

IQ-BOND 2517

Non-Bleeding “Glob Top” Adhesive

Pre-Mixed, One Component, Epoxy-based with special selected chemistry for “Non-Bleeding”

IQ-BOND 2517 has been developed and qualified as replacement for the discontinued Hysol FP4401

Product Description:

IQ-BOND 2517 is a solvent-free, one-component, pre-mixed, thermoset epoxy based adhesive, developed for “small IC Glob Top” applications. Its chemistry has been optimized to avoid bleeding on “bleeding-sensitive” substrates, such as for example ceramic or silicon.

Due to the relatively high filler loading, IQ-BOND 2517 shows some thixotropic behavior during the dispensing process. However, once the curing process is started, the material will flow out a little bit, to assure good coverage and levelling of the protective coating on the IC.

The chemistry is selected to be suitable for applications in which thermal cycling requirements are from -65°C up to + 160°C. As such, IQ-BOND 2517 has been qualified in various industrial and automotive applications, where it has proven exceptional reliability performance in harsh environments.

The rheology of IQ-BOND 2517 is optimized for applications where minimal flow is required. Although this material is highly filled, and therefore the viscosity is not very low, the rheology has been optimized to make sure that during the cure profile, when temperature increases, IQ-BOND 2517 will self-level, and make a uniform layer.

Furthermore, the resin and fillers have been selected to make IQ-BOND 2517 suitable for typical dispense applications. The particle size of the filler allows easy dispensing with needles with internal diameter > 200 µm.

IQ-BOND 2517 has a long potlife of 24 hours at room temperature.

When fully cured, IQ-BOND 2517 is resistant to moisture, cleaning agents and dilute acids and bases.

IQ-BOND 2517 is a solvent-free, 100% solids material and RoHS / REACH compliant.

For cleaning un-cured IQ-BOND 2517 from stencils, screens, squeegee, or other equipment, the use of IQ-CLEANER 9500 is recommended.



Product Properties:

- Appearance: Black
- Chemistry: Epoxy
- Odor: Faint
- Mix-Ratio: Not Applicable – pre-mixed single component adhesive
- Viscosity: ~ 45.000 mPa.s (Brookfield CP51 at 5 rpm – T° 25°C)
- Density ~ 1,70 gr/cc
- Filler content: ~ 66,5 %
- Solids content: 100%
- Cure Speed:
 - 1 hours @ 170°C
 - 2 hour @ 150°C
 - 2 hour @ 125°C + 2 hours @ 150°C (“Lower stress cure”)

For good mechanical strength, cure according above conditions is recommended, and a minimum of 140°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.

- Hardness: > 85 shore D
- Tg: ~ 165°C
- Coefficient of Thermal Expansion (CTE) < Tg: ~ 21 - 25 ppm/°C
- Dielectric Constant ~ 4,0 from 1 Hz – 100 MHz
- Electrical Dissipation Factor < 0,02 (from 1Hz to 100 MHz)

Processing parameters:

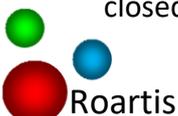
IQ-BOND 2517 is suitable for most common dispensing systems.

Prior to use, it's advised to let the adhesive IQ-BOND 2517 equilibrate to room temperature. Temperature conditions of about 25°C, and relative humidity not higher than 70% are recommended for optimum performance. Higher temperatures may have an effect on viscosity. Too high humidity, may cause moisture accumulation in the adhesive, which can reduce the worklife of IQ-BOND 2517.

Also, after dispensing, it's recommended to proceed with the curing cycle within 1 – 2 hours, to prevent moisture accumulation. This may have a negative impact on final cure properties of IQ-BOND 2517

Storage stability:

Storage stability is 6 months from date of production, when stored at -40°C, in closed containers. Storage stability is 3 months from date of production, when stored at temperatures below -20°C, in closed containers. At room temperature, IQ-BOND 2517 has a long worklife / potlife of 12 hours.



Attention:

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