



Technical Process Bulletin



Authorized Distributor

1-800-375-0605

www.rudolphbros.com

# LOCTITE EA 9364FR AERO Epoxy Paste Adhesive

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## Description

LOCTITE EA 9364FR AERO is a two-component flame retardant toughened paste adhesive, with excellent mechanical performance. EA9364FR contains no halogenated resins common in many other flame retardant products.

## Features

- Available in dual cartridge and 5 gallon Kit packaging – 2/1 mix ratio by volume
- Off White color
- Excellent static stress durability
- Easy mixing two component system
- Room temperature or elevated temperature cure

## Uncured Adhesive Properties

### Part A

Description: Moderate Viscosity paste

Color: White

Storage Life: 12 months at 77°F/25°C

### Part B

Description: Thixotropic Viscosity paste

Color: Straw

Storage Life: 12 months at 77°F/25°C

This material will normally be shipped at ambient conditions, which will not alter our standard warranty, provided that the material is placed into its intended storage upon receipt. Premium shipment is available upon request.

## Handling Precautions

Mixing - This product requires mixing two components together just prior to application to the parts to be bonded. Complete mixing is necessary. The temperature of the separate components prior to mixing is not critical, but should be close to room temperature (77°F/25°C). Note: Volume measurement is not recommended for structural applications unless special precautions are taken to assure proper ratios.





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**Mix Ratio:**

**Part A Part B**

By Weight 100:43

By Volume 2:1

Appearance: Off White

Pot Life (20 g mass) 60 minutes @ 77°F/25°C

Method – Henkel test method

**Application**

Mixing - Combine Part A and Part B in the correct ratio and mix thoroughly. THIS IS IMPORTANT!

Heat buildup during or after mixing is normal. Do not mix quantities greater than 450 grams as dangerous heat buildup can occur causing uncontrolled decomposition of the mixed adhesive. TOXIC FUMES CAN OCCUR, RESULTING IN PERSONAL INJURY. Mixing smaller quantities will minimize the heat buildup.

**Applying** - Bonding surfaces should be clean, dry and properly prepared. For optimum surface preparation Consult the Hysol Surface Preparation Guide. The bonded parts should be held in contact until the adhesive is set. Handling strength for this adhesive will occur in 24 hours (>77°F/25°C), after which the support tooling or pressure used during cure may be removed. Since full bond strength has not yet been attained, load application should be small at this time.

**Curing** - This adhesive may be cured for 5 to 7 days @ >77°F/25°C to achieve normal performance.

Accelerated cures up to 200°F/93°C (for small masses only) may be used as an alternative. For example, 1 hour @ 180°F/82°C will give complete cure.

**Cleanup** - It is important to remove excess material from the part and bonding tools prior to curing. Uncured product may be trimmed and removed with a sharp object. Residual resin may be removed with denatured alcohol or many common industrial solvents. Be careful to prevent any solvent from entering the uncured bondline, as solvent will degrade the final performance. Consult with your supplier's information pertaining to the safe and proper use of solvents.



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## Performance

Test	Notes	Units	Test Temp °F/°C	EA9364FR
Complex Dynamic Viscosity	After 60 minutes at 77/25°F/25°C, tested at 10% strain, 10 rad/sec	poise	77 / 25	8210
Green Strength (lap Shear)	Cured 50 min RT + 50 min 54°C/130°F + 10 min RT	Psi / MPa	77 / 25	3730 / 35.7
Lap Shear Strength	Cured 16 hours @ 54°C/130°F	Psi / MPa	77 / 25	4370 / 30.1
			160 / 71	3500 / 24.1
Working Life - Cartridges conditioned 8 hours at 77/25°F prior to extrusion	20 g mixed adhesive aged 1 hour at RT before application to Lap Shear substrates - Adhesive cured 16 hours @ 54°C/130°F	Psi / MPa	77 / 25	4340 / 29.9
Working Life - Cartridges conditioned 8 hours at 100°F / 38°C prior to extrusion	20 g mixed adhesive aged 1 hour at RT before application to Lap Shear substrates - Adhesive cured 16 hours @ 54°C/130°F	Psi / MPa	77 / 25	4300 / 29.7
Bell Peel	Cured 16 hours @ 54°C/130°F	Pli / N/25mm	77 / 25	20 / 89

## Properties as a function of cure temperature and cure time

Cure Temp	Cure Time	L/S @ RT	L/S @ 160°F / 71°C	Degree of Cure
°F / °C	Hours	psi / MPa	psi / MPa	%
75/23	168	4040/28.0	2830/20.0	Not Tested
130 / 54	16	4810 / 33.2	3090 / 21.3	Not Tested
150 / 66	2	4840 / 33.4	3760 / 25.9	93
160 / 71	1	5050 / 34.8	3050 / 21.0	93
180 / 82	1	4930 / 34.0	3710 / 25.6	96
250 / 121	1	5010 / 34.6	4220 / 29.1	100



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Loctite EA 9364FR Tested to requirements of FAR 25.856, Appendix F, Part 25

EA 9364 FR Flammability	Specimen #	Flame Application Time (s)	Extinguish Time (s)	Burn Length (inches / cm)
Specimens tested in accordance with FAR 25.856(a), Appendix F (VI) Part 25 - Cured Panels consisting of neat castings were 305 mm x 75 mm x 3 mm (12" x 3" x 0.125") - Panels were conditioned 24 hours at RT, 50% RH prior to test	1	15	1	0.3 / 0.8
	2	15	2	0.2 / 0.5
	3	15	1	0.2 / 0.5
	4	15	2	0.3 / 0.8
Requirement			3 max	2 max

**Halogen, Antimony and Phenol Free**





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## Handling Precautions

Do not handle or use until the Safety Data Sheet has been read and understood.  
For industrial use only. See [www.henkelna.com/aerospace](http://www.henkelna.com/aerospace) or [www.hysolpeelply.com](http://www.hysolpeelply.com) for more info.

## General:

As with most epoxy based systems, use this product with adequate ventilation. Do not get in eyes or on skin. Avoid breathing the vapors. Wash thoroughly with soap and water after handling. Empty containers retain product residue and vapors so obey all precautions when handling empty containers.

## PART A

WARNING! As with most epoxy based systems, the uncured adhesive may cause eye and skin irritation or Allergic dermatitis. Contains epoxy resins.

## PART B

WARNING! This material causes eye and skin irritation or allergic dermatitis.

CAUTION! This material may cause eye and skin irritation or allergic dermatitis. It contains epoxy resins.

## 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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