



LOCTITE® 3298™

November 2005

PRODUCT DESCRIPTION

LOCTITE® 3298™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Modified methacrylate ester
Appearance (uncured)	Greenish-grey viscous liquid ^{LMS}
Components	One component - requires no mixing
Viscosity	Medium
Cure	Anaerobic with activator
Application	Bonding
Strength	High

LOCTITE® 3298™ is a toughened acrylic adhesive material intended for high strength structural bonding. This product incorporates a silane coupling agent which ensures good bond durability on glass surfaces. It cures at ambient temperature with the aid of Activators 737™, 738™/7386™ or 740™/7407™. LOCTITE® 3298™ is suitable for bonding a range of materials, including sheet metal and glass, where continuous or repeated loading is encountered (e.g. furniture, containers, doors).

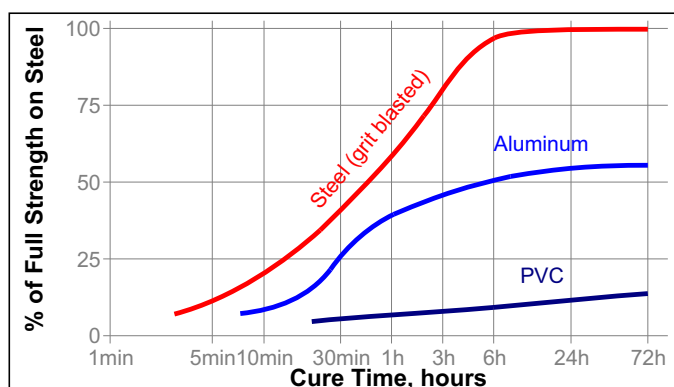
TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.02
Flash Point - See MSDS	
Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):	
Spindle 7, speed 20 rpm	17,000 to 41,000 ^{LMS}

TYPICAL CURING PERFORMANCE

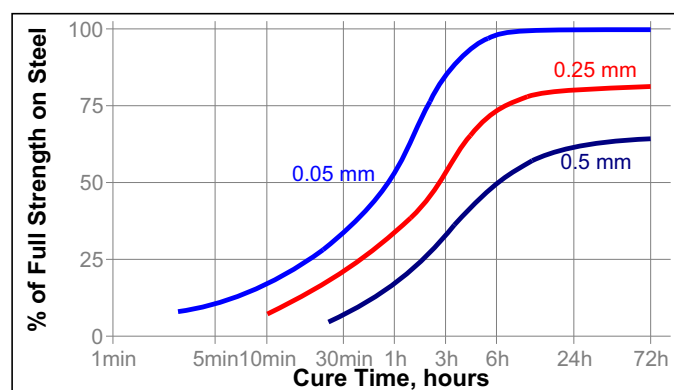
Cure Speed vs. Substrate

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



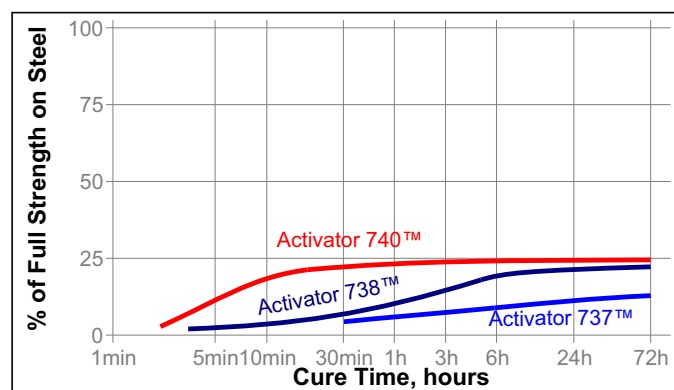
Cure Speed vs. Bond Gap

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



Cure Speed vs. Activator

An activator must be used to ensure cure of this product. The rate of the cure will depend on the activator used. In general, Activator 737™ is recommended for optimum durability or where large bond gaps are present. For fastest fixturing and where gaps are less than 0.1 mm, Activator 740™ is recommended. For non-metallic surfaces, Activators 738™ and 740™ are preferred. The graph below shows the shear strength developed with time on PVC lap shears with different activators.



TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion, ISO 11359-2, K ⁻¹	100×10 ⁻⁶
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 24 hours @ 22 °C, Activator 7386™ on 1 side

Lap Shear Strength, ISO 4587:

Stainless steel (grit blasted)	N/mm ²	≥21.5 ^{LMS}
	(psi)	(≥3,117)

Cured for 24 hours @ 22 °C, Activator 737™

Lap Shear Strength, ISO 4587:

Steel (grit blasted)	N/mm ²	26 to 32
	(psi)	(3,770 to 4,640)
Aluminum	N/mm ²	8 to 20
	(psi)	(1,160 to 2,900)

Tensile Strength, ISO 6922:

Steel (grit blasted)	N/mm ²	15 to 27
	(psi)	(2,175 to 3,900)

Steel (grit blasted) to Glass	N/mm ²	11 to 26
	(psi)	(1,600 to 3,770)

"T" Peel Strength, ISO 11339:

Aluminum (grit blasted)	N/mm	4 to 6
	(lb/in)	(22 to 34)

TYPICAL ENVIRONMENTAL RESISTANCE

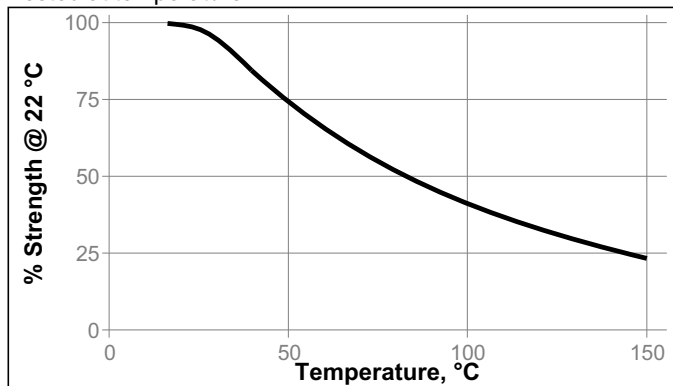
Cured for 1 week @ 22 °C, Activator 737™

Lap Shear Strength, ISO 4587:

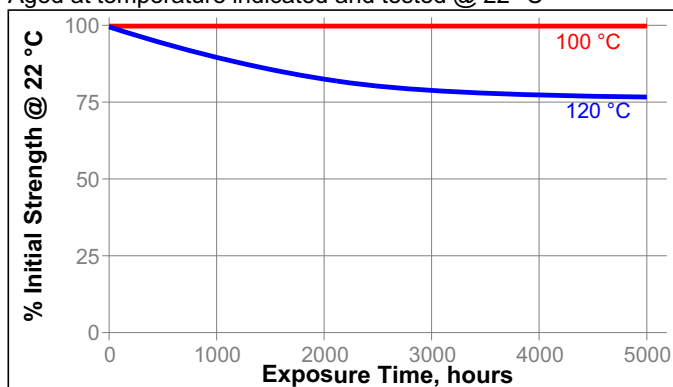
Steel (grit blasted)

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-46152)	125	100	100	100
Acetone	22	95	90	80

Tensile Strength, ISO 6922:

Steel pin (grit blasted) to Glass:

Environment	°C	% of initial strength		
		100 h	500 h	1000 h
95% RH	40	90	45	45

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).

Where aqueous washing systems are used to clean the surfaces before bonding, it is important to check for compatibility of the washing solution with the adhesive. In some cases these aqueous washes can affect the cure and performance of the adhesive.

This product is not normally recommended for use on plastics (particularly thermoplastic materials where stress cracking of the plastic could result). Users are recommended to confirm compatibility of the product with such substrates.

Directions for use

1. For best performance bond surfaces should be clean and free from grease.
2. To ensure a fast and reliable cure, Activator 737™ or 7386™ should be applied to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled within 15 minutes.
3. The recommended bondline gap is 0.05 mm. Where bond gaps are large (up to a maximum of 0.4 mm), or faster cure speed is required, Activator 737™ or 7386™ should be applied to both surfaces. Parts should be assembled immediately (within 1 minute).
4. Excess adhesive can be wiped away with organic solvent.
5. Bond should be held clamped until adhesive has fixtured.
6. 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).

Loctite Material Specification^{LMS}

LMS dated November 10, 2000. 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

Store product in the unopened container in a dry location. 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.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation 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

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Reference 1.0