



## Photo-curing Adhesive for BGA and CSP Reinforcement and Bonding

### Product Description

FK862F series is photo-curing adhesive developed for computer connector PVC/PET/PI and metal connector reinforcement. The connector will not peel off and short-circuit when the connector is bending. This product exhibits excellent cured surface dryness. Cured product will not stick hands or dust. This product can fast cure and particularly suited for mass encapsulation production in electronics industry.

### Features

1. This product is suited for various plastics bonding.
2. This product exhibits high strength that will not easily be destroyed by external force and can absorb fracture energy.
3. This product can be applied on encapsulation.
4. This product complies to the 2011/65/EU RoHS regulations.
5. This product complies to the chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

### Typical Uncured Properties

	FK862F
Chemical Composition	Acrylic resin
Appearance	Liquid
Color	Opaque
Viscosity* 25°C, S14 100rpm, cps	4,500~6,100
Viscosity* 25°C, S14 10rpm, cps	24,000~38,000
Thixotropic Index	4.5~6
Specific Gravity @25°C	1.10
Certificate	RoHS
Solvent Content, %	0

\*This value is for reference. Please refer to COA for the actual value.

### Typical Curing Properties\*

Curing Equipment:	Mercury-vapor lamp / Halogen lamp
Recommended Wavelength, nm	310~365
Minimum Light Intensity, mW/cm <sup>2</sup>	> 50
Minimum Light Energy, mJ/cm <sup>2</sup>	1,000~2,000

Curing Equipment:	LED light
Recommended Wavelength, nm	365~395
Minimum Light Intensity, mW/cm <sup>2</sup>	> 50
Minimum Light Energy, mJ/cm <sup>2</sup>	1,500~2,500

\*The recommended light energy is for reference. (Different machines lead to different light energy.)

### Direction of Use

1. It should be applied to a clean surface which is free of dirt, grease or mold release. In many cases, a simple solvent wipe is sufficient.
2. For maximum bonding strength apply adhesive evenly to both surfaces to be jointed.

3. Cure time on the real part will depend on factors, such as part geometry, materials to be bonded, bondline thickness and efficiency of the UV light. Cure schedule should be confirmed with actual production parts and equipment.
4. Please standardize the UV lamp intensity and illumination. Over exposure will not affect the resin properties, but the resin properties will be changed if there is not enough exposure. The resin may have lower reaction rate and may not pass the environmental test experiments.
5. This product may cause skin irritation to sensitive personnel.

### Typical Cured Properties

Glass Transition Temp., (TMA), °C	86
CTE* (<Tg), µm/m/°C	110
CTE* (>Tg), µm/m/°C	195
Durometer Hardness ASTM D2240-03, Shore D	76
Shear Strength, PC vs PC, kgf/cm <sup>2</sup>	63
Elongation, %	56
Breaking Value, N/mm <sup>2</sup>	23
Tensile Strength, N/mm <sup>2</sup>	18
Thermal Conductivity, W/mK	0.18
Volume Resistivity, @500V, ohm-cm	5.61*10 <sup>14</sup>
Surface Resistivity, @500V, ohm	1.76*10 <sup>15</sup>
Dielectric Constant / Loss Factor @100Hz	3.4721/ 0.0757
Dielectric Constant / Loss Factor @1,000Hz	3.3871/ 0.0506
Dielectric Constant / Loss Factor @10,000KHz	3.1178/ 0.0513
Dielectric Constant / Loss Factor @100,000Hz	3.2915/ 0.1733

\* CTE: Coefficient of Thermal Expansion

### Storage and Shelf Life

This product should be stored in cool and dark place. This product should be kept without any possibility of sunlight or ultraviolet exposure. Replace the lid immediately after use. Keep without any possibility of light exposure. Shelf life of this product is 8 months when stored at 14~34°C in the original and unopened containers.

### 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 product 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 Safety Data Sheet.