

ES1503

Red Glue - Epoxy Adhesive for Chip bonder

ES1503 is a heat-cured adhesive that falls under the category of one-component epoxy adhesives. It has been specifically formulated for stencil printing and boasts high bonding strength, resilience to high humidity, outstanding electrical performance, and reliable storage stability.

FEATURE

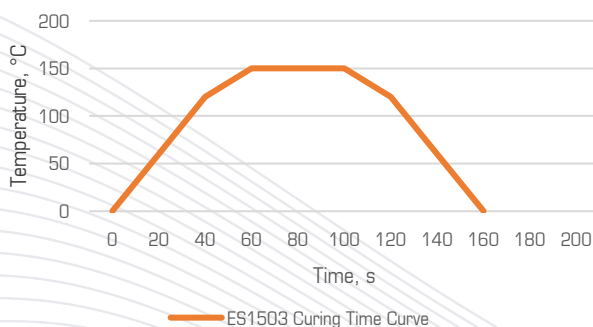
- Solvent-free, non-volatile, which offers excellent retention of electrical insulation properties under high humidity conditions.
- Medium viscosity and excellent thixotropy, which can be controlled flow and have sag resistance.
- Fast curing helps to shorten the working time
- Low stress, shrinkage, and water absorption

TYPICAL UNCURED PROPERTIES

Properties	ES1503
Appearance	Paste
Color	Red
Viscosity @25°C, Pas Brookfield RV, Spindle 7	200,000 ~ 400,000
Thixotropic Index	7
Density, g/cm ³	1.35

TYPICAL CURING PROPERTIES

Properties	ES1503
Pot Life, 25°C, days	14
Through Cured Time 120°C by hot place, sec	90~120s
Through Cured Time 150°C by hot place, sec	60~90s



The product will obtain to higher bonding strength when higher curing temperature and longer cured time . the figure curve is the recommended curing temperature and heating rate, under the corresponding temperature ,components need the time when they achieve good bonding strength.

Users can set the curing furnace's temperature parameters according to the solidified characteristic curve of the glue and the heat efficiency of the Reflow Ovens

DIRECTION FOR USE

1. The product should be recovered to room temperature before use, don't open the aluminum foil package before recovered to room temperature(the recovering time of 300ml packaging at least 2-4 hours).
2. The product should be used at 25°C , <60% Rh .
3. The glue viscosity will decline under the higher temperature, which influence printing effect; High humidity can increase the glue of moisture absorption which shorten the opening hours of the glue and influence the glue bonding strength. This product opening time is 48 hours at 25°C, 55% Rh.
4. Suggest to print at the speed of 20-150 mm/s; Drawknife pressure is 3-4 N/cm (After scraping, sheet should be clean, and avoid producing wire drawing); the deviating speed from the sheet is 0.1-3.0 mm/s.
5. Not cured adhesive which is stick online wires can be erased with acetone or propylene alcohol ethers.
6. Please seal and chill when not using up the glue.

TYPICAL CURED PROPERTIES

Properties	ES1503
Hardness (Shore D)	88
Shear Strength, MPa	18.5
Tg (°C), DSC	105
Dielectric strength, kV/mm	26.8
Surface resistance (Ohm)	3.5*10 ¹⁶

Cure Condition: 150°C/ 30 min

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STORAGE AND SHELF LIFE

This product should be kept without any possibility of wet and heat exposure. Shelf life of this product is 8 months when stored at $-20^{\circ}\text{C} \sim -5^{\circ}\text{C}$ before opening the containers. Shelf life of this product is 6 months when stored at $0^{\circ}\text{C} \sim 8^{\circ}\text{C}$ before opening the containers. Before use, this product should be placed at $14 \sim 34^{\circ}\text{C}$ for 1 to 2 hours. The properties will be changed when replace this product at room temperature for long time.

CAUTION

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, contact with skin is likely to produce mild transient reddening. It is important to remove adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This resin is of moderate acute toxicity by swallowing. If swallowed, call a physician. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet.

The data contained in this bulletin is provided only as a guide for evaluation/consideration. These material characteristics are typical properties that are based on a limited number of samples tested in the laboratory. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any product or method. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide.