Technical Data Sheet

LOCTITE® HHD 3612BK

August 2021

PRODUCT DESCRIPTION

LOCTITE® HHD 3612BK provides the following product characteristics:

Technology	Polyurethane Hot Melt
Appearance	Black Solid
Cure	Solidification and Moisture
Application	Device assembly, Gap filling, Bonding
Components	One part - requires no mixing
Product Benefits	• Jettable PUR • Fast curing • High bond strength

LOCTITE® HHD 3612BK 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 3612BK has a secondary moisture cure that cross-links the bonds for excellent elongation and structural durability.

LOCTITE® HHD 3612BK will not remelt after it has been fully cured.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Thermosel, 110 °C, mPa·s (cP):	
Spindle 27, speed 20 min^{-1}	4,500
Solids Content, %	100
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Open Time @ 25 °C, minutes(1)	≥3
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 3612BK 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. These cure 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

Physical Properties

Transmittance, 0.2 mm @ 550 nm, %		0.15
Elongation @ break, %		784
Modulus	N/mm²	122
	(psi)	(17,700)

TYPICAL PERFORMANCE OF CURED MATERIAL

Miscellaneous

Cross Tensile Strength, cured 25ºC, 60% relative humidity :

for 2 hours:

PBT/40% Glass filler / Ink Glass	N/mm²	1.5
	(psi)	(218)
AnAl / Ink Glass	N/mm²	2.0
	(psi)	(290)

for 24 hours:

PBT/40% Glass filler / Ink Glass	N/mm²	4.1
	(psi)	(595)
AnAl / Ink Glass	N/mm²	8.0
	(psi)	(1,160)

Lap Shear Strength:
Cured 24 hours @ 25ºC, 60% relative humidity:

PBT/40% Glass filler	N/mm²	6.4
	(psi)	(928)
AnAl	N/mm²	5.5
	(psi)	(798)

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 3612BK 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

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
(°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

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