

ET5301

Fast Curing Epoxy for Bonding

ET5301 is a two component epoxy resin designed for fast cure. This resin exhibits high adhesion strength, greasy resistance, chemical and solvent resistance. This product is suited for plastics, PPA, PC ABS, ceramics, glass and metals bonding. This resin can be fast cure at room temperature. It is easy to use and can shorten the manufacturing process, is a widely used epoxy resin adhesive.

FEATURE

- This resin exhibits good handling property after mixing.
- This product offers good adhesion strength to many plastic and metals.
- This product can quickly show the initial strength, and the next process can be carried out after about 20 minutes.
- This product is able to reduce the working time and increase the efficiency at the same time.
- The hardening surface will not exhibit a surface oiliness and poor gloss.
- This product complies to the 2011/65/EU RoHS regulations.
- This product complies to chlorine < 900ppm, bromine < 900ppm, chlorine + bromine < 1500ppm.

TYPICAL UNCURED PROPERTIES

Properties	ET5301-A	ET5301-B
Appearance	Liquid	Liquid
Color	Colorless	Light yellow
Viscosity *25°C, cps	5,400~8,100 S14 50rpm	1,350~1,680 S14 100rpm
Specific Gravity	1.16	1.15

TYPICAL CURING PROPERTIES

Properties	ET5301
Mix Ratio (A:B) by Weight	1:1~0.95
Mix Ratio (A:B) by Volume	1:1
Pot Life, 25°C, min	3~4
Surface Dry Time, 5g, 25°C, min	5~6
85% Response Rate 's Cure Time, 25°C, hr	3
Through Cure Time 25°C, hr	12
Through Cure Time 80°C, min	20

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. Mix thoroughly by weight 1 : 1. Mix approximately 15 seconds after uniform color is obtained.
3. For optimum properties mixed, this product should be used before its pot life. Large quantity mixing is not recommended for this product.

TYPICAL CURED PROPERTIES

Properties	ET5301
Glass Transition Temp., (MDSC), °C	38
CTE [*2] (<Tg), μm/m/°C	65
CTE [*2] (<Tg), μm/m/°C	198
Specific Heat 0°C, J/g°C	1.20
Specific Heat 25°C, J/g°C	1.33
Specific Heat 50°C, J/g°C	1.76
Specific Heat 75°C, J/g°C	1.81
Specific Heat 100°C, J/g°C	1.89
Durometer Hardness, Shore D	78
Water Absorption Ratio (25°C/24hr), %	0.98
Water Absorption Ratio (80°C/24hr), %	4.90
Water Absorption Ratio (97°C/1.5hr), %	2.72
Shear Strength Al vs Al, kgf/cm ²	207
Shear Strength Al/Al, (85°C*85%*240hr), kgf/cm ²	186
Shear Strength Al/Al, (-40*30min ~85°C*30min*168 times), kgf/cm ²	165
Shear Strength Al/Al, (55°C*5% salt spray*120hr), kgf/cm ²	170
Tensile Strength, MPa	40
Elongation at break, %	3.8

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- For maximum bonding strength apply adhesive evenly to both surfaces to be jointed.
- The handling information of this product supplied in dual syringe cartridge can be obtained by requesting a copy of "Introduction for Adhesive Cartridge Dispenser", F-06122201.

STORAGE AND SHELF LIFE

The container should be stored in cool and dark place. The resin and hardener will become yellow under the sunlight. Replace the lid immediately after use. Keep without any possibility of wet when not using. Shelf life of this product is six months when stored below 14~34°C in original, 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 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.

Flexural Strength, MPa	68
Flexural Modulus, MPa	2000
Compression Strength, MPa	70
Degradation Temp(TGA 10°C/min), °C	320
Weight Loss Ratio @100°C, %	0
Weight Loss Ratio @150°C, %	0.14
Weight Loss Ratio @200°C, %	0.41
Weight Loss Ratio @250°C, %	0.84
Weight Loss Ratio @300°C, %	2.23
Weight Loss Ratio @350°C, %	21.61
Volume Resistivity, ohm-cm	5*10 ¹⁵
Surface Resistivity, ohm	5*10 ¹⁴
Dielectric Constant, 100Hz	4.4
Dielectric Constant, 1KHz	4.3
Dielectric Constant, 10 KHz	4.1
Dielectric Strength, KV/mm	22
Temperature Range, °C	-40~100

(*1) Curing Condition: 80°C/1hr

(*2) CTE: Coefficient of Thermal Expansion

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.