

LOCTITE[®] AA 3032[™]

 Known as LOCTITE[®] 3032[™]

January 2015

PRODUCT DESCRIPTION

LOCTITE[®] AA 3032[™] provides the following product characteristics:

Technology	Acrylic
Chemical Type	Acrylic
Appearance, Resin (Component A)	Clear yellow gel ^{LMS}
Appearance, Hardener (Component B)	Transparent yellow liquid with visible PE beads ^{LMS}
Components	Two component - requires mixing
Viscosity	Medium, thixotropic
Cure	Two part acrylic
Mix Ratio, by volume - Part A: Part B	1 : 10
Application	Bonding
Specific Benefit	Bonds low energy plastic without pre-treatment

LOCTITE[®] AA 3032[™] is designed primarily to bond to many low energy substrates such as low and high density polyethylene and polypropylene but can be used as a general purpose adhesive on many other substrates as well. The product contains 0.25mm polyethylene beads for bondline thickness control. The thixotropic nature of LOCTITE[®] AA 3032[™] reduces the migration of liquid product after application to the substrate.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties:

Specific Gravity @ 25 °C	1.17
Viscosity, Cone & Plate, mPa·s (cP):	
Cone CP50-1 @ shear rate 20 min ⁻¹	1,500 to 15,000 ^{LMS}

Color, APHA 1 to 3^{LMS}

Flash Point - See SDS

Part B Properties:

Specific Gravity @ 25 °C	1.07
Viscosity, Brookfield - RVT - Small Sample, 25 °C, mPa·s (cP):	
Spindle 16, speed 2.5 rpm,	11,000 to 29,000 ^{LMS}
Spindle 16, speed 20 rpm	2,000 to 11,000 ^{LMS}

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

This product cures rapidly when the components are dispensed through a static mixer at room temperature.

Fixture Time

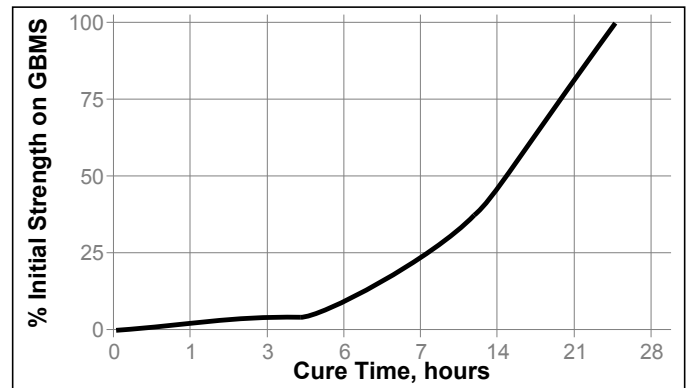
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, mixed, minutes:

HDPE	25 to 30
Grit Blasted Mild Steel	20 to 25

Cure Speed vs. Time

The graph below shows shear strength developed with time on Grit Blasted Mild Steel (GBMS) lapshears @ 25 °C with an average bondline gap of 0.05 mm and tested according to ISO 4587.



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Elongation, at break, ISO 527-3, %	5.9
Tensile Strength, at break, ISO 527-3	N/mm ² 7.8 (psi) (1,130)
Tensile Modulus, ISO 527-3	N/mm ² 532 (psi) (77,220)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C

Block Shear Strength, ISO 13445:

Polypropylene	N/mm ² 4.0 (psi) (620)
LDPE	N/mm ² 9 (psi) (1,290)

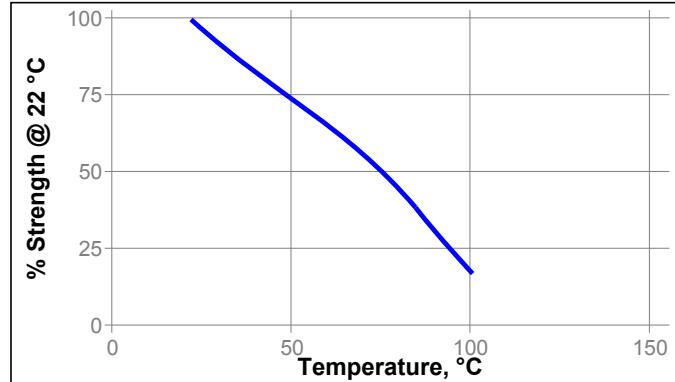
HDPE	N/mm ² ≥6 ^{LMS} (psi) (≥870)
ABS	N/mm ² 22 (psi) (3,170)
PVC	N/mm ² 16 (psi) (2,300)
Polycarbonate	N/mm ² 2.4 (psi) (350)
Lap Shear Strength, ISO 4587:	
Steel (grit blasted)	N/mm ² 13 (psi) (1,890)
Aluminum	N/mm ² 8 (psi) (1,150)
Nylon	N/mm ² 1.3 (psi) (190)
SBR	N/mm ² 0.6 (psi) (90)
"T" Peel Strength, ISO 11339:	
Aluminum	N/mm 0.9 (lb/in) (5.1)
Impact Strength, ISO 9653, J:	
Grit Blasted Mild Steel (GBMS)	2.8
HDPE	6.7

TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 24 hours @ 22 °C
Block Shear Strength, ISO 13445:
HDPE

Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C

Temperature, °C	% of initial strength	
	500h	1000h
65	115	100
85	115	115
100	105	110

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22°C.

Environment	°C	% of initial strength	
		500 h	1000 h
Humidity, 100% RH	49	75	50
Salt fog, 95% RH	35	100	100
Water immersion	22	100	100
Unleaded gasoline	22	60	20

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:** Insert the cartridge into the application gun and start the plunger into the cylinders using light pressure on the trigger. Next, remove the cartridge cap and expel a small amount of adhesive to be sure both sides are flowing evenly and freely. Attach the static mixing nozzle to the end of the cartridge and begin dispensing the adhesive. Purge and dispose of the first 3 - 5 cm from the end of the mix nozzle, as it may not be sufficiently mixed.
Bulk Containers: Utilize volumetric dispense system to ensure proper mix ratio and utilize mix nozzle to obtain adequate mixing.
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.

Clean-up

1. Uncured material may be cleaned from dispenser components and surfaces with a variety of solvents; including LOCTITE® 7360™, LOCTITE® Equipment Flushing Solvent™, IPA, acetone, MEK, methylene chloride, etc. .
2. Removal of material that has been mixed should be done quickly as polymerization occurs rapidly.
3. After use, the static mixer may be used in place of the cap.
4. When the product is reused, a new static mixer must be used.
5. Contact your equipment supplier to ensure that any solvents used are compatible with individual components.

Loctite Material Specification^{LMS}

LMS dated December 19, 2006 (Part A) and LMS dated October 11, 2006 (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

Store product in the unopened container in a dry location. Material removed from containers may be contaminated during use. Do not return liquid to original container. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties.

Henkel cannot assume responsibility for product which has been contaminated or stored under conditions other than those recommended. 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 0.2