

IQ-BOND 5132-CE

Flexibilized, Low-Stress, Electrically-Conductive, 1-Komponent Adhesive

Pre-Mixed, One Component, Solvent-Free, Hybrid-Epoxy Adhesive

Product Description:

IQ-BOND 5132-CE is a solvent-free, one-component, pre-mixed electrically-conductive adhesive, developed for applications where flexibility is required.

The rheology of IQ-BOND 5132-CE allows both dispensing, printing, as well as stamping processes. It has a high adhesion strength to substrate finishes commonly used in microelectronics applications.

IQ-BOND 5132-CE, in contrast to many other epoxy adhesives, is based on special selected flexibilized chemistry, making it an ideal solution for bonding applications of dissimilar materials with significant differences in CTE (coefficient of thermal expansion).

When fully cured, IQ-BOND 5132-CE is resistant to moisture, cleaning agents and dilute acids and bases. Its chemistry has been selected to combine flexibility with great adhesion, making it a preferred solution for bonding thermally mismatched substrates such as ceramic to aluminum, or ceramic to copper.

The chemistry of IQ-BOND 5132-CE allows operation temperatures between -50°C and +200°C.

IQ-BOND 5132-CE is a solvent-free, 100% solids material and RoHS / REACH compliant.

For optimum curing performance, it's recommended to do the cure process in a conveyor belt oven. When curing IQ-BOND 5132-CE in a convection oven, it is recommended to apply a longer curing time for optimum adhesion properties.

For cleaning un-cured IQ-BOND 5132-CE from stencils, screens, squeegee, or other equipment, the use of IQ-CLEANER 9500 is recommended.

IQ-BOND 5132-CE is the electrically conductive version of IQ-BOND 2132.

Product Properties:

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| • Appearance: | Silver paste |
| • Chemistry: | Hybrid |
| • Odor: | Faint |
| • Mix-Ratio: | Not Applicable – pre-mixed “one component” adhesive |



- Fineness: < 40 μm
- Viscosity: $\sim 160.000 \text{ mPa.s}$ (CP52, RVII – at 25°C / 0,5 rpm)
- Density $\sim 3,1 \text{ gr/cc}$
- Adhesion Strength: $> 200 \text{ kg/cm}^2$
- Hardness: $\sim 50 \text{ shore D}$ / 95 shore A
- Volume Resistivity: $\sim 5 \times 10^{-4} \text{ Ohm.cm}$ (after cure 60 minutes 150°C)
- % Ash residue: $\sim 74 \text{ +/- } 1$
- Thermal Conductivity: $\sim 4,5 \text{ W/m.K}$
- Cure Speed*:
 - 15 minutes @ 175°C
 - 60 minutes @ 150°C
 - 90 minutes @ 120°C

For good mechanical strength, cure according above conditions is recommended. 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.

Processing parameters:

IQ-BOND 5132-CE is suitable for most dispensing systems. Prior to use, it's advised to let the adhesive IQ-BOND 5132-CE equilibrate to room temperature.

Storage stability:

When stored at temperatures below -20°C, in closed and sealed containers, the storage stability of IQ-BOND 5132-CE is 6 months from date of production. At temperatures < -40°C, the shelflife is 12 months.

At room temperature, IQ-BOND 5132-CE has a worklife / potlife of ~ 12 hours.

Attention:

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