

# LOCTITE EA 9814 AERO Epoxy Paste Adhesive Technical Data Sheet

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## INTRODUCTION

LOCTITE EA 9814 AERO is a low-density, fire retardant, one-component epoxy syntactic for use on honeycomb composite parts requiring high compressive strength at temperatures up to 350°F (177°C).

## FEATURES

- One Part Structural Syntactic
- High Compressive Strength
- Low Density
- Cure 260°F (126.6°C) or 350°F (177°C)
- Fire Retardant
- No cell wall separation or cracking due to thermal stresses

## Properties

Color	Off White - White
Cured Density, g/cc	≤ 0.75
Thaw, hours	8
Work life, at 77°F (25°C), after thaw, hours	8
Shelf life ( <b>preliminary</b> ) @ -20°F (-28.8°C) or below	3 Months

## Handling Characteristics

For consistent extrusion rate performance the following handling recommendation should be performed. Remove frozen cartridges from the freezer and allow the cartridges to thaw at 75-90°F (25-32°C) for 6-8 hours. Recommended extrusion process would be to use a pneumatic hand gun at 85 psi (6 bar) without nozzle.

## Cure Schedule

Heat the material from room temperature at the rate of 3.0±1°F (1.7±0.6°C) per minute to either 260°F (126.6°C) for 90-100 minutes or 350°F (177°C) for 60-70 minutes. Recommend a cool down rate of 3-5°F (1.7-2.8°C) per minute to room temperature.

## Typical Cured Properties

### Compression Strength Average Performance

- Specimen Dimension: 0.5" thickness x 1" width x 2" height (12.7 mm x 25.4 mm x 50.8 mm)
- Specimen soak time at elevated test temp. Condition was 10 minutes at test temp. prior to testing
- Test method per ASTM D695 with a test rate of 0.05 inches per minute (1.27 mm per minute)
- Five specimens tested per test condition

### Fluid Immersion

- Specimen Dimension: 0.5" thickness x 0.5" width x 1" height (12.7 mm x 12.7 mm x 25.4 mm)



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Properties	Cure	Henkel Requirement	Test Condition	Typical Value
Flow (in)	NA	0.2	77°F	0.1
		0.2	115°F	0.1
Density (g/cm <sup>3</sup> )	350±10°F for 1 hr	0.75	NA	0.74
Extrusion (g/min)	NA	600	8 hrs @ 77°F	700
Flammability (in)	350±10°F for 1 hr	4	NA	0.9
Fluid Immersion (% weight gain)	350±10°F for 1 hr	1.5	TT-S735, Type III Test Fluid	0.08
		1.5	MIL-PRF-5606 Hydraulic Fluid	0.20
		1.5	Type IV Hydraulic Test Fluid	0.25
		1.5	Distilled Water	0.15
Compression Strength (psi)	350±10°F for 1 hr	13000	77°F	15365
		7000	350°F	8337
		7000	350°F, 1hr post cure @ 350°F	8541

**Handling Precautions**

Do not handle or use until the Material Safety Data Sheet has been read and understood. For industrial use only.

**DISPOSAL INFORMATION**

Dispose of spent epoxy resin residue per local, state and regional regulations. Refer to HENKEL TECHNOLOGIES MATERIAL SAFETY DATA SHEET for additional disposal information.

**PRECAUTIONARY INFORMATION****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.





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

**WARNING!**

This material causes eye and skin irritation or allergic dermatitis. It contains amines.

Before using this product refer to container label and HENKEL TECHNOLOGIES MATERIAL SAFETY DATA SHEET for additional precautionary, handling and first aid information.

**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, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite 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 Loctite 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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