LOCTITE® 368™

September 2005

PRODUCT DESCRIPTION

LOCTITE® 368™ provides the following product characteristics:

Technology	Epoxy
Chemical Type	Epoxy
Appearance (uncured)	Red viscous gel[LMS]
Fluorescence	Positive under UV light
Components	One component - requires no mixing
Cure	Heat cure
Application	Surface mount adhesive
Specific Application	Bonding electronic components to printed circuit boards (PCB).
Other Application Areas	Small parts bonding
Dispense Method	Syringe

LOCTITE® 368™ is a very fast heat curing, one-component, thixotropic adhesive for bonding surface mounted devices to circuit boards.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Yield Point, 25 °C, Pa	80 to 300[LMS]
Cone & Plate Rheometer:	
Haake PK 100, M10/PK 1 2° Cone	

TYPICAL CURING PERFORMANCE

Recommended conditions for curing are exposure to heat above 100 °C (typically 90-120 seconds @ 150 °C). Rate of cure and final strength will depend on the residence time at the cure temperature.

RECOMMENDED CURING CONDITIONS

1.5 minutes @ 150 °C

2.5 minutes @ 121 °C

7 minutes @ 100 °C

13 minutes @ 93 °C

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 30 minutes @ 150 °C, tested @ 22 °C

Electrical Properties:

Volume Resistivity, IEC 60093, Ω·cm	1.3×10^{15}
Surface Resistivity, IEC 60093, Ω	117×10^{15}
Dielectric Breakdown Strength, , kV/mm	21
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 kHz	4.8 / 0.019
1 MHz	4.3 / 0.028

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 3 minutes @ 150 °C.

Push-off Strength:		
C-1206 on bare FR4 board	N	≥35.6[LMS]
	(lb)	(≥8.0)

Cured for 30 minutes @ 150 °C.

Lap Shear Strength, ISO 4587:		
Steel (grit blasted)	N/mm²	16.5
	(psi)	(2,400)
Aluminum	N/mm²	7.6
	(psi)	(1,100)

Bond strength achieved in practice will vary considerably depending on the SMD component type, adhesive dot size and the type, grade and degree of cure of the solder mask/resist.

GENERAL INFORMATION

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

Directions for use

1. LOCTITE® 368™ is supplied de-aerated in a range of ready-to-use syringes which fit straight into a variety of air pressure/time dispensing systems commonly available.
2. After storage in a refrigerator the adhesive must be allowed to equilibrate to room temperature before use, typically 2 to 4 hours.
3. Avoid cross contamination with other adhesive residues by ensuring dispense nozzels, adapters etc. are thoroughly cleaned.
4. Do not leave dirty nozzles on dispensing equipment while not in use or soaking in solvents for long periods of time.
5. The quantity of adhesive dispensed will depend on the dispense pressure, time, nozzle size and temperature.
6. These parameters will vary depending on the type of dispensing system used and should be optimised accordingly.
7. Dispensing temperature should ideally be controlled at a value between 30 °C to 35 °C for optimum results, however higher dispense temperatures are possible.
8. LOCTITE® 368™ can also be dispensed using positive displacement pump systems.
9. The product is not recommended for dispensing by pin transfer.
10. Uncured adhesive can be cleaned from the board with isopropanol, MEK or ester blends such as LOCTITE® 7360™.

Device Removal/Repair
Components or devices bonded with LOCTITE® 368™ can be removed while hot using heat from a hot air jet. Bond strength decreases at approximately 120 °C allowing components to be removed with lower shear forces. Method of removal/repair should be specifically determined due to the variety of components or devices bonding behavior

Loctite Material Specification[LMS]
LMS dated August 10, 2000. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

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
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Reference 1.0