



ROTAL INDUSTRIES & TRADING LTD.

21 Atir Yeda St. P.O.Box 2292 Kfar-Saba 4464316, Israel.
Telephone: 972-9-7667990 Fax: 972-9-7667991 E-Mail: rotal@rotal.com
ISO 9001:2008 www.rotal.com

Technical Data Sheet

LOCTITE® AA F246™

Known as LOCTITE® F246™
January 2015



PRODUCT DESCRIPTION

LOCTITE® AA F246™ provides the following product characteristics:

Technology	Acrylic
Chemical Type	Modified methacrylate ester
Appearance (uncured)	Straw yellow to brown liquid ^{LMS}
Components	One component - requires no mixing
Viscosity	High
Cure	With activator
Application	Bonding

LOCTITE® AA F246™ is a one component, toughened and high strength acrylic adhesive system for structural bonding. It cures rapidly at room temperature on assembly of the joint.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.0
Viscosity, Brookfield - RVT, 25 °C, Pa·s: Spindle 6, speed 10 rpm,	17.0 to 35.0 ^{LMS}
Thermal Stability, 82°C, hours	≥3 ^{LMS}
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Fixture Time

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

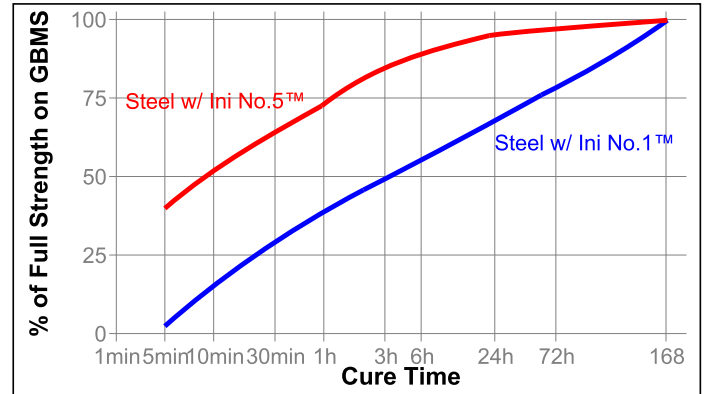
Fixture Time, ISO 4587, minutes:

Grit Blasted Mild Steel, activated with	≤5 ^{LMS}
Activator Ini No.5™	
PVC, activated with Activator Ini No.5™	≤5

