



LOCTITE[®] 3034[™]

April 2008

PRODUCT DESCRIPTION

LOCTITE[®] 3034[™] provides the following product characteristics:

Technology	Acrylic
Chemical Type	Acrylic
Appearance (Part A)	Clear yellow gel ^{LMS}
Appearance (Part B)	Translucent amber gel with visible glass 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[®] 3034[™] 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 glass beads for bondline thickness control. The thixotropic nature of LOCTITE[®] 3034[™] 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 MSDS	

Part B Properties:

Specific Gravity @ 25 °C	1.06
Viscosity, Cone & Plate, mPa·s (cP):	
Cone CP50-1 @ shear rate 20 min ⁻¹	10,500 to 50,000
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

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

Fixture Time

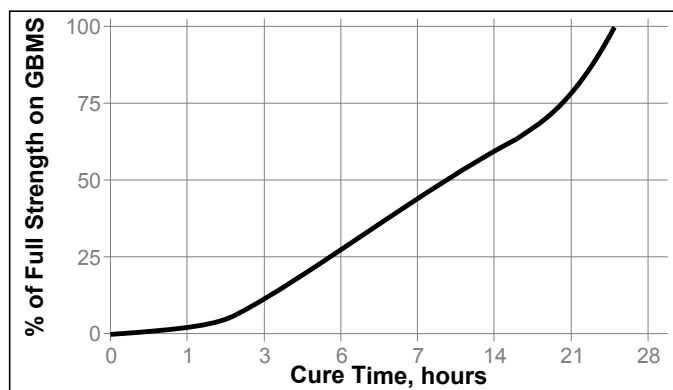
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm².

Fixture Time, mixed, minutes:

HDPE	60 to 75
Grit Blasted Mild Steel	15 to 20

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, %	11
Tensile Strength, at break, ISO 527-3	N/mm ² 15.5
	(psi) (2,245)
Tensile Modulus, ISO 527-3	N/mm ² 648
	(psi) (93,990)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C

Block Shear Strength, ISO 13445:

Polypropylene	N/mm ² 3.0
	(psi) (440)
LDPE	N/mm ² 7
	(psi) (1,010)
HDPE	N/mm ² ≥8 ^{LMS}
	(psi) (≥1,160)
ABS	N/mm ² 10
	(psi) (1,480)
PVC	N/mm ² 8
	(psi) (1,220)

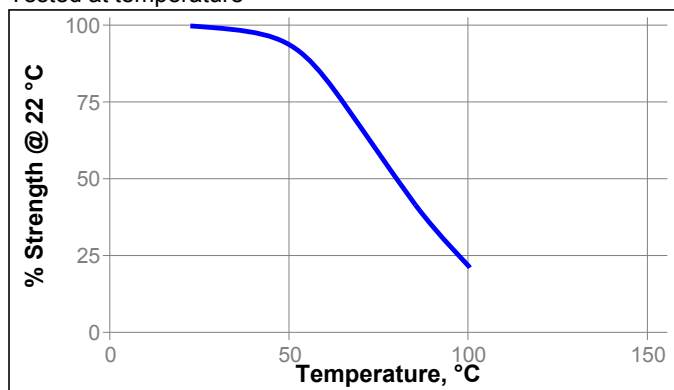
Polycarbonate	N/mm ² 3.0 (psi) (390)
Lap Shear Strength, ISO 4587:	
Steel (grit blasted)	N/mm ² 10 (psi) (1,470)
Aluminum	N/mm ² 6 (psi) (860)
SBR	N/mm ² 0.3 (psi) (39)
"T" Peel Strength, ISO 11339:	
Aluminum	N/mm 5.3 (lb/in) (30)
Impact Strength, ISO 9653, J:	
Grit Blasted Mild Steel (GBMS)	>13.6
HDPE	>13.6

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	130	130
85	100	130
100	130	130

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22°C.

Environment	°C	% of initial strength	
		500 h	1000 h
Humidity, 100% RH	49	60	60
Salt fog, 95% RH	35	80	70
Water immersion	22	90	90
Unleaded gasoline	22	60	35

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 Material Safety Data Sheet (MSDS).

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 September 28, 2006 (Part A) and LMS dated March 23, 2007 (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

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Reference 0.0