Technical Data Sheet

LOCTITE HHD 3610

May 2020

PRODUCT DESCRIPTION

LOCTITE HHD 3610 provides the following product characteristics:

Technology	Polyurethane Hot Melt
Chemistry	Reactive Polyurethane
Appearance	Amber solid
Odor	Slight
Cure	Solidification and Moisture
Application	Device assembly, Structural bonding
Components	One part - requires no mixing
Product Benefits	• Jettable PUR • High impact resistance • High bond strength

LOCTITE HHD 3610 is a reactive hotmelt adhesive based on polyurethane prepolymers. This product is formulated with a viscosity suitable for robotic jetting applications along with an open time appropriate for use in automatic assembly line processing. Good initial strength is realized immediately after the material solidifies in the bondline.

LOCTITE HHD 3610 has a secondary moisture cure that cross-links the bonds for excellent elongation and structural durability.

LOCTITE HHD 3610 will not remelt after it has been fully cured .

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Thermosel, 110 °C, mPa·s (cP):	
Spindle 27	6,200
Solids Content, %	100
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Open Time @ 25 °C, minutes[(1)]	≥2
Preheating Schedule	20 to 30 mins @ 110°C
Application Temperature, °C	100 to 120

[(1)]Open time is based on room temperature environment under 25ºC. Higher temperature will prolong the open time while lower environmental temperatures will shorten the open time.

LOCTITE HHD 3610 cures exclusively by moisture and gains its final strength in 1 to 7 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 cure profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties

Light Transmittance, %:	
0.2 mm @ 550 nm	94.12
0.2 mm @ 940 nm	96

TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured 24 hours @ 23ºC, relative humidity 60%.

Miscellaneous

Cross Tensile Strength, N/mm² :	
PC/20% Glass Fiber substrate to Ink Glass	6.0
PBT/40% Glass Fiber substrate to Ink Glass	5.7
Lap Shear Strength , N/mm² :	
PC/20% Glass Fiber substrate to PC/20% Glass Fiber substrate	12.1
PBT/40% Glass Fiber substrate to PBT/40% Glass Fiber substrate	7.7

GENERAL INFORMATION

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

Pretreatment:

1. The bonding surfaces must be clean, dry and free of oil and grease.
2. Substrate temperature should not fall below 20ºC 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 3610 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.

Frost Sensitive: No
Optimal Storage : 8 to 28 °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 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
N x 0.225 = lb/F
N/mm x 5.71 = lb/in
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Disclaimer

Note:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:
In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:
The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.
Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:
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 against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage
Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 1