



IQ-BOND 3400

Red Surface Mount Adhesive

Pre-Mixed, One Component, Epoxy-based Adhesive for Stencil Printing Applications

Product Description:

IQ-BOND 3400 is a solvent-free, one-component, pre-mixed, thermoset epoxy based adhesive, developed for stencil and/or screen printing applications.

It has been designed specifically for the bonding of surface mount devices (SMD), to printed circuit boards, prior to the wave soldering process. Characterized by excellent stencil printability, resulting in high dot profiles, without aperture-stringing or tailing. Also, it's chemistry has been selected to provide good green strength, resulting in optimum pick & place performance of all common SMD components.

The chemistry of IQ-BOND 3400 has been selected to resist temperatures over 200°C for short periods of time, and has been used in lead-free solder processes with peak temperatures as high as 270°C.

Unlike many other single-component adhesives, characterized by a short potlife, IQ-BOND 3400 has a very long potlife of > 1 month at room temperature.

When fully cured, IQ-BOND 3400 is resistant to moisture, cleaning agents and dilute acids and bases. Also it exhibits very good high thermal resistance, for example typical SnPb-, as well as lead-free soldering processes.

IQ-BOND 3400 is a solvent-free, 100% solids material.

For cleaning un-cured IQ-BOND 3400 from stencils, screens, squeegee, or other equipment, the use of IQ-CLEANER 9500 is recommended.

Product Properties:

- Appearance: Red Thixotropic Paste
- Chemistry: Epoxy
- Odor: Faint
- Mix-Ratio: Not Applicable – pre-mixed single component adhesive
- Fineness: < 20 µm

- Viscosity: > 150.000 mPa.s (Brookfield SSA, SC-25 at 20 rpm)
- Thixotropic Index > 6 (Brookfield SSA, SC-25 – ratio of 5 rpm / 50 rpm)
- Density 1,3 – 1,45 gr/cc

- Cure Speed:
 - 30 " @ 175°C
 - 1 – 2 minutes 150°C
 - 5 minutes 120°C

For good mechanical strength, cure according above conditions is recommended, and a minimum of 100°C required. The final bond strength will depend on the residence time at the given cure temperature. Typically, a higher curing temperature, as well as a longer cure time will result in higher adhesion strength, and improved polymer crosslinking.

- Linear Shrinkage on Cure: 0,4 %
- Thermal Conductivity: 0,3 W/m.K
- Dielectric Constant @ 1 MHz 3,6
- Volume Resistivity @ 25°C: > 1 x 10¹⁴ Ohm.cm

Processing parameters:

IQ-BOND 3400 is suitable for most common printing systems. Print speeds of 20 mm/s, up to 150 mm/s can be used, but printer set up will have an influence on the dot-profile realized. Prior to use, it's advised to let the adhesive IQ-BOND 3400 equilibrate to room temperature. Depending the size of packaging, 2 to 4 hours are typically recommended. Printing conditions of about 25°C, and relative humidity not higher than 70% are recommended for optimum printing performance. Higher temperatures will have an effect on viscosity. Too high humidity, may cause moisture accumulation in the adhesive, which can reduce the print-worklife of IQ-BOND 3400.

Storage stability:

Storage stability is 6 months from date of production, when stored at temperatures below 8°C, in closed containers.

At room temperature, IQ-BOND 3400 has a long worklife / potlife of > 1 month.

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