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LOCTITE

Technical Data Sheet

LOCTITE® AA 332™

Known as LOCTITE® 332™
November 2014

PRODUCT DESCRIPTION

LOCTITE® AA 332™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Modified acrylic
Appearance (uncured)	Opaque light yellow to dark amber[LMS]
Components	One component - requires no mixing
Viscosity	High
Cure	Activator
Secondary Cure	Heat
Application	Bonding

LOCTITE® AA 332™ is designed primarily for securing permanent magnets in motor magnet bonding applications. This product has demonstrated the ability to provide tough, durable bonds with outstanding impact and peel resistance.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C 0.97

Flash Point - See SDS

Viscosity, Brookfield - RVF, 25 °C, mPa·s (cP):
Spindle 7, speed 20 rpm, 75,000 to 130,000[LMS]

TYPICAL CURING PERFORMANCE

LOCTITE® AA 332™ is designed to be used with Activator 7387™ and cured at room temperature. Cure charecteristics are measured by determining fixture time (handling time) and speed of cure.

Fixture Time

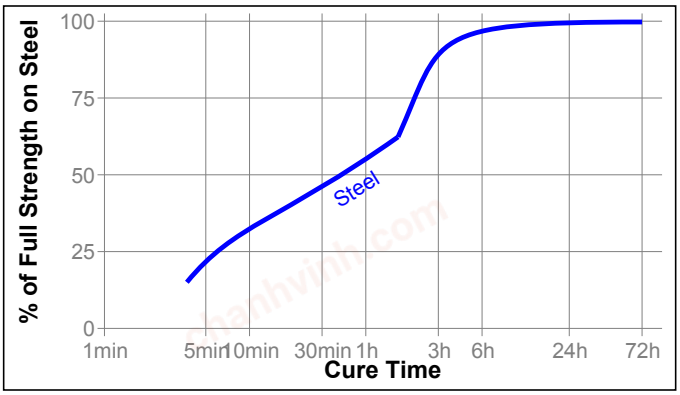
Fixture time is defined as the time to develop a shear strength of 0.1 N/mm² .

Fixture Time, ISO 4587, minutes:
Steel, with Activator 7387™ on 1 side:

0.05 mm gap	≤3
0.25 mm gap	≤15
0.5 mm gap	≤30

Cure Speed vs. Substrate

The graph below shows the shear strength developed with time on steel lap shears and tested according to ISO 4587 (Activator 7387™ applied to one surface).



Heat Cure

Heat can be used to effect or accelerate cure when surface priming operations are undesirable. Typical heat cure conditions consist of heating and maintaining bondline at a temperature given below for the corresponding time specified. Optimum conditions for heat cure should be determined on the actual assemblies.

130 °C for 20 minutes
140 °C for 15 minutes
150 °C for 10 minutes

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Shore Hardness, ISO 868, Durometer D		69
Tensile Modulus, ISO 527-2	N/mm²	950
	(psi)	(138,000)
Tensile Strength, at break, ISO 527-2	N/mm²	17.9
	(psi)	(2,600)

TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

Cured for 24 hours @ 22 °C, Activator 7387™ on 1 side
Lap Shear Strength, ISO 4587:
Steel :

0.05 mm gap	N/mm²	≥11[LMS]
	(psi)	(≥1,595)
0.5 mm gap	N/mm²	≥3.4[LMS]
	(psi)	(≥493)

180° Peel Strength, ISO 8510-2:

Steel	N/mm	3.5
	(lb/in)	(20)

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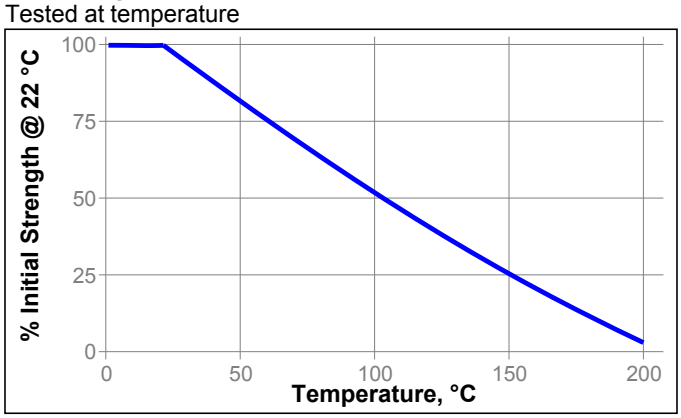
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TYPICAL ENVIRONMENTAL RESISTANCE

Cured for 48 hours @ 22 °C, Activator 7387™ on 1 side
Lap Shear Strength, ISO 4587:
Steel

Hot Strength

Tested at temperature



Heat Aging

Aged at temperature indicated and tested @ 22 °C

	% of initial strength
Temperature, °C	**1000h**
90	110
120	115
150	130
175	125
200	85

Chemical/Solvent Resistance

Aged under conditions indicated and tested @ 22 °C.

		% of initial strength
Environment	**°C**	**720 h**
Air reference	87	100
Water/glycol 50/50	87	110
Phosphate ester	87	110
Unleaded gasoline	87	20
Motor oil	87	95
ATF	87	95
Brake fluid	87	5

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).

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. Activator 7387™ should be applied to one of the bond surfaces and the adhesive to the other surface. Parts should be assembled within two hours. Minimizing the on-part time of the activator maximizes the consistency of performance.
3. Where bond gaps are large (up to a maximum of 0.5 mm), or faster cure speed is required, Activator 7387™ should be applied to both surfaces. Parts should be assembled immediately.
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 September 15, 1995. 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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
µm / 25.4 = mil
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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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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