Technical Data Sheet

LOCTITE HHD 8520

February 2023

PRODUCT DESCRIPTION

LOCTITE HHD 8520 provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance, Resin (Part A)	Amber
Appearance, Hardener (Part B)	Blue
Appearance - Mixed	Green
Mix Ratio by volume, Part A:Part B	10 : 1
Cure	Room temperature
Application	Device assembly, Structural bonding
Product Benefits	• Long open time • Room temperature cure capability • Superior impact strength • Halogen free compliant • Medium elongation • High tensile strength

LOCTITE HHD 8520 two component methacrylate adhesive system is designed to provide excellent bond strength on multiple substrates including metals and composites. LOCTITE HHD 8520 forms resilient bonds and maintains its strength over a wide temperature range. This material is recommended for use in structural bonding of plastic and metal components that must withstand vibrations and impacts such as in portable devices.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Viscosity , Rheometer, Physica PP25, mPa·s (cP):

Plate 0.5 mm gap @ Shear rate 20 s^{-1}	25,000 to 40,000

Flash Point - See SDS

Part B Properties

Viscosity Rheometer, Physica PP25, mPa·s (cP):

Plate 0.5 mm gap @ Shear rate 20 s^{-1}	30,000 to 60,000

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Open Time

Open Time , minutes	10 to 20

Peak Exotherm

Peak Exotherm Time, 20 gram mass, minutes	10 to 20
Peak Exotherm Temperature, 20 gram mass, °C	≥105

LOCTITE HHD 8520 is cured after mixing at room temperature.

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.

After the fixture time is achieved the material usually has reached handling strength. For heavy parts handling strength can take longer.

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

Sample cured 20 minutes @ 45°C followed by 24 hours @ 25°C , 50% RH.

Physical Properties

Tensile Strength, N/mm^2	19 to 28
Elongation, %	45
Impact Strength, SUS/SUS, :	
Energy absorbed, J	3.43
Peak Force, N	6,180

TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured 20 minutes @ 45°C followed by 24 hours @ 25°C , 50% RH.

Shear Strength :

Lap Shear Strength , MPa:

Anodized Aluminum, 125 µm gap	19 to 28
Kalix, 125 µm gap	15 to 18

GENERAL INFORMATION

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

DIRECTIONS FOR USE

Mixing

1. Product LOCTITE HHD 8520 is typically applied either with the use of meter 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 8520 should achieve a uniform color.
2. When dispensed in a large mass heat buildup during and after mixing is normal. To reduce the likelihood of exothermic reaction or excessive heat buildup, mix less than 100 grams at a time. Mixing smaller amounts will minimize heat buildup.

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.

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

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
N/mm² x 145 = psi
N/mm² = MPa
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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