ELANTAS
Electrical Insulation

Product Information

Adhesive System
Underfill
Thermal cure

Elan-glue® EP 5330

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Product description

Elan-glue® EP 5330 is a filled, 1-component formulation based on cycloaliphatic epoxy resin. The Elan-glue® EP 5330 is suitable for huge range of adhesive applications. It has an excellent adhesion on common substrates.

Elan-glue® EP 5330 satisfies the requirements of ROHS.

Areas of application

Elan-glue® EP 5330 is used as glue for chemical protection of parts (e.g. in microelectronic applications) against moisture and contamination on the board against mechanical shock and vibration.

It has a property suitable for Underfill applications.

Properties of the cured material

Good adhesion on many substrates
Low shrinkage on curing
Resistant to moisture and migration
Resistant to organic and inorganic solvents
Solvent Free
Low thermal expansion
Low Chlorine content
Good flowability
Fast curing

Storage

Elan-glue® EP 5330 is a frozen product. At -30°C it can be stored for 6 months.

The pot life at 25°C of Elan-glue® EP 5330 is 6 days.

Processing suggestions

Elan-glue® EP 5330 should be applied directly from the packages with a suitable nozzle.

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.

Curing at high temperatures
e.g. 150°C@15-20 Minutes
e.g. 190°C@15-20s

Increased temperatures can reduce the curing time. Heating in a conventional oven is suitable for curing.

To ensure satisfactory adhesion on 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

Table 1 - Properties of materials as supplied

Property	Condition	Value	Unit
Colour		ochre	
Viscosity; D=20/s; Z3	25°C	20.000 ± 2.000	mPas
Yield point	25°C		Pa s
Density DIN 53217	25°C	1,6	g/cm^3
Shelf Life;	-30°C	6	months
Chlorine content (hydrolysis) (H_20 / 2bar / 120°C)	Siemens method F12-F5241	<5	ppm

Table 2 – Thermal Properties of cured compound

Property	Condition	Value	Unit
Temperature Range		to 150	°C
Glass transition temperature	(DMA)	160 ± 5	°C
CTE (Tg – 20°C)	α_1	50	10^{-6}/K
CTE (Tg + 20°C)	α_1	n.a.	10^{-6}/K
Thermal conductivity			W/mK
Thermal stability (mass loss)			%

Table 3 - Mechanical properties of cured compound (curing 0,5h @ 150°C)

Property	Condition	Value	Unit
Density DIN 16945	25°C	1,6	g/cm^3
Hardness DIN 53505	25°C		Shore D
Glass transition temperature (DMA)		150	°C
Shear resistance on Aluminum (Twist-o-meter)	20°C		N/mm^2
Peel resistance			N/mm
Young(E)-Modul	1 Hz	200	N/mm²
Filler Content			weight-%

Table 4 – Chemical Properties of cured compound

Property	Condition	Value	Unit
Water Absorption DIN 53495	7 days		%