LOCTITE® 188187™

November 2005

PRODUCT DESCRIPTION

LOCTITE® 188187™ provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance	Amber paste
Components	One part - requires no mixing
Cure	Heat cure
Cure Benefit	Production - high speed curing
Application	Non-flow Underfill
Dispense Method	Syringe and Stencil print
Key Substrates	SMD components to PCB
Reworkable	No

LOCTITE® 188187™ is a snap heat cure non conductive paste (NCP). The product can be applied using dispensing or stencil / screen printing equipment. LOCTITE® 188187™ is suitable for Smartcard and Smartlabel applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.3
Yield Point, 25 °C, Pa	60 to 80
Cone & Plate Rheometer:	
Haake PK 100, M10/PK 1 2° Cone	
Casson Viscosity @ 25 °C, Pa·s	2 to 15
Cone & Plate Rheometer:	
Haake PK 100, M10/PK 1 2° Cone	
Flash Point - See MSDS	

RECOMMENDED CURING CONDITIONS

5 seconds @ 180 °C

Note: Sufficient time must be added to allow the bond location to reach the desired cure temperature. Alternative cure profiles may be evaluated

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 30 minutes @ 150 °C

Physical Properties:

Coefficient of Thermal Expansion, ASTM E 831, K^{-1}:		
Pre Tg (alpha 1)		55×10^{-6}
Post Tg (alpha 2)		140×10^{-6}
Glass Transition Temperature, ASTM D 1640, °C		150
Water Absorption, ISO 62, %:		
1 hour in water @ 100 °C		2.4
24 hours in water @ 23 °C		1.7
Shore Hardness, ISO 868, Durometer D		82
Elongation, at break, ISO 527-3, %		0.35
Tensile Strength, ISO 527-3	N/mm² (psi)	32 (4,640)
Tensile Modulus, ISO 527-3	N/mm² (psi)	6,400 (928,000)
Flexural Modulus , ASTM D790	N/mm² (psi)	1,900 (275,500)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 30 minutes @ 150 °C		
Lap Shear Strength, ISO 4587:		
Steel (grit blasted)	N/mm²	≥15
	(psi)	(≥2,175)

GENERAL INFORMATION

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

Directions for use

1. The adhesive should be at room temperature prior to application.
2. Syringes should be allowed to equilibrate to room temperature for 30 to 60 minutes prior to use.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 8 °C can adversely affect product properties.
Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the 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 production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons

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Reference 1.0