ES808
Surface Mount Adhesive

ES 808 is designed for the bonding of surface mounted devices to printed circuit boards prior to wave soldering. It is particularly suited for pin transfer and stencil print applications.

- Suited for pin transfer and stencil print
- Good humidity resistance
- Excellent wet strength and adhesion to substrate
- Good electrical characteristics

Approvals	**RoHS-2 Compliant (2011/65/EU):**	**Yes**

Typical Properties

Liquid Properties:	Raw Material	Epoxy
	Appearance	Red viscous gel
	Density (g/ml)	1.20
	Viscosity @ 25ºC, (Pa s)	22,000 – 60,000
	Particle Size (µm)	≤80
	Thixotropic Index	≥4.5
	Storage Conditions	Dry Conditions: 2-10ºC
Cured Properties:	Density (g/ml)	1.20
(30 minutes @ 150 °C)	Coefficient of Thermal Expansion, ASTM D696, K^{-1}	70 ppm
	Glass Transition Temperature, ASTM D4065, (°C)	≥110
	Lap Shear Strength, CMT6104, mild steel	≥35 N/mm^2 (≥5075 psi)
	Thermal Conductivity, ASTM C177, (W/m K)	0.25
	Surface Resistivity, ASTM D257, (Ω)	10^{15}
	Volume Resistivity, ASTM D257, (Ω-cm)	10^{15}
	Dielectric Constant / Dissipation Factor, ASTM D150	
	1-kHz	2.96 / 0.009
	10-kHz	2.81 / 0.03
	1,000-kHz	2.71 / 0.03
	10,000-kHz	2.58 / 0.03
	Electrolytic Corrosion, DIN 53489	AN - 1.2

Description	Packaging	Order Code	Shelf Life
Surface Mount Adhesive - ES808	300ml cartridge	ES808-360GS	6 Months
	200ml cartridge	ES808-200GS	6 Months

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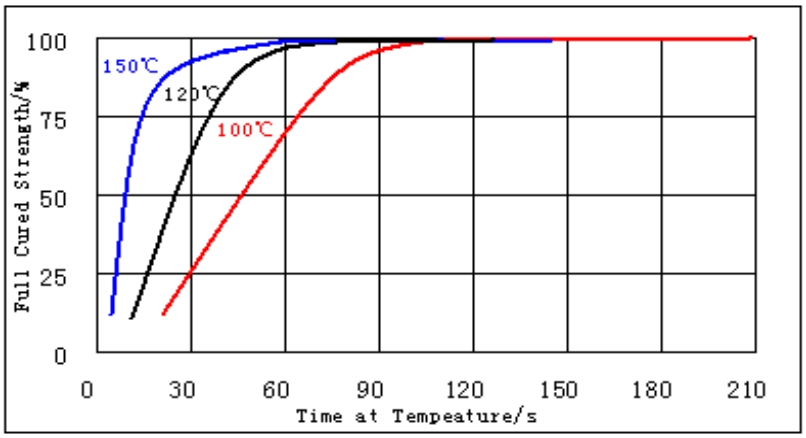
BS EN ISO 9001:2008
Certificate No. FM 32082

Directions for Use

Typical Curing:
Recommended conditions for curing are over 100°C (Typically 90 seconds @ 130 °C or 60 seconds @ 150 °C). Rate of cure and final strength will depend on the residence time at the cure temperature and the extent of thermal compensation of electronic units.

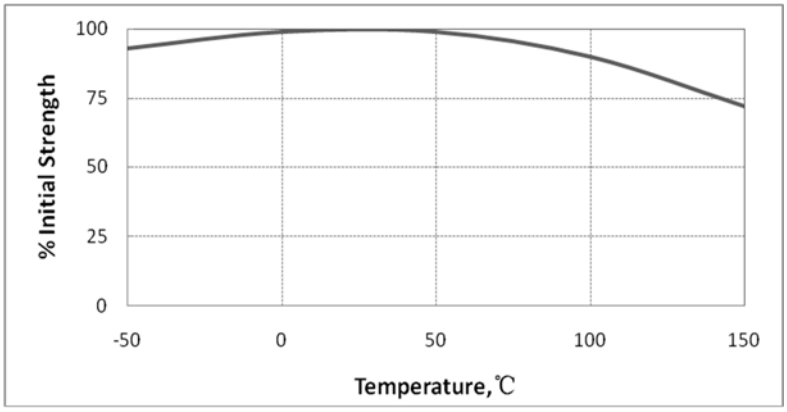
Cure speed vs Time & Temperature:
The following graph shows the rate of torque strength developed with time at different temperatures. These times are defined from the moment the adhesive reaches cure temperature. In practice, total oven time may be longer to allow for heat up period.



Typical adhesive properties of cured material:
Cured for 3 minutes @ 150 °C
Push-off Strength: C-1206 on bare FR4 board ≥40N (≥9lb)

Hot strength, tested at temperature:

Cured for 30 minutes @ 150 °C
Lap Shear Strength, ASTM D1002: mild steel



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Resistance to lead free solder:
Good compatibility with both water based and solvent based solder according to IPC SM817 (2.4.42.1).

Application Information:

1. ES808 is suitable for most open squeegee and enclosed head stencil printing systems, recommended print speeds is 50 mm/s up to 100 mm/s - this will vary with product selected and printer set-up.
2. After storage in a refrigerator the adhesive must return to ambient temperature before use (ideally 25°C to 30°C, <70 % RH), 2 to 4 hours is recommended.
3. Typical starting parameters (steel stencil/ steel squeegee/single stroke mode):

Print Speed	60mm/s
Squeegee Pressure	4 to 6N/cm
Separation Speed	0.1 to 3mm/s
Gap between Stencil and PCB	1mm

4. The product will remain dispensable on the stencil for a maximum of 1 days of continuous operation at 25°C, 55 % RH. Higher temperatures will decrease the time.
5. These parameters will vary depending on the type of application system used and should be optimized accordingly.
6. Uncured adhesive can be cleaned from the board with IPA or Safewash Total.
7. Material removed from containers may be contaminated during use. Do not return product to the original container.

Storage:

- Product is required to store in the unopened container in a dry location.
- Optimal Storage: 2 °C to 10 °C. Storage below 2 °C or greater than 10 °C may affect product properties.

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