

LOCTITE® HHD 3613BK

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PRODUCT DESCRIPTION

LOCTITE® HHD 3613BK provides the following product characteristics:

Technology	Polyurethane Hot Melt
Appearance	Black
Solids Content, %	100
Odour	Slight
Cure	Solidification and Moisture
Application	Structural adhesive, Electronic device assembly
Components	One part - requires no mixing
Product Benefits	<ul style="list-style-type: none">• Good reworkability

LOCTITE® HHD 3613BK is a reactive hotmelt adhesive based on polyurethane prepolymers. It is suitable for use in both automatic or manual assembly processes.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Thermosel, 110 °C, mPa·s (cP):

Spindle 27 4,700

Density @ 25°C ±0.05, g/cm³ 1.1

TYPICAL CURING PERFORMANCE

Open Time, approx. , minutes 3
Preheating Schedule 20 to 30 mins @ 110°C
Application Temperature, °C 100 to 120

Open time is the bonding range of a 1 mm bead of molten adhesive on substrate. It is based on room temperature environment. Higher temperature will lengthen the open time while lower environmental temperatures will shorten the open time.

LOCTITE® HHD 3613BK cures exclusively by moisture and gains its final strength in 1 to 7. This material, however, exhibits high handling strength instantly after bonding.

Curing is a chemical reaction depending on the following parameters:

- Humidity in the rooms of application and storage
- Moisture content on the substrates
- Permeability of the substrates to be bonded

- Application volume / layer of the adhesive film

The above cure profile(s) are guideline recommendation(s). These conditions (time and temperature) may vary based on customers' experience and specific application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL**Adhesive Properties**

Lap Shear Strength :

PC to PC, after 24 hours, N/mm² >8.0

GENERAL INFORMATION

Please consult the Safety Data Sheet (SDS) for safe handling information of this product.

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be used with chlorine or other strong oxidizing materials unless otherwise specifically stated.

Pretreatment:

1. The bonding surfaces must be clean, dry and free of oil and grease.
2. Substrate temperature should not fall below 20°C during application.
3. Lower temperatures will lead to early solidification of the adhesive and to a reduced open time, the adhesive might even flake off.
4. The substrates may be preheated if necessary.

Application:

1. LOCTITE® HHD 3613BK can be applied from heating cartridge guns, from usual syringe type melting equipment.
2. At longer rest periods, melting and application temperatures should be decreased. Longer exposure to higher temperatures can lead to a viscosity increase.

STORAGE

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 to 28°C. Storage below 8°C or above 28°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 Henkel Representative.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Conversions

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

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