

IQ-BOND 3202



Surface Mount Adhesive for Stencil Printing

Pre-Mixed, One Component, Epoxy-based Adhesive for Stencil Printing Applications
Slightly Lower Viscous version of IQ-BOND 3203

Product Description:

IQ-BOND 3202 is a solvent-free, one-component, pre-mixed, thermoset epoxy based adhesive, developed for high speed stencil and/or screen printing applications.

IQ-BOND 3202 can be cured at temperatures as low as 80°C and has shown best-in-class adhesion strength in the market on low-temperature substrates such as PET and PEN. At higher curing temperatures, the curing cycles can be reduced to a minimum.

It has been designed specifically for the bonding of surface mount devices (SMD), to printed circuit boards, prior to the wave soldering process. The rheology is optimized for excellent stencil printability, resulting in high dot profiles, without aperture-stringing or tailing.

Its chemistry has been selected to provide good green strength, resulting in optimum pick & place performance of all common SMD components.

It was specifically developed to offer faster cure at lower temperatures in comparison to the standard IQ-BOND 3400. Its chemistry has been optimized to meet the cure profile of 4-5 minutes @ 105°C. For optimum curing performance, it's recommended to do the cure process in a conveyor belt oven. When curing IQ-BOND 3202 in a convection oven, it is recommended to apply a longer curing time for optimum adhesion properties.

Unlike many other single-component adhesives, characterized by a short potlife, IQ-BOND 3202 has a long potlife of > 1 week at room temperature.

When fully cured, IQ-BOND 3202 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 3202 is a solvent-free, 100% solids material and RoHS / REACH compliant.

For cleaning un-cured IQ-BOND 3202 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: ~ 600.000 mPa.s (Brookfield SSA, SC-25 at 5 rpm)
- Thixotropic Index > 5
- Density ~ 1,15 gr/cc
- Cure Speed:
 - 60 seconds @ 150°C
 - 150 seconds @ 125°C
 - 4 - 5 minutes @ 105°C *
 - 60 minutes @ 80°C

For good mechanical strength, cure according above conditions is recommended, and a minimum of 80°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.

* To realize the cure of 4 – 5 minutes at 105°C, it is highly recommended to use a conveyor belt oven. Cure in a convection air oven at 105°C may require longer curing times, f.e. 7 - 10 minutes., depending the type of convection oven.

- Linear Shrinkage on Cure: 0,4 %
- Low moisture uptake: < 0,1%
- 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 3202 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 3202 equilibrate to room temperature. Printing conditions of about 25°C, and relative humidity not higher than 70% are recommended for optimum printing performance. Higher temperatures may have an effect on viscosity. Too high humidity, may cause moisture accumulation in the adhesive, which can reduce the print-worklife of IQ-BOND 3202.

Storage stability:

Storage stability is 4 months from date of production, when stored at temperatures below 5°C, in closed containers. At temperatures < -20°C, storage stability is > 6 months. At room temperature, IQ-BOND 3202 has a long worklife / potlife of > 1 week.

Attention:

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