

LOCTITE HF 250DP

June 2015

PRODUCT DESCRIPTION

LOCTITE HF 250DP provides the following product characteristics:

Technology	Solder paste
Application	Pb-free soldering

LOCTITE HF 250DP solder paste is a halogen-free, no clean, low voiding Pb-free solder paste. It is a low metal content solder paste formulated for dispense applications.

FEATURES AND BENEFITS

- Optimized to achieve consistent 250 to 300 µm dot diameter using a 27 gauge needle
- Suitable for reflow in nitrogen

TYPICAL PROPERTIES

Solder Paste Typical Properties

Alloys	96SC (SAC387)
Powder Particle Size, µm	15 to 25
Powder Size Coding	KBP
IPC Equivalent	Type 5
Metal Loading (Weight %)	84
Brookfield Viscosity, mPa·s (cP) @ 25°C	160,000
Malcom Viscosity Speed 10 rpm, @ 25°C, mPa·s (cP)	29,000
Malcolm Thixotropic Index, mPa·s (cP)	0.6

Solder Powder:

Careful control of the atomization process for production of solder powders for LOCTITE HF 250DP solder pastes ensures that the solder powder is produced to a quality level that exceeds IPC/J-STD-005 and EN 29453 requirements for sphericity, size distribution, impurities and oxide levels. Minimum order requirements may apply to certain alloys and powder sizes. For availability contact your local technical service helpdesk.

DIRECTIONS FOR USE

Dispensing:

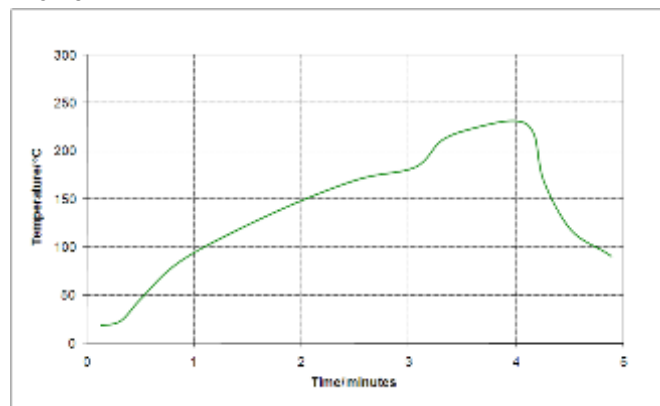
LOCTITE HF 250DP has been tested in a dispensing process. Although different dispense equipment may have a number of parameters that can be altered, the following table summarizes the most important parameters for consistent dot size.

Needle Gauge	27
Fluid Pressure, psi	25
Valve On Time, seconds	0.003 to 0.005
Dispense Gap, mm	0.06 to 0.08
Dwell Time, seconds	0.05 to 0.18

Reflow:

An example reflow profile that yielded good results in a dispensing process is shown below. LOCTITE HF 250DP solder paste can be expected to show acceptable performance during reflow in a nitrogen atmosphere (1000ppm O₂).

Profile 1:



Cleaning:

LOCTITE HF 250DP solder paste is no-clean and is designed to be left on the PCB in many applications post assembly since it does not pose a hazard to long term reliability. Should there be a specific requirement for residue removal, this may be achieved by using conventional cleaning processes based on solvents such as MULTICORE MCF800

RELIABILITY PROPERTIES

LOCTITE HF 250DP solder paste contains a stable resin system and slow evaporating solvents.

Test	Specification	Results
Copper Mirror Corrosion	J-STD-004 B	Pass
Flux Corrosion	J-STD-004 B	Pass
Surface Insulation Resistance (SIR)	J-STD-004 B	Pass
Electrochemical Migration Resistance	J-STD-004 B	Pass
Halogen Content BS EN 14582 followed by Ion Chromatography	J-STD-004 B (Amendment 1)	Cl & Br below limit of detection (50ppm)

STORAGE AND SHELF LIFE**Storage:**

LOCTITE HF 250DP should be stored 6 months @ $\leq 18^{\circ}\text{C}$.

Storage information may be indicated in the product container labeling. Material removed from containers may be contaminated during use. To prevent contamination of unused product, do not return any material to its 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 or Customer Service Representative.

DATA RANGES

The data contained herein may be reported as a typical value and/or a range. Values are based on actual test data and are verified on a periodic basis.

GENERAL INFORMATION

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

Not for Product Specifications

The technical information contained herein is intended for reference only. Please contact Henkel Technologies Technical Service for assistance and recommendations on specifications for this product.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Disclaimer**Note:**

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