

LOCTITE® HHD 8180BK

September 2022

PRODUCT DESCRIPTION

LOCTITE® HHD 8180BK provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance - Part A	Black liquid
Appearance - Part B	White liquid
Appearance - Mixed	Black liquid
Components	Two components - requires mixing
Mix Ratio by volume, Part A:Part B	10 : 1
Product Benefits	<ul style="list-style-type: none"> • Color matching capability • Low viscosity • High bond strength
Cure	Room temperature cure after mixing
Application	Structural adhesive, Electronic structural bonding

LOCTITE® HHD 8180BK is a self-leveling, two components, room temperature curable methacrylate adhesive system. This product is specially formulated to form resilient bonds which can maintain its strength over a wide variety of temperatures. LOCTITE® HHD 8180BK is designed to be black in color after mixing.

LOCTITE® HHD 8180BK is recommended for use in structural bonding of plastic, metals or dissimilar materials that must withstand vibrations and impacts such as in portable devices.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Specific Gravity, @ 25°C, g/cm³	0.94
Viscosity, PP25, 0.5 mm gap, mPa·s (cP): @ Shear rate of 20 s ⁻¹	7,500

Part B Properties

Specific Gravity, @ 25°C, g/cm³	1.17
Viscosity, PP250.5 mm gap, mPa·s (cP): @ Shear rate of 20 s ⁻¹	45,000

TYPICAL CURING PERFORMANCE

Peak Exotherm

Peak Exotherm Time, 15 gram mass, minutes	5 to 6
Peak Exotherm Temperature, 15 gram mass, °C	≥105

The above cure profiles are guideline recommendations. 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

Sample cured 20 minutes @ 45°C + 24 hours @ room temperature, ASTM D882.

Physical Properties

Elongation, %	40
Tensile Strength at break, N/mm²	22.8
Young's modulus (E), N/mm²	1,200

Adhesion Properties

Sample cured 20 minutes @ 45°C plus 24 hours @ room temperature, STM 773

Lap Shear Strength, N/mm² : AnAl to AnAl	21.5
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GENERAL INFORMATION

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

DIRECTIONS FOR USE

1. Mixing

- LOCTITE® HHD 8180BK is typically applied either with the use of volumetric metered mix equipment or directly out of cartridges through static mix nozzles. These methods of application ensure that component A and B are dispensed and mixed at the proper ratio. When properly mixed, LOCTITE® HHD 8180BK should achieve a uniform color.
- When dispensed in a large mass, heat buildup during and after mixing is normal. To reduce the likelihood of an exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

2. Application

1. For best performance, surfaces should be clean and residue free prior to adhesive application.
2. To assure maximum bond strength, surfaces must be mated within the adhesive's open time.
3. Use enough material to completely fill the joint when parts are clamped.

3. Curing

1. Cure speeds may vary based on adhesive and substrate temperatures. Reference the peak exotherm and open times on this datasheet as a guide to better understand curing time trends.
2. After the fixture time is achieved the material usually has reached handling strength. For heavy parts handling strength can take longer.
3. Parts should be fixed for a minimum period of 24 hours prior to applying a load.

4. Clean up

1. It is important to clean up excess adhesive from the work area and application equipment before it cures.
2. Excess uncured adhesive can be cleaned with ketone type solvents.
3. Cured adhesive typically requires mechanical abrasion for removal.
4. Always test the suitability and effect of any cleaning method on the specific materials that it will come in contact with first.

STORAGE

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

Optimal Storage: 2 to 8°C. Storage below 2°C or above 8°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.

Conversions

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

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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Reference 1

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