



# LOCTITE® 3295™

November 2005

## PRODUCT DESCRIPTION

LOCTITE® 3295™ provides the following product characteristics:

<b>Technology</b>	Acrylic
<b>Chemical Type</b>	Methacrylate
<b>Appearance (Part A)</b>	Yellow liquid
<b>Appearance (Part B)</b>	Blue liquid
<b>Appearance (Mixed)</b>	Green
<b>Components</b>	Two component - requires mixing
<b>Cure</b>	Room temperature cure after mixing
<b>Application</b>	Bonding
<b>Specific Benefit</b>	Suitable for a wide range of substrates, including metals and plastics

LOCTITE® 3295™ is a two component toughened acrylic adhesive system for high strength structural bonding. The two components are applied premixed from a static mixer which cures rapidly on assembly of the joint.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A:

Specific Gravity @ 25 °C 1.02  
Flash Point - See MSDS

### Part B:

Specific Gravity @ 25 °C 1.05  
Flash Point - See MSDS

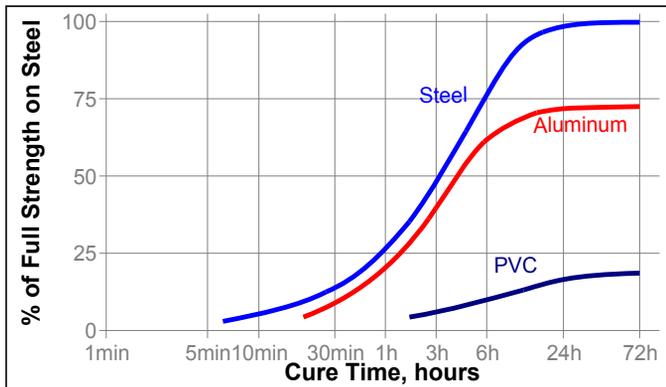
### Mixed:

Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):  
Spindle 6, speed 20 rpm 11,000 to 23,000

## TYPICAL CURING PERFORMANCE

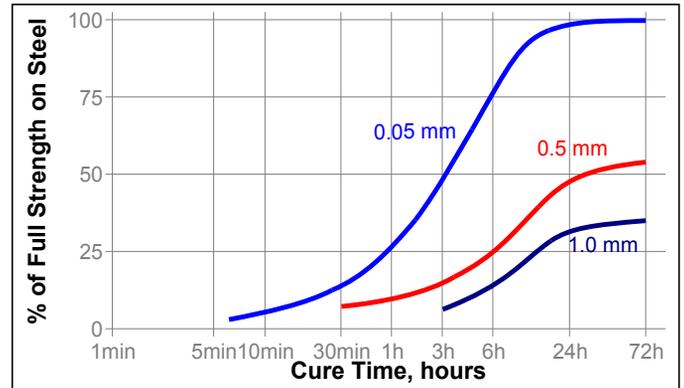
### Cure Speed vs. Substrate

The rate of cure will depend on the substrate used. The graph below shows the shear strength developed with time on steel lap shears compared to different materials and tested according to ISO 4587.



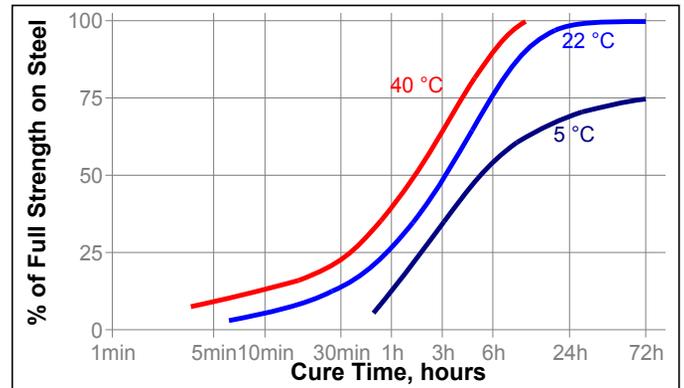
### Cure Speed vs. Bond Gap

The rate of cure will depend on the bondline gap. The following graph shows the shear strength developed with time on steel lap shears at different controlled gaps and tested according to ISO 4587.



