



Technical Process Bulletin

LOCTITE EA 9807 AERO Epoxy Paste Adhesive Technical Data Sheet

INTRODUCTION

LOCTITE EA 9807 AERO is a two-part room temperature curing intermediate density structural epoxy syntactic flame retardant potting compound for use on honeycomb assembly parts and repair applications.

FEATURES

- Ambient Storage
- Pourable Consistency
- Low Exotherm
- Short Gel Time
- Flame Retardant
- Low Fluid Immersion Uptake
- Dimensional Stability
- Excellent Mechanical Properties

Physical Properties

Component	Part A	Part B
Color	Purple	Amber
Consistency	Paste	Liquid
Shelf Life at ≤82 (28°C)	12 months	12 months
Mix Ratio	100	30

Component	Mixed
Color	Light Purple
Viscosity	19,500 cps (19.5 Pa·s)
Cured Density	0.85 g/cc
Gel Time at 77°F (25°C)	70±5 minutes (67 grams)
Shore D Hardness at 77°F (25°C) & <50% RH	55 (8 hours), sandable 70 (24 hours), sandable

Remark: Surface tackiness is normal after a room temperature cure when exposed to the environment. The surface is sandable with the surface tackiness after 8 hours at 77°F (25°C).

Mixing Instructions

Mix Type	Mass	Mix Time	Mix Speed
by Centrifuge	≤200 grams	30 seconds	1000 rpm
	400 grams	30 seconds	1500 rpm
by Hand	≤100 grams	2-3 minutes	Slow
	300 grams	5 minutes	Slow

Remark: Centrifuge mixing is the preferred method for mixing. If mixing by hand, slowly mix both components to reduce frothing.



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Cure Schedule Options

- 7 days at 77°F (25°C).
- 90 minutes at 260°F (127°C) after 70 minutes at 77°F (25°C).
- 60 minutes at 350°F (177°C) after 70 minutes at 77°F (25°C).

Remark: For applications that require an elevated heat cure, allow the material to gel at ambient prior to exposing the material to elevated cure temperatures to prevent excessive cure temperatures.

Flammability (15 Second Horizontal Direction)

- Sample Dimension: 0.5" x 0.5" x 5" (12.7mm x 12.7mm x 127mm).

Cure Temperature	77°F (25°C)	260°F (127°C)	350°F (177°C)
Cure Time	7 days	90 minutes	60 minutes
Burn Rate, in/min. (cm/min.)	0.16 (0.41)	0.14 (0.36)	0.16 (0.41)
Burn Length, inch (cm)	1.6 (4.1)	1.6 (4.1)	1.6 (4.1)

Fluid Immersion (Percent Absorption)

- Sample Dimension: 0.5 in³ (12.7 mm³).
- Fluid Soak Time: 24 hours at 77°F (25°C).

Cure Temperature	77°F (25°C)	260°F (127°C)	350°F (177°C)
Cure Time	7 days	90 minutes	60 minutes
TT-S-735 Type III	0.01	0.02	0.01
MIL-PRF-5606 Hydraulic	0.19	0.15	0.25
Skydrol LD4	0.24	0.17	0.20
Distilled Water	0.08	0.10	0.07

Coefficient of Thermal Expansion

- Test Method: ASTM E831-19 on TMA Q400 TA Instrument
- Sample Dimension: 0.25 in³ (6.35 mm³).

Cure Temperature	Below Tg (CTE 1) (µm/m-°C)	Above Tg (CTE 2) (µm/m-°C)	Glass Transition (Tg) °F (°C)
7 days at 77°F (25°C)	52.92	101.7	210 (99)
90 minutes at 260°F (127°C)	45.16	101.7	200 (93)
60 minutes at 350°F (177°C)	48.62	117.3	210 (99)



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Mechanical Test Properties

Tensile Lap Shear (TLS) Strength Performance

- Test Method per ASTM D1002 (EN2243-1).
- Metal: 2024T-3 Clad, 0.063" (1.6mm) thick.
- Etch: Phosphoric Acid Anodized per ASTM D3933.
- Cured bondline thickness: 10 mils.

Test Temperature	77°F (25°C)		
Cure Temperature	77°F (25°C)	350°F (177°C)	350°F (177°C)
Cure Time	7 days	60 minutes	14 days
TLS Strength, psi (MPa)	4066 (28.0)	3976 (27.4)	3596 (24.8)

Compression Performance

- Test Method per ASTM D695 (ISO 604).
- Sample dimension: 0.5" x 0.5" x 1.0" (12.7mm x 12.7mm x 2.54mm).
- Sample soak time at elevated test temperature was 10 min. at test temperature prior to testing.

Test Temperature	77°F (25°C)			350°F (177°C)	
Cure Temperature	77°F (25°C)	350°F (177°C)	350°F (177°C)	350°F (177°C)	350°F (177°C)
Cure Time	7 days	60 minutes	14 days	60 minutes	14 days
Ultimate Strength, ksi (MPa)	9.33 (64.3)	11.36 (78.3)	13.44 (92.7)	1.35 (9.3)	1.30 (9.0)
Modulus, ksi (MPa)	531 (3661)	387 (2668)	441 (3041)	16.5 (113.8)	17.2 (118.6)



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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.

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.

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