

EN

Preliminary Technical Data Sheet

Elan-glue®

EP 5610

Electronic Adhesive

Modified Epoxy - One Component - UV + Heat Cure
Very Fast Cure - Transparent

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Description

Elan-glue® EP 5610 represents a dual cure, highly viscous, unfilled, solvent-free, single component formulation based on epoxy resin. The Elan-glue® EP 5610 is suitable for a large range of adhesive applications. The cured material provides an excellent adhesion to common substrates. The product satisfies the requirements of RoHS.

Areas of application

Elan-glue® EP 5610 has been designed to provide with a tough, high temperature resistant, moisture and chemical resistant adhesive to fix and protect components on an electronic board in a short time. The applied material will remain in place during cure. The cured product is semi flexible and will not damage sensitive components under thermal stress, including low temperatures

Properties of cured product

Elan-glue® EP 5610 has following properties in cured conditions:

- Transparent
- Good adhesion to plastics and metals
- Good resistance to thermal shocks

Storage and stability

Elan-glue® EP 5610 is a cooled product supplied in syringes in sealed packages or air and light tight cans. The product should be stored at a temperature below 5 °C in its original sealed container to avoid any potential contamination and ensure shelf-life of six months. Shelf life at 23 °C is three months. Freezing the product may extend the shelflife beyond 6 six months. Protection against any kind of UV light is essential. Store accordingly to any specific instruction listed on the product label. Product should be used prior to the expiry date marked on the label.

Preparation

The packages should be allowed to reach their application temperature, 25 to 30 °C, before use to allow the viscosity to reach the specified level.

Processing methods

Elan-glue® EP 5610 should be applied directly from the packages by spray, with a dispenser or similar system. Typical layer thicknesses are below 200 µm. Any UV-light will start the cure reaction willingly or unintentionally. If Elan-glue® EP 5610 is transferred to a second package or applicator, ensure proper protected against UV-light.

Curing/Post-curing

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UV cure e.g.

- 1-3s at 50 mW/cm² UVA, $\lambda = 300 - 400 \text{ nm}$
- 1-3s at 50 mW/cm² UVA + 30 min @150 °C

Thermal Cure (without UV)

- 150 °C @ 30 min or
- 140 °C @ 60 min or
- 130 °C @ 90 min or
- 120 °C @ 120 min

Increased temperatures can reduce the curing time. Heating in a conventional oven is suitable for curing. To ensure satisfactory adhesion to the PCB surface the following should be checked:

- Use of residue-free substrates
- Ensure dry surfaces
- Check compatibility of the glue resin with the surfaces

Handling precautions

Refer to the safety data sheet and comply with regulations relating to industrial health and waste disposal.

Sales specifications

Properties	Conditions	Test Method	Value	M/U
Viscosity	25 °C - Z3 - 327 1/s	DIN 53019 (Internal Test V18/b/c)	500 ÷ 1000	mPa·s

Typical system properties

Properties	Conditions	Test Method	Value	M/U
Shelf life	5 °C	Internal Test	6	months
	23 °C		3	months
Density	23 °C	DIN 16945 (Internal Test M27)	1,16	g/cm ³
Non volatile content	10 g 2 min UV & 1 h at 90 °C	ISO 3251 (Internal Test M01)	99,9	%
Appearance	23 °C	Visual (Internal Test A1)	Colourless / yellowish	

Typical mechanical properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Density	23 °C	DIN 16945 (Internal Test M27)	1,19	g/cm ³
Shear resistance	23 °C - Aluminum	ISO 527-2 / ISO 37 (Internal Test M29b)	9 ÷ 11	N/mm ²
	23 °C - Steel		11 ÷ 14	N/mm ²

Typical dielectric properties of the cured product

Properties	Conditions	Test Method	Value	M/U
Volume resistivity	23 °C - Initial value	IEC 60464 -2 (Internal Test M5)	6×10^{13}	$\Omega \cdot \text{cm}$
	23 °C - After 7d water immersion		3×10^{12}	$\Omega \cdot \text{cm}$
Dielectric constant at 10 kHz	25 °C	IEC 60250 (Internal Test M03b)	4,8	
	202 °C		5,4	
Dielectric dissipation at 10 kHz	25 °C	IEC 60250 (Internal Test M03b)	< 0,03	
	202 °C		< 0,4	
Volume resistivity at temperature	25 °C	IEC 60464 (Internal Test M13)	3×10^{13}	$\Omega \cdot \text{cm}$
	182 °C		4×10^9	$\Omega \cdot \text{cm}$

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