Technical Data Sheet

FeedBond® EP-28-3410-50K

UV and Thermal Dual-Cure Adhesive

Description:

- one-component, epoxy and polyacrylate derivatives, solvent-free, dual-curing function (UV light and Thermal curing) , which designed to solve shadow cure for Opto-electronic communication components bonding application.
- Curing time shortly, can save much production time.
- compliant with RoHS and halogen-free regulation.

Application:

- precure by uv light fixing an electronic component fastly and then postcure by thermal.
- depending on the customer application, the cured adhesive is normally used in a temperature range of -40 °C to +260 °C.
- suitable for PA, PEI, PC, Glass, Ceramic, Metal (Al, FeNi alloy…)… materials bonding.
- the properties of adhesive show as following table:

Uncured Properties	Typical Value	Test Descriptions	
Appearance	**Amber or White**	Uncured adhesive	FT-P031
Specific Gravity	**1.84**	Pycnometer	FT-P001
Viscosity @ 25℃ (cps)	**33,400**	Brookfield DV-Ⅲ	FT-P006
Work Life @ 25℃	**1 days**		FT-P024
Shelf Life @ -20~-40 ℃	**6 months**		FT-P018

Recommended Curing Schedule		
UV + Thermal	UV precure condition	**high pressure mercury UV lamp（200~500nm）: 2,000~4,000 mj/cm2**
	Termal postcure condition	**100℃@60 mins or 110℃@45 mins or 120℃@30 mins**

Cured Physical Properties	Typical Value	Test Descriptions	
Hardness	**92**	Shore D	FT-P037

Mechanic Physical Properties	Typical Value	TEST DESCRIPTION	
Glass Transition Temperature (Tg)	**152 ℃**	DSC	FT-P027
Coefficient of Thermal Expansion		TMA Expansion Mode	FT-M016
Below Tg(α1)	**21 ppm/℃**		
Above Tg(α2)	**70ppm/℃**		
Dynamic Flexural Modulus@25℃	**10,674MPa**	Dynamic Mechanical Thermal Analysis using <1.6 mm thick specimen	FT-M019
Linear Shrinkage	**< 0.07 %**		FT-P036
Coefficient of Heat Conduction	**0.86 W/mK**	Sample size: 25mm×25mm×5mm	FT-P022

固化后-理化性能	测试结果	测试方法	
shear strength (Al - Al) kgf/cm2	>40	1.The bonding area of Al-Al is about 2.54 cm2, 2. the weight of adhesive is controlled to 0.03 g. 3. the area of aluminum plate: 1.00 * 2.54 cm2)	FT-P055

Instruction

Thawing

Place the container to stand up in room temperature (20~25℃) for 20~40mins that it depends on the volume of the adhesives(refer to the following table). **DO NOT** open the container before adhesive reaches ambient temperature to prevent the moisture condensation. Any moisture that collects on the thawed container should be removed prior to use. If the appearance of adhesive have separated or gelled that should not be used.

Curing Process

- after thawing, the adhesive is supplied ready for use.
- curing with UVA and UVB light in a wavelength range of 200 ~ 500 nm in 1~ 5 seconds then curing by heat in a temperature range of +110 °C to +130 °C is accepted.
- the bonding strength is not fixed only with uv light that the maximum adhesion is given by both uv light and heat cured . Furthermore the adhesive shows a post curing at room temperature about 24 hours ,that the bonding strength rises up a little after the heat curing step.
- the uv&heating curing time depends on the component size, adhesive quantities and the oven type.

Storage

Adhesive should be stored @ 0 ~ -10℃or much lower temperature (-20 ~ -40℃, the shelf life will also larger than half year). The shelf life of the material is only valid when the material has been stored at the correct storage condition.

Availability

FeedBond® adhesives are packaged in syringes or pots per customer specification. For the details, please contact our Customer Service or Sales Department.

General Information

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Directions for Use

Surface cleaning preparation of electronic component prior to applying EP-28-3410-50K is required. However, improved adhesion and reliability performance can be achieved when contaminants such as ionics, dust, salts and oils are cleaned from the electronic component surface.

Storage

This product is light and thermal sensitive. When storage and handling, keep away from daylight, UV light, artificial lighting and heat is necessary. The optimal storage temperature is -40 °C. The shelf life is 1 year. Material removed from containers may be contaminated during use. Do not return product to the original container. Keep out of the reach of children.

Note: Heat curing is the post cure necessary way. Light curing plus heat curing can give the optimal bonding and low shrinkage performance. Sufficient cure time must be added to allow the bond location to reach the desired bond strength.

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