

LOCTITE® HHD 3544F

March 2023

PRODUCT DESCRIPTION

LOCTITE® HHD 3544F provides the following product characteristics:

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|--------------------|--|
| Technology | Polyurethane Hot Melt |
| Appearance | Beige solid |
| Odour | Slight |
| Solids Content, % | 100 |
| Cure | Moisture |
| Application | Structural adhesive, Electronic structural bonding |

LOCTITE® HHD 3544F is a reactive hot-melt adhesive based on polyurethane prepolymers.

This adhesive provides good basic bonding performance and has a long open time ideal for automatic or manual assembly line production.

LOCTITE® HHD 3544F has 60% bio-based raw material content.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Thermosel, 110 °C, mPa·s (cP):
Spindle 27 ~5,000
Density @ 25°C, ±0.05 g/cm³ 1.1

TYPICAL CURING PERFORMANCE

Open Time @ 25 °C, minutes¹ 4
Preheating Schedule 20 to 30 mins @ 110°C
Application Temperature, °C 90 to 120

¹Open time is the bonding range of a 1.75 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 3544F cures exclusively by moisture and gains its final strength in 1-5 days. 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 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 equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL**Physical Properties**

| | |
|-----------------------|-------|
| Tensile Modulus, MPa | 190 |
| Tensile Strength, MPa | 11 |
| Elongation @ break, % | 1,070 |

Adhesion Properties

| | |
|---|----|
| Cross Tensile Strength, 24 hours, PC/SUS, MPa | >3 |
|---|----|

GENERAL INFORMATION

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

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or their strong oxidizing materials.

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 3544F 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 : 18 to 26 °C

Minimum transport temperature : 10 °C

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.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$

$\text{kV/mm} \times 25.4 = \text{V/mil}$

$\text{mm} / 25.4 = \text{inches}$

$\text{N} \times 0.225 = \text{lb/F}$

$\text{N/mm} \times 5.71 = \text{lb/in}$

$\text{N/mm}^2 \times 145 = \text{psi}$

$\text{N/mm}^2 = \text{MPa}$

$\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$

$\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$

$\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$

$\text{mPa}\cdot\text{s} = \text{cP}$

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.

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