HHD 6002

SOLVENT-FREE POLYURETHANE ADHESIVE

TECHNICAL DATA SHEET

Revised November 2021

PRODUCT DESCRIPTION

HHD 6002 is a one-component, solvent-free, moisture curing hot-melt polyurethane adhesive. Once dispensed, the adhesive will react with ambient moisture or water content of the substrates to yield a cross-linked thermoset adhesive.

KEY FEATURES

- → Good flexibility
- → Excellent adhesion to a variety of substates including glass and metal
- → Low temperature application
- → High thermal stability
- → Precision dispensing
- → Good balance between strength and elasticity
- → Good chemical resistance
- → Resistance to sweat and sebum

DIRECTIONS FOR USE

1. Remove the Al foil vacuum bag right before usage.
2. Pre-heat the syringe at recommended temperature if needed.
3. Remove the end cap and the skin on the adhesive surface.
4. Connect the syringe adapter.
5. Remove the cap and any block at the tip side.
6. Choose suitable needle and connect to the tip side for typical air dispensers.
7. Put the syringe into the heating unit make sure the adhesive is heated up to recommended application temperature.
8. Purge small amount of adhesive.
9. Apply an adequate amount of adhesive to one of the substrate, which is free of contamination such as oil, dust, mold release agents, etc.
10. Joint the substrates within adhesive open time
11. Press the joint pieces and dwell, allow the adhesive to grow up enough resistances.

METHOD OF USE

Born2bond™ HMPUR solutions span a range of viscosities, providing flexibility in the choice of processing method. HHD 6002 can be applied by jetting, bead, swirl and spray. Typical application temperature range is 100° C - 130°C

APPLICATIONS

HHD 6002 is specifically designed for the assembly of electronic devices and can bond many kinds of substrates (PC, ABS, aluminum, glass, etc.).

STORAGE/SHELF LIFE

HHD 6002 can be stored for 6 months in the original, unopened packaging in a dry place at temperatures between +15°C and +25°C. It should be processed immediately after the container has been opened. Keep containers covered to minimize contamination.

HEALTH/SAFETY

The Safety Data Sheet is available on Bostik website and should be consulted for proper handling, cleanup and spill containment before use.

LIMITATIONS

Material removed from containers may be contaminated during use. Do not return product to the original container. Bostik will not assume responsibility for product that 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.

HHD 6002

PRODUCT CHARACTERISTICS

Appearance (uncured)	White
Uncured Viscosity* (ASTM D1084: 130°C)	Approx 5500 mPa.s
Open time**	75 sec.
Operation Temperature	100°C - 130°C
Density - cured (ASTM D792)	1.1

*based on Brookfield viscometer
**Open time is an application parameter that depends on the environment temperature, substrates and application process.

TYPICAL PERFORMANCE OF CURED MATERIAL

Cure rate is dependent upon substrate type, moisture permeability and ambient conditions. HHD 6002 will develop adhesive properties within 24 hours. However, optimum properties are achieved after three to seven days at room temperature.

For all the performance data provided in this TDS, the samples were prepared as follows : A 1.5mm*2mm width adhesive bead was applied on PC to PC with a 0.12mm spacer. A 1kg weight was applied for 20 seconds on the sample, which was then cured for 3 days @ 23°C/50%RH before testing. The tests were performed at 2mm/min.

CURED PHYSICAL PROPERTIES

Tensile Elongation at Break		1125 %
Tensile Strength		12 MPa
Elastic Modulus	(DIN 53504/ ISO37)	56 MPa
Curing Shrinkage	(ISO 3521)	1 %

