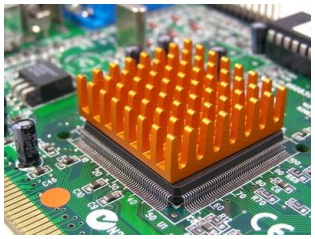

IQ-BOND 2231-T

Thermally conductive, low T°-cure adhesive with long potlife

Pre-Mixed, One Component, Epoxy-based, with fine filler for thin bondline

Product Description:

IQ-BOND 2231-T is a solvent-free, one-component, pre-mixed, thermoset epoxy based adhesive, developed for applications where thermal conductivity is required.

It is optimized for small dot dispensing, and manufacturing of high volume assemblies. It has a high adhesion strength to the substrate finishes commonly used in microelectronics applications.

IQ-BOND 2231-T can be cured at temperatures as low as 80°C. This makes it a very interesting thermally conductive adhesive for applications where temperature sensitive substrates are used. Very fast curing cycles, in a form of “stroke cure” are also possible, and take f.e. only about 6 – 12 seconds at 170°C.

For optimum curing performance, it’s recommended to do the cure process in a conveyor belt oven. When curing IQ-BOND 2231-T 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 2231-T has a long potlife of > 1 week at room temperature.

When fully cured, IQ-BOND 2231-T 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 2231-T is a solvent-free, 100% solids material and RoHS / REACH compliant.

For cleaning un-cured IQ-BOND 2231-T from stencils, screens, squeegee, or other equipment, the use of IQ-CLEANER 9500 is recommended.

Roartis

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Product Properties:

- Appearance: Off-white / milky paste
- Chemistry: Epoxy
- Odor: Faint
- Mix-Ratio: Not Applicable – pre-mixed "one component" adhesive
- Fineness: < 25 µm
- Viscosity: ~ 2.000 mPa.s (CP51, RVII – at 25°C / 10 rpm)
- Thyxotropic Index ~ 1,4 (CP51, RVII – at 25°C / 10 rpm – ratio 2 /20 rpm)
- Density ~ 1,3 gr/cc
- Thermal Conductivity: ~ 1,0 W/m.K
- Adhesion Strength: > 200 kg/cm²
- Cure Speed*:
  - 1-2 minutes @ 150°C
  - 20 minutes @ 100°C
  - 30 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.

*: Indicated cure speeds in IR-oven. In convection ovens, the cure schedule is slightly longer , f.e. 5 min. 150°C or 60 min. 80°C Stroke cure with thermode system, will result in very short cure cycles of only 6 – 12 seconds at 170°C

Processing parameters:

IQ-BOND 2231-T is suitable for most dispensing systems. Prior to use, it's advised to let the adhesive IQ-BOND 2231-T equilibrate to room temperature.

Storage stability:

Storage stability is 2 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 temperatures < -40°C, the shelflife is 12 months.

At room temperature, IQ-BOND 2231-T has a long worklife / potlife of > 1 week.