

LOCTITE[®] AA 3035[™]

Known as Loctite 3035
August 2016

PRODUCT DESCRIPTION

LOCTITE[®] AA 3035[™] provides the following product characteristics:

Technology	Acrylic
Chemical Type	Methacrylate
Appearance, Resin (Component A)	Transparent clear to amber gel ^{LMS}
Appearance, Hardener (Component B)	Transparent clear to amber gel ^{LMS}
Appearance (Mixture)	Pale yellow
Cure	Room temperature cure
Components	Two component - requires mixing
Mix Ratio, by volume - Part A: Part B	1 : 1
Product Benefits	<ul style="list-style-type: none"> • Bonds low energy plastics • Fast fixture time
Application	Bonding

LOCTITE[®] AA 3035[™] is a high strength, fast-fixturing two component acrylic adhesive system designed for bonding low energy plastics without surface pretreatment. This easy to use, 1:1 mix ratio product cures very rapidly, forming tough, durable bonds. LOCTITE[®] AA 3035[™] is low odor, non-flammable, halogen and solvent free and will also bond metal, glass and a host of other plastics. This product requires no refrigeration.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A:

Specific Gravity @ 25 °C 0.99

Viscosity, Cone & Plate, 25 °C, mPa·s (cP):
Cone CP50-1 @ shear rate 20 s⁻¹ 4,000 to 11,000^{LMS}

Flash Point - See SDS

Part B:

Specific Gravity @ 25 °C 0.99

Viscosity, Cone & Plate, 25 °C, mPa·s (cP):
Cone CP50-1 @ shear rate 20 s⁻¹ 40,000 to 80,000

Flash Point - See SDS

Mixed:

Specific Gravity @ 25 °C 0.99

Working Time @ 25 °C, minutes
(maximum time before assembly):

Steel	7
Aluminium	7
Polyethylene	7

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, minutes:

HDPE	<20 ^{LMS}
HDPE to Steel	10 to 15

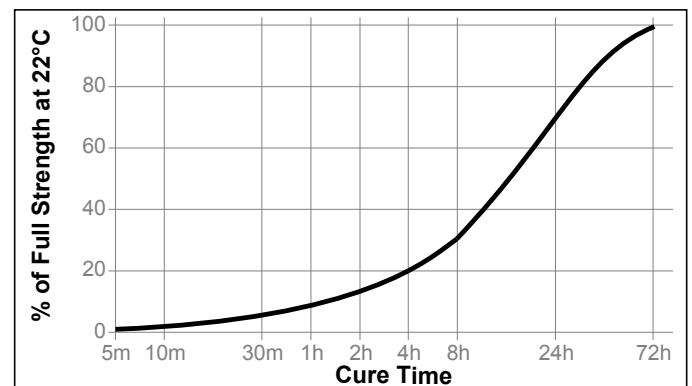
Peak Exotherm Temperature

Peak Exotherm Temperature, 10 gram mass:

Peak Temperature Time, minutes	>60
Peak Temperature, °C	31

Cure Speed vs. Time

The graph below shows the shear strength developed over time at 22 °C / 50 % RH on HDPE and tested according to ISO 4587.



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 72 hours @ 21 °C.

Miscellaneous

Impact Strength, ISO 9653, J:

HDPE @ 21 °C	5.8
HDPE @ 100 °C	3.2
HDPE @ -40 °C	6.1

Peel Strength

"T" Peel Strength, ISO 11339:

Steel	N/mm	8
	(lb/in)	(45)
Aluminum	N/mm	2
	(lb/in)	(12)

Shear Strength

Block Shear Strength, ISO 13445:

HDPE	N/mm ²	≥6.9 ^{LMS}
	(psi)	(1,000)
Polypropylene	N/mm ²	4.5
	(psi)	(670)
Epoxy	N/mm ²	14
	(psi)	(2,060)
ABS	N/mm ²	3
	(psi)	(480)
PVC	N/mm ²	8
	(psi)	(1,140)
Polycarbonate	N/mm ²	4.5
	(psi)	(660)
Glass	* N/mm ²	5.8
	* (psi)	(840)
HDPE to Glass	* N/mm ²	5.2
	* (psi)	(760)
Steel to Glass	* N/mm ²	5.8
	* (psi)	(845)

* substrate failure

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm ²	2.5
	(psi)	(365)
Aluminum	N/mm ²	2.5
	(psi)	(365)

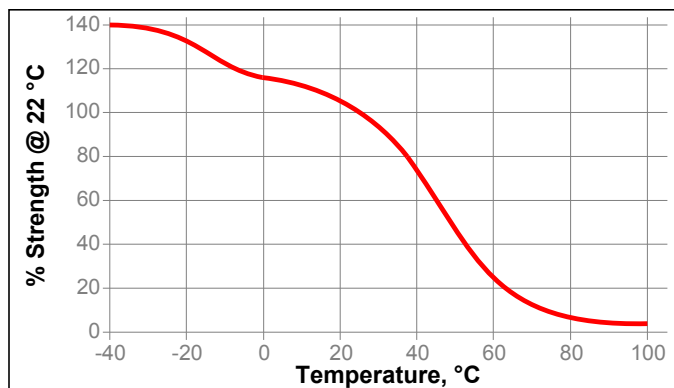
TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 72 hours @ 22 °C

Block Shear Strength, ISO 13445:

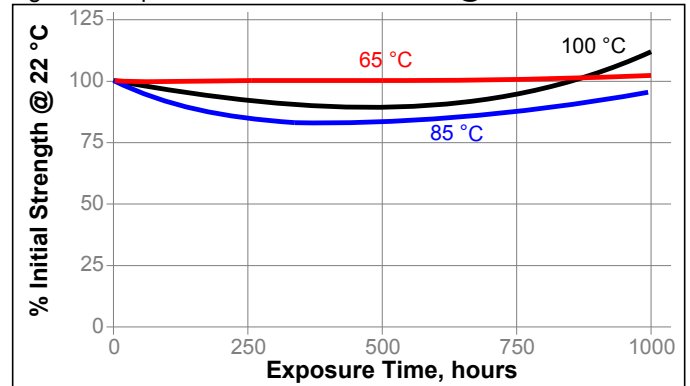
HDPE

Hot Strength



Heat Aging

Aged at temperature indicated and tested @ 22 °C



Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

Environment	°C	% of initial strength	
		500 h	1000 h
100% RH	49	130	120
Salt fog, 95% RH	35	115	130
Water	22	120	105
Unleaded gasoline	22	not recommended	not recommended
Motor oil (10W30)	22	100	90
Water/glycol 50/50	22	120	115
DEF (AdBlue®)	22	125	145
Sulfuric Acid, 10%	22	100	105
Ammonia	22	120	110

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:

- For high strength structural bonds, remove surface contaminants such as paint, oxide films, oils, dust, mold release agents and all other surface contaminants.
- Use gloves to minimize skin contact. DO NOT use solvents for cleaning hands.
- 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.
- For maximum bond strength apply adhesive evenly to both surfaces to be joined.
- 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 13, 2012 (Part A) and LMS dated March 30, 2016 (Part B). 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 Loctite 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: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °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 Representative.

Conversions

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

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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Reference 0.3