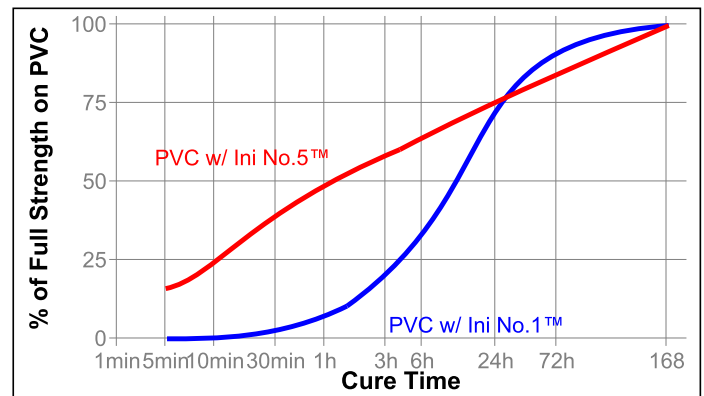
Cure Speed vs. Substrate

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

Activator Ini No.1™ or Ini No.5™ applied to one surface



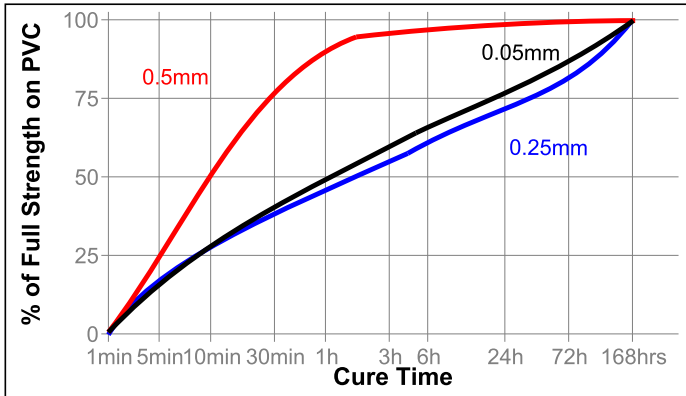
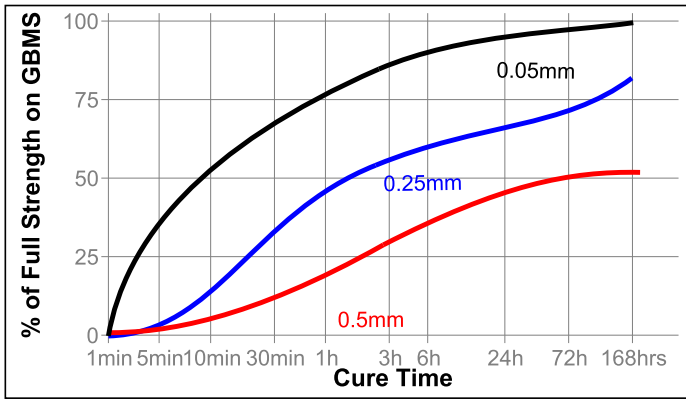
The graph below shows the shear strength developed with time on PVC lap shears and tested according to ISO 4587
Activator Ini No.1™ or Ini No.5™ applied to one surface



Cure Speed vs. Bond Gap

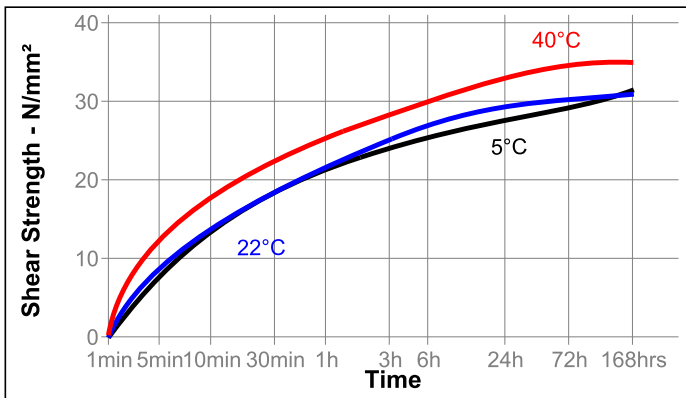
The rate of cure will depend on the bondline gap. The following graph shows the shear strength developed with time on grit blasted mild steel and PVC lap shears at different controlled gaps and tested according to ISO 4587. (Activator Ini No.5™ applied to one surface).





Cure Speed vs. Temperature

The graph below shows the shear strength developed with time on grit blasted steel lap shears activated with LOCTITE® Activator Ini No. 5™ at different temperatures and tested according to ISO 4587



TYPICAL PERFORMANCE OF CURED MATERIAL

Adhesive Properties

After 168 hours @ 22 °C, Activator Ini No.5™ on 1 side

Lap Shear Strength, ISO 4587:

Grit Blasted Mild Steel (GBMS)	N/mm ²	33
	(psi)	(4,760)
Stainless steel	N/mm ²	16
	(psi)	(2,250)
Aluminum	N/mm ²	19
	(psi)	(2,780)
ABS	N/mm ²	6.1
	(psi)	(880)
PVC	N/mm ²	11
	(psi)	(1,600)
Polycarbonate	N/mm ²	4.6
	(psi)	(670)
PMMA	N/mm ²	5.1
	(psi)	(740)

"T" Peel Strength, ISO 11339:

Aluminum (Gritblasted)	N/mm ²	4.5
	(psi)	(650)

After 24 hours @ 22 °C, Activator Ini No.1™ on 1 side

Lap Shear Strength, ISO 4587,
Grit Blasted Mild Steel (GBMS)

	N/mm ²	≥15 ^{LMS}
	(psi)	(2,180)
PVC	N/mm ²	2.2
	(psi)	(360)

