Description

EW 6066 is a one-part epoxy adhesive designed as a reworkable underfill for CSP or BGA. It provides excellent protection of CSP & BGA solder joints from mechanical stress and thermal shock. It is compatible with flux residues.

Features

- Good flowability
- Fast curing speed
- Halogen free
- Excellent reliability

Uncured Properties

Chemical Type	Epoxy
Appearance	Black
Viscosity @ 25°C [mPa·s] Brookfield DV2T	500
Specific Gravity [g/cm^3]	~1.15
Pot Life @ 25°C [days]	3
Shelf Life @ -20±5°C [months]	6

Curing Conditions

Thermal Curing @ 130°C [mins]	10

Cured Properties

Hardness [Shore D] ASTM D2240	85
Glass Transition Temperature (Tg) [°C] ISO 11359	110
Coefficient of Thermal Expansion (CTE) [ppm/K] Below Tg Above Tg ASTM D696	 59 179
Tensile Strength [MPa] ASTM D638	22
Shrinkage [%] ISO 3521	2.2
Water Absorption [%] ASTM D570	0.3
Surface Resistivity [ohm·cm] ASTM D257	>1.0x10^{14}
Volume Resistivity [ohm·cm] ASTM D257	>1.0x10^{14}
Dielectric Strength [kV/mm] ASTM D149	16
Dielectric Constant (Dk) @ 100kHz ASTM D150	3.5
Dissipation Factor (Df) @ 100kHz ASTM D150	0.02

Directions for Use

1. **Surface Treatment**

   Surfaces to be bonded should be free of dust, oil, grease or any other contaminants in order to achieve a reproducible bond. For slightly contaminated surfaces, it is sufficient to wipe with isopropanol or ethanol. Substrates with a low surface energy (e.g. polyethylene, polypropylene, Teflon) need to be pre-treated physically (e.g. atmospheric plasma or corona) in order to achieve sufficient adhesion.

2. **Application**

   Products are supplied ready for use. Depending on package type, they can be dosed manually, semi-

automatically or fully-automatically with a dosage apparatus. With automatic dispensing using a cartridge, the adhesive is conveyed via pressure and a piston rod to a dispense valve. With bottles, the adhesive is conveyed using a pump.

3. Suggested working temperature range is -40 to 120°C.

Rework Procedure

1. **Removal of CSP/BGA from PCB**
   Heat the top side of the CSP/BGA and remove the underfill fillet using a scraper. The CSP/BGA should be heated to the appropriate solder melting point so it can easily be separated from solder pad with a scraper after solder blowing out.

2. **Removal of underfill residue**
   Remove the residual underfill from the pad of a PCB or CSP/BGA using a solder iron (typical setting temperature of iron is 260-300°C).

3. **Clean up**
   Wipe the surface by a cotton swab with chip bonder cleaner or acetone. Repeat this step with a clean dry cotton swab.

Storage

Maximum shelf life may be obtained when product is stored in a cool, dry location at a temperature of **-20±5°C**.

TO PREVENT CONTAMINATION OF UNUSED PRODUCT, DO NOT RETURN ANY PRODUCT TO ITS ORIGINAL CONTAINER.

Allow the product to thaw for two hours after it is removed from the refrigerator prior to use. It is best practice to wipe away any moisture on the surface of the syringe with cleanroom wipes.

Materials Handling

Refer to the Material Safety Data Sheet (MSDS) for this product.

Disclaimer

The information provided here including the recommendations for use and application of the product is based on internal laboratory test conditions and should only be used as a reference. CollTech does not assume responsibility for the test or performance results obtained by the user. It is the responsibility of the user to perform their own evaluations to confirm whether this product is suitable for their application.