### Cure Speed vs. Temperature

The rate of cure will depend on the ambient temperature. The graph below shows the shear strength developed with time at different temperatures on steel lap shears and tested according to ISO 4587.



## TYPICAL PROPERTIES OF CURED MATERIAL

### Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K<sup>-1</sup> 1×10<sup>-4</sup>  
Coefficient of Thermal Conductivity, ISO 8302, W/(m·K) 0.1  
Specific Heat, kJ/(kg·K) 0.3

**TYPICAL PERFORMANCE OF CURED MATERIAL****Adhesive Properties**

Cured for 48 hours @ 22 °C

Lap Shear Strength, ISO 4587:

Steel	N/mm <sup>2</sup>	24.8
	(psi)	(3,600)
Oiled steel	N/mm <sup>2</sup>	7.6
	(psi)	(1,100)
Aluminum	N/mm <sup>2</sup>	17.3
	(psi)	(2,500)
ABS	N/mm <sup>2</sup>	2.1
	(psi)	(300)
PVC	N/mm <sup>2</sup>	4.5
	(psi)	(650)
Polycarbonate	N/mm <sup>2</sup>	2.8
	(psi)	(400)
Wood	N/mm <sup>2</sup>	2.8
	(psi)	(400)
"T" Peel Strength, ISO 11339:		
Aluminum	N/mm	3.5
	(lb/in)	(20)

**TYPICAL ENVIRONMENTAL RESISTANCE**

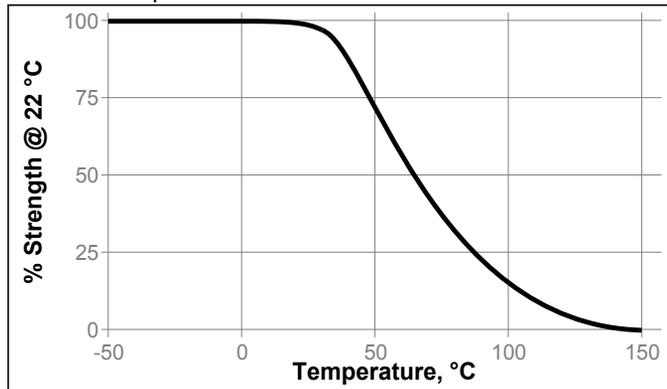
Cured for 1 week @ 22 °C

Lap Shear Strength, ISO 4587:

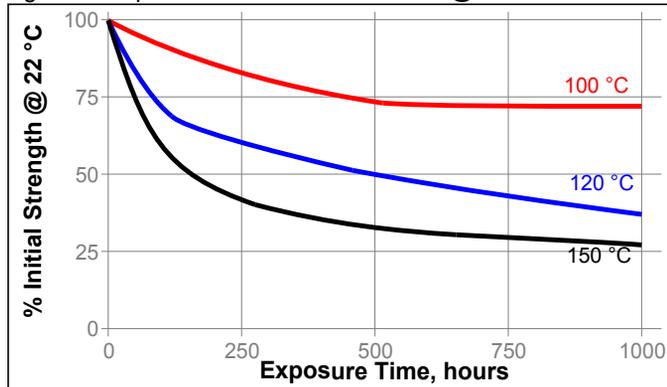
Steel

**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.

Environment	°C	% of initial strength		
		100 h	500 h	1000 h
Motor oil (MIL-L-46252)	125	90	90	90
Unleaded gasoline	22	80	75	70
Humidity, 98% RH	40	90	65	60
Water/glycol 50/50	87	50	50	45
Water	22	100	100	65
Acetone	22	30	15	0

**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 best performance bond surfaces should be clean and free from grease.
2. To ensure a fast and reliable cure, product should be applied through a static mixer using appropriate dispensing equipment.
3. Open time in the static mixer is approximately 5 minutes.
4. Avoid cross contamination of the two components of this product.
5. Apply the LOCTITE® 3295™ adhesive immediately and assemble bond (within 5 minutes).
6. Excess adhesive can be wiped away with organic solvent.
7. Bond should be held clamped until adhesive has fixtured.
8. Product should be allowed to develop full strength before subjecting to any service loads (typically 24 to 72 hours after assembly, depending on bond gap, materials and ambient conditions).

**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: 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**

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

**Note**

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Reference 1.0