"T" Peel Strength, ISO 11339:

Aluminum (Gritblasted)	N/mm ²	≥4 ^{LMS}
	(psi)	(580)

TYPICAL ENVIRONMENTAL RESISTANCE

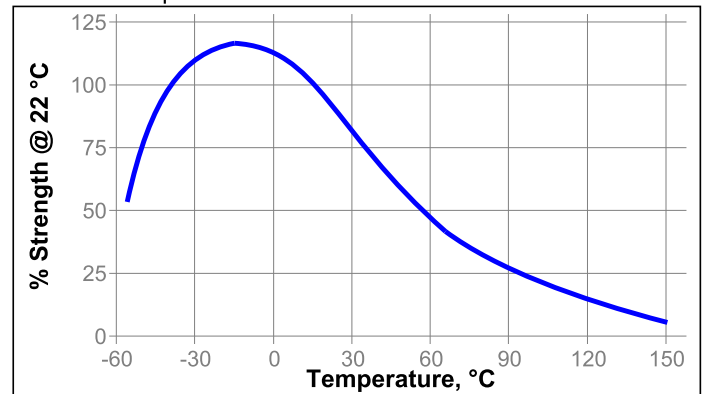
Cured for 1 week @ 22 °C, Activator Ini No. 5™ on 1 side

Lap Shear Strength, ISO 4587 N/mm² :

Mild steel (grit blasted)

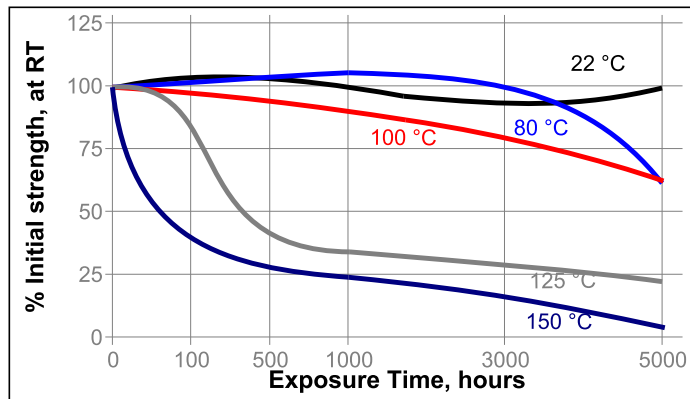
Hot Strength

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	1000 h	3000 h	5000 h
Acetone	22	79	73	34	2
ATF	22	100	92	71	88
98% RH	40	88	64	53	55
Motor oil (MIL-L-46152)	22	99	73	79	77
Salt water solution, 7.5%	22	73	84	83	69
Unleaded gasoline	22	92	77	39	7
Water	60	71	66	64	45
Water	90	62	49	35	39
Water/glycol 50/50	87	65	73	42	39

Shear Strength on Stainless Steel Lapshears

Environment	°C	% of initial strength			
		100 h	1000 h	3000 h	5000 h
Acetic Acid, 10%	22	100	79	74	83
Sodium hydroxide, 4%	22	69	68	13	6

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 best performance bond surfaces should be clean and free from grease.
2. To ensure a fast and reliable cure, Activator Ini No.1™ or Ini No.5™ 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 0.1 mm. Where bond gaps are large (up to a maximum of 0.5 mm), or faster cure speed is required, Activator Ini No.1™ or Ini No.5™ 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 July 3, 2012. 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:

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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Belgium NV, Henkel Electronic Materials NV, Henkel Nederland BV, Henkel Technologies France SAS and Henkel France SA please additionally note the following:

In case Henkel would be nevertheless held liable, on whatever legal ground, Henkel's liability will in no event exceed the amount of the concerned delivery.

In case products are delivered by Henkel Colombiana, S.A.S. the following disclaimer is applicable:

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. 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.

Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

In case products are delivered by Henkel Corporation, Resin Technology Group, Inc., or Henkel Canada Corporation, the following disclaimer is applicable:

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.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.2