

LOCTITE HHD 8190R

February 2019

PRODUCT DESCRIPTION

LOCTITE HHD 8190R provides the following product characteristics:

Technology	Acrylic
Appearance - Part A	Amber
Appearance - Part B	Blue
Appearance - Mixed	Green
Components	Two components - requires mixing
Mix Ratio by volume, Part A:Part B	10 : 1
Cure	Room temperature cure after mixing
Product Benefits	- Superior impact and peel strength - Little or no surface preparation - Rapid room temperature cure - Excellent environmental resistance - Halogen free
Application	Device assembly, Structural bonding

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. LOCTITE HHD 8190R two component, methacrylate adhesive system specifically formulated to have fast fixture cure time for increased production throughput.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Viscosity , mPa·s (cP):	
Parallel Plate 25, 0.5 mm gap	
@ Shear rate of 20 s ⁻¹	25,000 to 60,000 ^{LMS}
Specific Gravity @ 25 °C	0.98
Flash Point - See SDS	

Part B Properties

Viscosity , mPa·s (cP):	
Parallel Plate 25, 0.5 mm gap	
@ Shear rate of 20 s ⁻¹	30,000 to 60,000 ^{LMS}
Specific Gravity @ 25 °C	1.05
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Open Time, minutes	2 to 4
Peak Exotherm, 15 gram mass:	
Time to Peak Temperature, minutes	6 to 12 ^{LMS}
Peak Temperature, °C	>95

1. LOCTITE HHD 8190R is cured after mixing at room temperature.

2. 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.

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

4. Parts should be fixed for a minimum period of 24 hours prior to applying a load.

The above cure profiles are guideline recommendations. 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

Tensile Break, N/mm ²	23
Tensile Modulus, N/mm ²	1,150
Elongation, %	18

TYPICAL PERFORMANCE OF CURED MATERIAL

Sample cured 30 minutes @ 80°C plus 24 hours @ 25°C

Shear Strength

Shear Strength, N/mm ² :	
ISO 4587 Standard testing:	
Anodized Aluminum	19.3 ^{LMS}
ISO 13445 Standard testing:	
Polycarbonate	7.7
ABS	8

Miscellaneous

Tensile Strength, Cross Bond, tested using Henkel STM-831, N/mm² :

Polycarbonate	5.1
Anodized Aluminum	9.5

T-Peel Strength, tested using ISO 11339 Standard, N/mm:

Aluminum	0.44
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GENERAL INFORMATION

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

DIRECTIONS FOR USE**Mixing**

1. LOCTITE HHD 8190R 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 8190R 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 an 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 Technical Service Center or Customer Service Representative.

Conversions

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

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