Technical Process Bulletin

LOCTITE EA 9363 AERO
Epoxy Paste Adhesive
(KNOWN AS Hysol EA 9363)

INTRODUCTION
LOCTITE EA 9363 AERO is a two-component toughened paste adhesive, which combines high peel strength at room temperature with tensile lap shear strength @ 200°F/93°C.

FEATURES
- High peel strength
- Excellent static stress durability
- Easy mixing two component system
- Room temperature cure
- Non-yellowing

Uncured Properties

	Part A	Part B	Mixed
Color	White	Amber	Off White
Viscosity @ 77°F	800 Poise	2500 Poise	
Brookfield, HBT	Spdl 7 @ 20 rpm	Spdl 7 @ 20 rpm	
Viscosity @ 25°C	80 Pa·s	250 Pa·s	
Brookfield, HBT	Spdl 7 @ 2.1 rad/s	Spdl 7 @ 2.1 rad/s	
Density (g/ml)	1.20	1.01	
Shelf Life			
@ <40°F/4°C	1 year	1 year	
@ <77°F/25°C	6 months	6 months	
@ <90°F/32°C	6 months	6 months	

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
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: Due to the purity of one of the resin components, EA 9363 Part A will crystallize over a period of time when stored at typical ambient temperatures. The recommended temperature to de-crystallize EA 9363 Part A is between 95-100°F (35-38°C).

Mix Ratio	Part A	Part B
By Weight	100	43
By Volume	2	1

Note: Volume measurement is not recommended for structural applications unless special precautions are taken to assure proper ratios.

Pot Life (100 gram mass) 30 minutes @ 77°F/25°C
Method - ASTM D2471 in water bath.

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 LOCTITE 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 or 2 hours at 150°F/66°C will give complete cure.

Cleanup - It is important to remove excess adhesive from the work area and application equipment before it hardens. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive. Consult your supplier's information pertaining to the safe and proper use of solvents.

Bond Strength Performance
Tensile Lap Shear Strength - Tensile lap shear strength tested per ASTM D1002 after curing for 5 days @ 73°F/23°C. Adherends are 2024-T3 Bare aluminum treated with phosphoric acid anodize per ASTM D3933.

Typical Results

Test Temperature, °F/°C	psi	MPa
-67/-55	6525	45
77/25	6525	45
180/82	3625	25

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Peel Strength - Bell Peel strength tested per ASTM D3167 after curing for 5 days @ 77°F/25°C. Adherends are 2024-T3 Bare aluminum treated with phosphoric acid anodize per ASTM D3933.

		Typical Results	
Test Temperature, °F/°C	**Conditioning**	**Lb/in**	**N/25 mm**
77/25	-	65	289
	After Post Cure 2 hours @ 150°F/66°C	50	223

Service Temperature
Service temperature is defined as that temperature at which this adhesive still retains 1000 psi/6.9 MPa using test method ASTM D1002 and is >200°F/93°C.

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 remover and paint 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.

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

PART B
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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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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