



Hysol® EA 9394.2

Epoxy Paste Adhesive

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Description

Hysol EA 9394.2 is a fast curing two-part structural paste adhesive, which cures at room temperature. Its thixotropic nature makes it ideal for potting, filling and liquid shim applications.

Features

Fast Set Time – 5 hours
Good Gap Filling Capabilities
225°F/107°C Performance
Potting Material
Room Temperature Storage
Thixotropic

Uncured Adhesive Properties

	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Color	Gray	Black	Gray
Viscosity, 77°F Brookfield, HBT	4000-8000 Poise Spdl 7 @ 20 rpm	50 - 120 Poise Spdl 2 @ 20 rpm	1600 Poise Spdl 5 @ 20 rpm
Viscosity, 25°C Brookfield, HBT	400-800 Pa·S Spdl 7 @ 2.09 rad/sec	5-20 Pa·S Spdl 5 @ 1.05 rad/sec	160 Pa·S Spdl 5 @ 2.09 rad/sec
Density (g/ml)	1.45	1.00	1.36
Shelf Life from date of shipment			
@ <40°F/4°C	1 year	1 year	
@ <77°F/25°C	1 year	1 year	

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

Note: Volume measurement is not recommended for structural applications unless special precautions are taken to assure proper ratios. critical, but should be close to room temperature (77°F/25°C).

<u>Mix Ratio</u>	<u>Part A</u>	<u>Part B</u>
By Weight	100	27

Pot Life (100 gm mass) 15 - 20 minutes @ 77°F/25°C
Method - ASTM D 2471 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 100 grams unless planning to use immediately. If more than needed is mixed, do not leave mass in container, as excess heat generated may cause a runaway exotherm. The runaway exotherm causes uncontrolled decomposition of the mixture. DECOMPOSITION PRODUCTS MAY PRODUCE TOXIC FUMES, RESULTING IN PERSONAL IRRITATION AND POSSIBLE 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 5 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.

Note: Special precautions are recommended to minimize carbonate formation in large assemblies subject to extended open times in humid environments. A special memo is available upon request from Henkel providing users with suggestions for minimizing carbonate formation.

Curing - Hysol EA 9394.2 may be cured for 24 hours @ 77°F/25°C to achieve normal performance.

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 - tested per ASTM D1002 after curing for 5 days @ 77°F/25°C. Adherends are 2024-T3 bare aluminum treated with phosphoric acid anodized per BAC 5533.

<u>Test Temperature, °F/°C</u>	<u>Typical Results</u>	
	<u>psi</u>	<u>MPa</u>
-67/-55	2,700	18.6
77/ 25	4,200	28.9
180/82	2,800	19.3
225/107	1,100	7.6

After Exposure to/Test Temperature

	<u>Typical Results</u>	
	<u>psi</u>	<u>MPa</u>
Room Temperature Control (no exposure)	4,300	29.6
77°F/25°C Water - 7 days @77°F/25°C	4,100	28.2
Isopropyl Alcohol - 7 days @77°F/25°C	4,000	27.6
Hydraulic Oil - 7 days @77°F/25°C	4,100	28.2
JP-4 Fuel - 7 days @ 77°F/25°C	4,200	28.9

77°F/25°C Tensile Lap Shear Strength as a function of cure time - tested per ASTM D1002 after curing for 5 days @ 77°F/25°C. Adherends are 2024-T3 bare aluminum H.O.M.E. etched and phosphoric acid anodized per ASTM D1002.

Typical Results

Cure Time	psi	MPa
5 hours @ 77°F/25°C	1,850	12.7
1 day @ 77°F/25°C	4,200	28.9
4 days @ 77°F/25°C	4,250	29.3
1 day @ 77°F/25°C plus 1 hour @ 180°F/82°C	4,050	27.9

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 225°F/107°C.

Bulk Resin Properties

Tensile Properties - tested using 0.125 inch/ 3.18 mm castings per ASTM D638.

Shore D Hardness, @ 77°F/25°C after curing
for 5 hours @ 77°F/25°C:

80

Handling Precautions

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

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 burns. Vapors may be irritating to the respiratory tract.

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Users should review the Materials Safety Data Sheet (MSDS) and product label for the material to determine possible health hazards, appropriate engineering controls and precautions to be observed in using the material. Copies of the MSDS and label are available upon request.

