and 10cc syringe. Other packages are available as requested. Please contact YINCAE for order information.