Technical Data Sheet

LOCTITE® AA HF8075LV™

Known as LOCTITE® HF8075LV™
November 2014

PRODUCT DESCRIPTION

LOCTITE® AA HF8075LV™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance, Resin (Component A)	Yellow paste
Appearance, Hardener (Component B)	Blue paste
Appearance (Mixture)	Green paste[LMS]
Cure	Room temperature cure
Components	Two component - requires mixing
Mix Ratio, by volume - Part A: Part B	10 : 1
Product Benefits	• Rapid room temperature cure • Excellent bond strength
Application	Bonding

LOCTITE® AA HF8075LV™ is a toughened, two component, room temperature curing methacrylate adhesive system. It is designed to comply with the low halogen content requirements for structural bonding of electronic assemblies. LOCTITE® AA HF8075LV™ cures rapidly, forming tough, resilient bonds. Once statically mixed, the two component acrylic cures at room temperature. Cure times can be reduced with the addition of mild heat to the bonded assemblies. Typical applications include structural bonding of plastic and metal components that must withstand vibrations and impacts such as display, top case, structural frame to enclosure, and similar applications in the portable devices market.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25 °C	1.03
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):	
Shear rate 36 s^{-1}	11,000 to 22,000[LMS]

Flash Point - See SDS

Part B:

Specific Gravity @ 25 °C	1.15
Viscosity, Cone & Plate, 25 °C, mPa·s (cP):	
Shear rate 36 s^{-1}	10,000 to 20,000[LMS]

Flash Point - See SDS

Mixed:

Working Time @ 25 °C, minutes (maximum time before assembly):	
Steel	4
Aluminium	4
Polyethylene	4
Ionic Contaminants, ppm:	
Chlorine	≤900[LMS]
Bromine	≤900[LMS]
Chlorides and Bromides	≤1,500[LMS]

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Fixture Time

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

Fixture Time, ISO 4587, seconds:	
Grit Blasted Mild Steel	270 to 300

Peak Exotherm Temperature

Peak Exotherm Temperature, 10 gram mass:	
Peak Temperature Time, minutes	5
Peak Temperature, °C	125

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Glass Transition Temperature (Tg), ISO 11359-2, °C		87
Coefficient of Thermal Expansion, ISO 11359-2 K^{-1}:		
Pre Tg		114×10^{-06}
Post Tg		206×10^{-06}
Shore Hardness, ISO 868, Durometer D		67
Linear Shrinkage, ISO 1675 %		5.8
Volume Shrinkage, ISO 1675 %		16.6
Elongation, at break, ISO 527-2, %		167
Elongation, at yield, ISO 527-2, %		9
Tensile Strength, at yield, ISO 527-2	N/mm² (psi)	21 (3,045)
Tensile Strength, at break, ISO 527-2	N/mm² (psi)	20 (2,900)
Tensile Modulus, ISO 527-2	N/mm² (psi)	587 (85,115)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 25 °C

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm²	≥13.8[LMS]
	(psi)	(≥2,001)

Cured for 72 hours @ 22 °C.

Impact Strength, ISO 9653, J:

Grit Blasted Mild Steel (GBMS)	50
Aluminum (abraded)	23
Stainless Steel	31

"T" Peel Strength, ISO 11339:

Steel	N/mm	10
	(lb/in)	(60)
Aluminum	N/mm	2.6
	(lb/in)	(15)

Block Shear Strength, ISO 13445:

Polycarbonate	N/mm²	0.1
	(psi)	(14)
PVC	N/mm²	1.5
	(psi)	(220)
ABS	N/mm²	2
	(psi)	(290)
Acrylic	N/mm²	2
	(psi)	(290)
Glass	N/mm²	7
	(psi)	(1,015)
Ferrite Magnet to Steel	N/mm²	13.5
	(psi)	(1,960)
Phenolic	N/mm²	1.5
	(psi)	(220)

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm²	14.5
	(psi)	(2,100)
Aluminum	N/mm²	14
	(psi)	(2,030)
Stainless Steel	N/mm²	14
	(psi)	(2,030)
Galvanized Steel	N/mm²	9
	(psi)	(1,305)
FRP	N/mm²	6.5
	(psi)	(940)
Gelcoat	N/mm²	2.5
	(psi)	(360)
IXEF	N/mm²	4
	(psi)	(580)

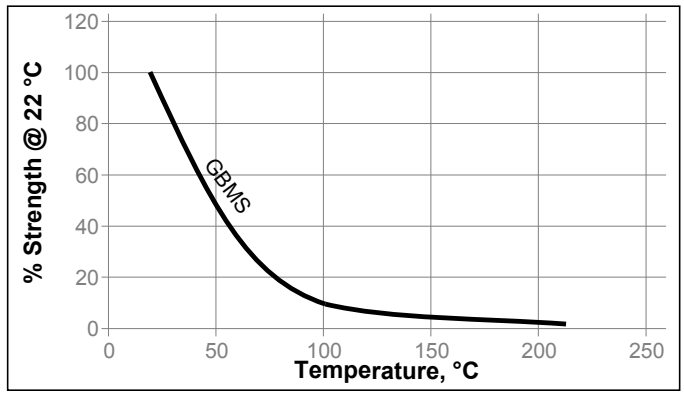
TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 72 hours @ 22 °C

Lap Shear Strength, ISO 4587:

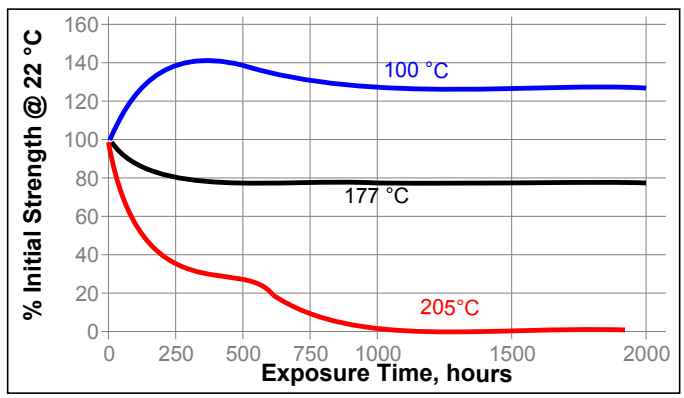
Grit Blasted Mild Steel (GBMS)

Hot Strength



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22°C.

On: Grit Blasted Mild Steel (GBMS)

		% of initial strength	
Environment	**°C**	**500 h**	**1000 h**
Air	87	115	120
Water	22	40	35
Salt fog	35	45	40
Condensing Humidity	49	50	50
95% RH	40	70	70

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.

Loctite Material Specification[LMS]

LMS dated August 18, 2010. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

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