ECCOBOND™ D 125 F 3 DR

Surface Mount Adhesive For High Speed Dispensing

Key Feature:	Benefit:
• No stringing	• No solder failure
• Low water absorption	• No porosity on cure
• High hot strength	• No loss of components during wave soldering
• High speed dispensing without stringing	• Excellent yield

Product Description:

ECCOBOND D 125 F 3 DR is a one component, low temperature curing epoxy surface mount adhesive which applies easily without stringing. It will not sag during cure. The uncured product exhibits no moisture absorption. This single component adhesive cures in 30 minutes at 100 °C and prevents component movement during board handling or cure. The high thixotropic ratio allows for a high dot profile for SO components.

Applications:

ECCOBOND D 125 F 3 DR is designed specifically for use on high speed pneumatic and positive displacement dispensors.

ECCOBOND D 125 F 3 DR is an excellent adhesive for bonding large components such as SOTs, SOICs, and PLCCs to circuit boards. It is also acceptable for bonding chip capacitors and resistors.

Instructions for Use:

Thoroughly read the information concerning health and safety contained in this bulletin before using. Observe all precautionary statements that appear on the product label and/or contained in individual Material Safety Data Sheets (MSDS).

ECCOBOND D 125 F 3 DR is applied by dispensing or stencil printing. Equipment set-up parameters and related product information are available worldwide from your Henkel Corporation technical support group.

Properties of Material As Supplied:

Property	Test Method	Unit	Value
Chemical Type			Epoxy
Appearance	Visual		Dark red paste
Fineness	Hegman	μm	<50
Density	ASTM-D-792	g/cm^3	1.32 - 1.37
Calculated Yield (Bingham)	Cone-plate AR-1000	N/m^2	210-310

Cure Schedule:

ECCOBOND D 125 F 3 DR can be cured by infrared or by convection oven. Cure times will depend on cure temperatures. A ramp up temperature of not more than 1°C per second should be used.

Temperature	Cure Time	
°C	IR or Convection Conveyor Oven (min)	Convection Box Oven (min)
100	20	30
110	7	20
120	2.5	10

Properties of Material after Application:

Property	Test Method	Unit	Value
Conversion After 3 min	DSC at 125°C	%	>90
Linear Cure Shrinkage	ASTM-D-2566	%	<0.5
Hardness	ASTM D 2240	Shore D	>80
Tensile Lap Shear Strength aluminum to aluminum @ 25°C	ASTM D-1002	mPa psi	>8 >1150
Coefficient of Thermal Expansion	ASTM-D-3386	10^{-6}/°C	70-80
Glass Transition Temperature	ASTM-D-3418	°C	70-75
Temperature Range of Use		°C	-40 to + 105
Thermal Conductivity	ASTM-D-2214	W/m.K	0.3
Dielectric Strength	ASTM D 149	kV/mm V/mil	17 430
Dielectric Constant @ 1 mHz	ASTM-D-150	-	3.5
Volume Resistivity @ 25°C	ASTM-D-257	Ohm-cm	$>10^{14}$

Storage and Handling:

The shelf life of ECCOBOND D 125 F 3 DR is 2 months at 20°C. For best results, store in original, tightly covered containers. Storage in cool, clean and dry areas is recommended. Usable shelf life may vary depending on method of application and storage conditions.

Health and Safety:

The ECCOBOND D 125 F 3 DR, like most epoxy compounds, possesses the ability to cause skin and eye irritation upon contact. Certain individuals may also develop an allergic reaction after exposure (skin contact, inhalation of vapors, etc.) which may manifest itself in a number of ways including skin rashes and an itching sensation. Handling this product at elevated temperatures may also generate vapors irritating to the respiratory system.

Good industrial hygiene and safety practices should be followed when handling this product. Proper eye protection and appropriate chemical resistant clothing should be worn to minimize direct contact. Consult the Material Safety Data Sheet (MSDS) for detailed recommendations on the use of engineering controls and personal protective equipment.

This information is only a brief summary of the available safety and health data. Thoroughly review the MSDS for more complete information before using this product.

Attention Specification Writers:
The values contained herein are considered typical properties only and are not intended to be used as specification limits. For assistance in preparing specifications, please contact Henkel Corporation Quality Assurance for further details.

Medical Implantable Disclaimer

"In the event this product is intended by you for use in implantation in the human body, you are hereby advised that Henkel Corporation has not performed clinical testing of these materials for implantation in the human body nor has Henkel Corporation sought, nor received, approval from the FDA for the use of these material in implantation in the human body. It is YOUR responsibility, as a manufacturer of any such device, to ensure that all materials and processes relating to the manufacture of any medical device fully comply with all applicable federal, state and local laws, rules, regulations and requirements as well as any such laws, rules, regulations, directives or other orders of any foreign country where such product is sold. If you have not undertaken the necessary investigations to ensure compliance you are advised NOT TO USE this product in the manufacture of any device which is to be implanted in the human body. No representative of ours has any authority to change the foregoing provisions."

Emerson & Cuming

Underfills Solder Alternatives C.O.B Materials
Encapsulants Coatings Adhesives Film Adhesives Thermal Interfaces
Electrically Conductive Coatings and Adhesives

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