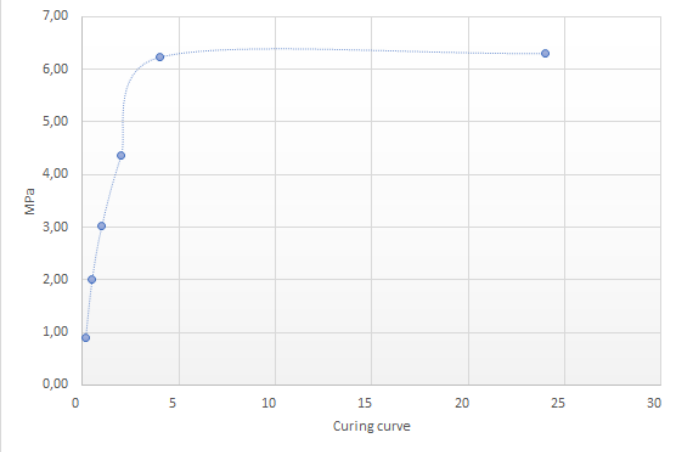
HAND HOLD SPECIFIC DATA

Sebum and sweat resistance*	Good

*Internal Test Methods

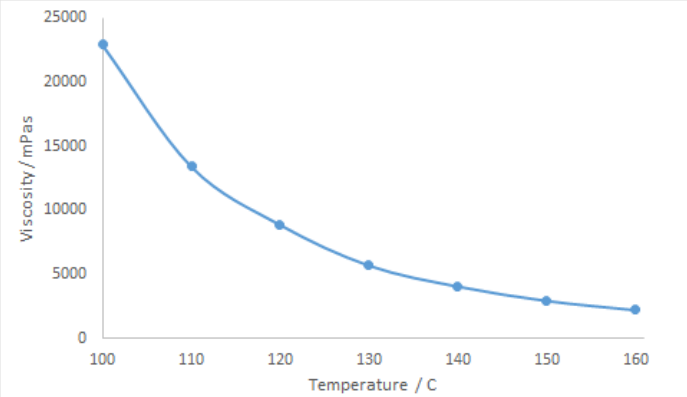
CURING SPEED

Sample preparation and test conditions : A 1.5mm*2mm width adhesive bead was applied on PC to PC with a 0.12mm spacer. A 1kg weight was applied for 20 seconds on the sample, which was then cured for 7 days @ 23°C/50%RH. The performed @ 2mm/min.



APPLICATION PROCESS - VISCOSITY

Test Method: BrooKfield, spindle 27 @ 20rpm, 27℃ @ 60% H, 11.6g sample，idle 30min at each temperature.



HHD 6002

BONDING PERFORMANCE

Glass - Glass (Bare)	5
PC - PC	6
ABS - ABS	4
304 Steel - 304 Steel	4
Rilsan® PA 820 - PA 820 with Supporting	4
Rilsan® PA 820 - Steel	4

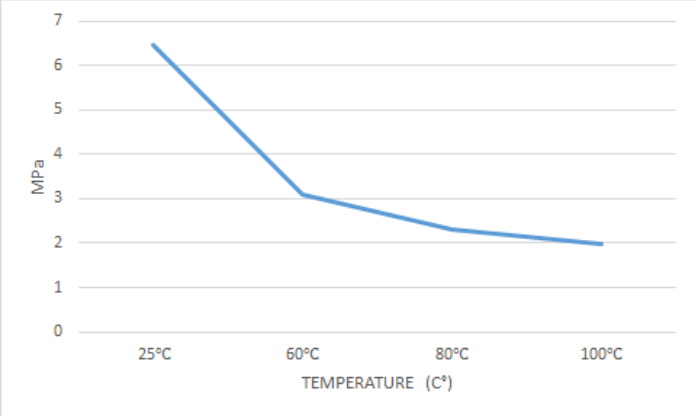
SEBUM AND SWEAT RESISTANCE

Sample preparation and test conditions : A 1.5mm*2mm width adhesive bead was applied on PC to PC with a 0.12mm spacer. A 1kg weight was applied for 20 seconds on the sample, which was then cured for 3 days @ 23°C/50%RH before soaking in sebum and sweat at 45°C for 7 days. The tests were performed at 2mm/min.

Strength after exposure to sweat or Sebum			
PRODUCT	**Before**	**After sebum**	**After sweat**
HHD 6002	6,4	3,5	6,2

HOT STRENGTH

Sample preparation and test conditions : A 1.5mm*2mm width adhesive bead was applied on PC to PC with a 0.12mm spacer. A 1kg weight was applied for 20 seconds on the sample, which was then cured for 7 days @ 23°C/50%RH. The performed @ 2mm/min after heat exposure for 5min in the chamber.



CONVERSIONS

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = in
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm^2 x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·mm x 0.142 = oz·in
mPa·s = cP

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