



# Hysol® EA 9371

## Epoxy Paste Adhesive

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### Description

Hysol EA 9371 is a fast setting two-part paste adhesive with toughness and good hot/wet properties. Handling strength is achieved after two hours, with full cure properties achieved in 24 hours. Packaged in dual cartridges with static mixers for easy/safe one-to-one by volume mixing and application.

### Features

Fast Thin Film Set Time  
Easy Mix Dual Cartridges with Static Mixer  
Toughness  
No Mercaptans  
Good Hot/Wet Properties  
Handling Strength Within Two Hours  
Room Temperature Cure  
Ideal Replacement for Hysol EA 911F NA

### Uncured Adhesive Properties

	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Color	Black	Off-White	Black
Viscosity @ 77°F	680 Poise	740 Poise	
Brookfield, HBT	Spdl 6 @ 50 rpm	Spdl 6 @ 50 rpm	
Viscosity @ 25°C	68 Pa · S	74 Pa · S	
Brookfield, HBT	Spdl 6 @ 5.2 rad/s	Spdl 6 @ 5.2 rad/s	
Density (g/ml)	1.25	0.77	
Shelf life			
@ 0°F/-18°C	1 year	1 year	
@ <40°F/4°C	6 months	6 months	
@ <77°F/25°C	3 months	3 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).

<u>Mix Ratio</u>	<u>Part A</u>	<u>Part B</u>
By Weight	100	62
By Volume	1	1

**Pot Life** (100 gm mass) 18 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 100 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 two 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. 65% of strength is achieved after four hours.

**Curing** - This adhesive may be cured for 24 hours @ >77°F/25°C or 1 hour @ 180°F/82°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**

Tensile lap shear strength tested per ASTM D1002 after curing for 24 hours @ 77°F/25°C. Adherends are 2024-T3 bare FPL etched aluminum (ASTM D2651-92).

<u>Test Temperature, °F/°C</u>	<u>Typical Results</u> <u>(psi/MPa)</u>
-67/-63	1600/11
77/25	3700/25.5
160/71	1600/11.0
180/82	1400/9.6
77/25 wet*	3700/25.5

\*Conditioned 160°F/100% RH for 14 days

**Comparison of typical properties** - Hysol EA 9371 vs Hysol EA 911F NA

	<u>Hysol EA 9371 (psi/MPa)</u>	<u>EA 911FNA (psi/MPa)</u>
Cure 30 min. @ 77°F/25°C	N/A	1900/13.1
Cure 4 hours @ 77°F/25°C	2700/18.6	3200/22.0
Cure 24 hours @ 77°F/25°C	3700/25.5	4000/27.6
Service temperature	190°F/88°C	120°F/49°C
Pot life @ 77°F/25°C (50 gm mass)	12 minutes	10 minutes
Contains mercaptans	No	Yes
Available in dual syringe cartridges	Yes	No
Peel strength	Yes	No

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

### ***Metal to Metal Climbing Drum Peel Strength***

Metal to metal climbing drum peel strength tested per ASTM D1781 after curing 24 hours @ 77°F/25°C. Adherends are 2024-T3 bare FPL etched aluminum.

<b><u>Test Temperature, °F/°C</u></b>	<b><u>Typical Results</u></b>	
	<b><u>(in-lbs/in)</u></b>	<b><u>(M.n/m)</u></b>
Cured 24 hours @ 77°F/25°C, tested @ 77°F/25°C	18.0	80
Cured 1 hour @ 180°F/82°C, tested @ 77°F/25°C	27.0	120
Cured 7 days @ 77°F/25°C, tested @ 77°F/25°C	27.0	120

### **Service Temperature**

Service temperature is defined as that temperature at which this adhesive still retains 1000 psi using test method ASTM D1002 and is approximately 190°F/88°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	80
Tg dry-cured 7 days @ 77°F/25°C	132°F/56°C
Tg dry-cured 1 hour @ 180°F/82°C	188°F/87°C
Tg wet-cured 7 days @ 77°F/25°C	117°F/47°C
conditioned 14 days 100% RH @ 160°F/71°C	

### **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!** The uncured adhesive causes eye irritation and may cause skin irritation such as allergic dermatitis. Contains epoxy resins.

**PART B**

**DANGER!** Causes severe skin and eye burns. Do not get in eyes, on skin or on clothing. Vapors may be irritating to the respiratory tract.

Hysol<sup>®</sup> is a registered trademark of Henkel Corporation.  
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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.

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