Technical Data Sheet

LOCTITE® HHD 8150R™

December 2014

PRODUCT DESCRIPTION

LOCTITE® HHD 8150R™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance, Resin (Component A)	Yellow
Appearance, Hardener (Component B)	Blue
Appearance (Mixture)	Green
Cure	Room temperature cure
Components	Two component - requires mixing
Mix Ratio, by volume - Part A: Part B	10 : 1
Application	Bonding

LOCTITE® HHD 8150R™ is a two component, halogen- and phthalate-free methacrylate adhesive system designed for laptop cover and hand held device bonding. It has been specifically formulated to deliver fast fixture and excellent adhesion and damp heat resistance to Magnesium Aluminum alloys, Anodized Aluminum and PCABS blends.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25 °C 0.98

Viscosity, Cone & Plate, mPa·s (cP):
Temperature: 25 °C, Shear Rate: 20 s^{-1} 35,000 to 65,000

Flash Point - See SDS

Part B:

Specific Gravity @ 25 °C 1.2

Viscosity, Cone & Plate, mPa·s (cP):
Temperature: 25 °C, Shear Rate: 50 s^{-1} 5,000 to 20,000

Flash Point - See SDS

Mixed:

Specific Gravity @ 25 °C 0.99

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Curing Properties

Working Time on Aluminium, minutes 7
Working Time on Steel, minutes 8
Working Time on HDPE, minutes 8

Fixture Time

Fixture time is defined as the time to develop a shear strength of 0.1 N/mm² .

Fixture Time, ISO 4587, minutes:
Grit Blasted Mild Steel (anodized) 5 to 10
Aluminum (anodized) 5 to 10

Peak Exotherm Temperature

Peak Exotherm Temperature, 10 gram mass:
Peak Temperature Time, minutes 11
Peak Temperature, °C 139

TYPICAL PROPERTIES OF CURED MATERIAL

After 72 hours @ 22 °C

Physical Properties:

Glass Transition Temperature, ISO 11359-2, °C 55
Coefficient of Thermal Expansion, ISO 11359-2, K^{-1}:
Below Tg 105×10^{-06}
Shore Hardness, ISO 868, Shore D 73
Linear Shrinkage, % 5
Volume Shrinkage, % 13
Tensile Strength, at break, ISO 527-2 N/mm² 16 (psi) (2,300)
Tensile Modulus, ISO 527-2 N/mm² 840 (psi) (122,000)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C

Lap Shear Strength, ISO 4587:
Anodized Aluminum N/mm² ≥19.3 (psi) (≥2,800)

Cured for 72 hours @ 22 °C.

Impact Strength, ISO 9653, J:
Grit Blasted Mild Steel (GBMS) 8
Aluminum (abraded) 7
Grit Blasted Mild Steel (GBMS) @ -40 °C 3

"T" Peel Strength, ISO 11339:
Steel N/mm 3.8 (lb/in) (22)
Aluminum N/mm 0.7 (lb/in) (4)

Block Shear Strength, ISO 13445:

Glass	N/mm²	11
	(psi)	(1,550)
Acrylic	N/mm²	16
	(psi)	(2,320)
Phenolic	N/mm²	11
	(psi)	(1,670)
ABS	N/mm²	22
	(psi)	(3,160)
PVC	N/mm²	5
	(psi)	(690)
Polycarbonate	N/mm²	18
	(psi)	(2,680)
Ferrite Magnet to Steel	N/mm²	15
	(psi)	(2,240)

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm²	19
	(psi)	(2,780)
Stainless Steel	N/mm²	21
	(psi)	(3,020)
Galvanized Steel	N/mm²	2.2
	(psi)	(318)
Aluminum	N/mm²	18
	(psi)	(2,550)
Anodized Aluminum	N/mm²	17
	(psi)	(2,490)
FRP	N/mm²	6
	(psi)	(900)
IXEF	N/mm²	5
	(psi)	(730)
PC/ABS	* N/mm²	>5
	* (psi)	(>690)
Magnesium	* N/mm²	>11
	* (psi)	(>1,540)

