

Technical Data Sheet

EP-13-LM28NB

Low Temperature Cure Insulated Adhesive

Introduction:

EP-13-LM28NB is a one component, non-conductive thermoset adhesive designed for curing at low temperature ($60 \sim 80^{\circ}$ C) and gives excellent adhesion on a wide range of materials in considerably short time. It is suitable for heat sensitive materials, especially for CCD/CMOS assemblies applications.

Characteristics:

- Excellent dispensability with minimal tailing and stringing
- Low temperature cure.
- Low Chlorine content ($Cl \le 900 \text{ ppm}$)

	DEDTIE	C	TECT DECODIDTION	TEST	
UNCURED PRO	PERIIE	d.	IESI DESCRIPTION	METHOD	
Density 1	.30±0.05	g/cc	Pycnometer	FT-P001	
Appearance E	lack				
Viscosity @ 25°C 1	1,000±1,5	500 cps	Brookfield DV-Ⅲ/CP-51 @ 5rpm	FT-P006	
Thixotropic Index @ 25°C 4	.5±1.0		Brookfield DV-III/CP-51 Visc. @ 0.5rpm/Visc @ 5rpm	FT-P008	
Work Life @ 25° C 7	2 hours		25% increase in visc. @ 5rpm	FT-P024	
Shelf Life@ -20°C 6	month			FT-P018	
CURE CONDITION			TEST DESCRIPTION	TEST METHOD	
Standard Cure Condition (§	general us	e)	20 minutes @80°C, in oven 30 minutes @70°C, in oven 60 minutes @60°C, in oven		
According customer require (for CLCC or PLCC use)	ement		Ramp up (RT to 120/130'C) : 30min. + cure time : 1hr @120/130'C + Cooling down: 30min.		
Weight loss on cure $< 1.0\%$		<0.9%	after curing with 80°C/1hr +125°C/24hrs	FT-P010	
(for CLCC or PLCC use)		<0.3%	after curing with 130°C/1hr +125°C/24hrs		
MECHANICAL PROPERTIES- POST CURE			TEST DESCRIPTION	TEST METHOD	
Die Shear Strength	25° ℃	> 5.1 kgf	80°C@1hr or 130°C@1hr		
(for CLCC or PLCC use)	150°C	> 0.2 kgf	80°C@1hr	FT-M012	
0.5mm*0.4mm Si sensor	1500	> 5.1 kgf	130°C@1hr		



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PHYSIOCHEMICA	AL PRO	PERTIES	TEST DESCRIPTION	TEST METHOD	
Glass Transition Temperature (Tg) 40±5°C			DSC	FT-M014	
Coefficient of Thermal Expansion					
Below $Tg(\alpha 1)$		49.54 ppm/°C	TMA Expansion Mode	FT-M016	
Above $Tg(\alpha 2)$	168.32 ppm/°C				
Dynamic Flexural Modulus			Dynamic Mechanical Thermal		
@25°C 20.5 MPa		20.5 MPa	Analysis using <1.6 mm thick specimen	FT-M019A	
Linear Shrinkage < 1.0%				FT-P036	
Hardness (for CLCC or PLCC use)	25° ⊂	82.5 (shore A)	Curing at 80°C@1hr		
	25 (79.0 (shore A)	Curing at 130°C@1hr	FT-P037	
	1 50° ⊂	17.5 (shore A)	Curing at 80°C@1hr		
	150 (43.5 (shore A)	Curing at 130°C@1hr		

The tables shown above are typical values only. If you need to write a specification, please request our current Standard Release Specification.

Instruction

Thawing

Place the container to stand vertically for 60mins. **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. Adhesives that appear to have separated should not be used.

Storage

Adhesive should be stored @ -20° C. 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.