* substrate failure

TYPICAL ENVIRONMENTAL RESISTANCE

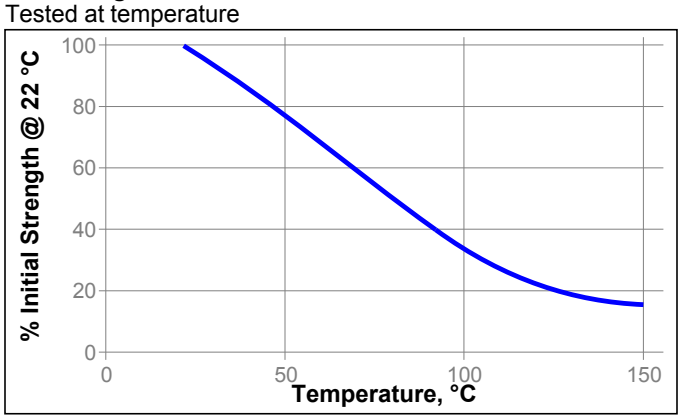
Cured for 72 hours @ 22 °C

Lap Shear Strength, ISO 4587:

Anodized Aluminum

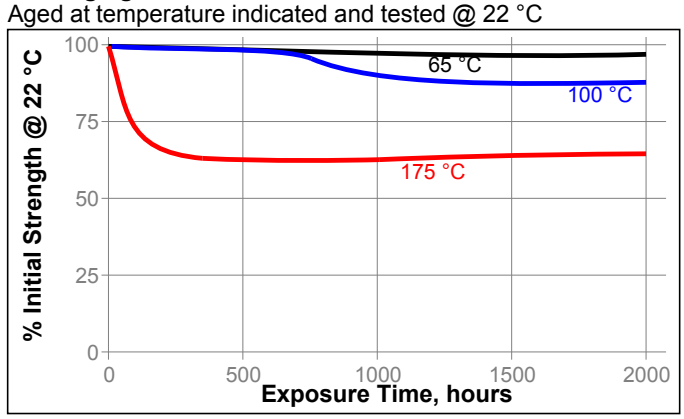
Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength	
Environment	**°C**	**500 h**	**1000 h**
Air	87	110	110
Water	87	45	35
Salt fog	35	65	55
95% RH	40	85	105
95% RH	65	95	85

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

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

Directions for use:

1. For high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants.
2. Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
3. **Dual Cartridges:** To begin using a new cartridge, remove cartridge cap and dispense a small amount of adhesive, making sure both parts A&B are extruding. Attach nozzle and dispense approximately 25 to 50mm, before applying onto part to be bonded. Partially used cartridges can be stored with the mixing nozzle attached. To reuse, remove and discard old nozzle, attach the new nozzle, dispense approximately 25 to 50mm, before applying onto part to be bonded.
   Bulk Containers: Normally material is dispensed through volumetric metered mixing equipment, attached to static mix nozzles.
4. For maximum bond strength apply adhesive evenly to both surfaces to be joined.
5. Application to the substrates should be made as soon as possible. Larger quantities and/or higher temperatures will reduce the working time.
6. Join the adhesive coated surfaces and allow to cure. Higher temperatures will speed up curing.

7. Keep assembled parts from moving during cure. The bond should be allowed to develop full strength before subjecting to any service load.
8. Excessive uncured adhesive can be cleaned up with ketone type solvents.

Not for product specifications
The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage
The product is classified as flammable and must be stored in an appropriate manner in compliance with relevant regulations. Do not store near oxidizing agents or combustible materials. Store product in the unopened container in a dry location. Storage information may also be indicated on the product container labelling.
Optimal Storage: 2 °C to 8 °C. Storage below 2 °C or greater than 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 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 Representive.

Conversions
(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Reference 0.1