



## Hysol® EA 9446

### Epoxy Paste Adhesive

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#### Description

Hysol EA 9446 is a two-component rapid cure acrylic adhesive system consisting of a viscous white liquid Part A resin and an amber liquid Part B activator. This easy to use, surface activated adhesive gives properties equivalent to many epoxy and polyurethane adhesives with no measuring or mixing. Hysol EA 9446 is formulated to give high peel and shear strength. This acrylic adhesive forms resilient bonds and maintains its strength over a wide range of temperatures. It is suitable for bonding a variety of substrates with a minimum amount of surface preparation.

#### Features

Fast Room Temperature Cure  
High Shear Strength  
Rapid Set Time  
Easy to Use  
High Peel Strength  
Good Environmental Resistance  
Bonds Variety of Substrates

#### Uncured Adhesive Properties

	<b><u>Part A</u></b> <b><u>RESIN</u></b>	<b><u>Part B</u></b> <b><u>ACTIVATOR</u></b>
Color	Off-White	Dark Amber
Viscosity @ 77°F Brookfield, RVT	100 - 300 Poise Spdl 7 @ 20 rpm	1 - 5 Poise Spdl 1 @ 20 rpm
Viscosity @ 25°C Brookfield, RVT	10 - 30 Pa•s Spdl 7 @ 2.1 rad/s	0.1 - 0.5 Pa•s Spdl 1 @ 2.1 rad/s
Density (g/ml)	1.01	0.94
Flash Point TOC	55°F/13°C	>200°F/93°C
Shelf life	6 months @ 0°F/-18°C	1 year @ 77°F/25°C

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.

#### Application

**Mixing** - Mixing is not required or recommended for this product.

**Applying** - Bonding surfaces should be clean, dry and free of contamination. Extensive surface preparation is not required for this adhesive and good bonds can be formed on most substrates after a solvent wipe only.

The Part B activator can be applied to one or both bonding surfaces. Application to both surfaces is recommended where bondline thickness is greater than 20 mils. Bondlines thicker than 40 mils are not suggested in either case. Brush, spray, roller coat or other methods resulting in a thin, even coating may apply the Part B. IT IS IMPORTANT THAT ONLY A THIN FILM OF PART B BE APPLIED, SINCE EXCESSIVE ACTIVATOR WILL RESULT IN REDUCED BONDING STRENGTH.

The Part A resin can be applied by spatula, brush or from a dispensing gun. It can be applied to either an activated surface or one to which Part B has not been applied. Curing is initiated when Part A comes into contact with the Part B activated surface. After Part A is applied to surface, parts should be mated quickly, care must be taken not to shift adherends until the adhesive is set. Set time for this product is about two minutes depending upon substrates, bondline thickness and surface preparation.

**Curing** - Initial bond strength is achieved in less than one hour @ 77°F/25°C. Full cure is obtained in 4 to 24 hours depending upon bonding conditions.

**Cleanup** - It is important to remove excess adhesive from the work area and application equipment before it hardens. Cleanup of this product is simplified since the adhesive does not cure until the parts are mated. Denatured alcohol and many common industrial solvents are suitable for removing uncured adhesive. Consult with 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 on 1" wide by 0.5" (25.4 x 12.7mm) overlap specimens.

<b>Substrate</b>	<b>Test Temperature, °F/°C</b>	<b>Typical Results</b>		
		<b>psi</b>	<b>MPa</b>	
Etched Aluminum	-67/-55	2,800	19.3	
	77/25	3,500	24.1	
	180/82	1,750	12.1	
	250/121	1,000	6.9	
Degreased Aluminum	77/25	2,800	19.3	
SAE 1010 Steel	77/25	2,600	17.9	
Oily 1010 Steel	77/25	1,950	13.4	
ABS	77/25	770	5.3	
Polymethyl Methacrylate	77/25	(Substrate Failure)		
		700	4.8	
PVC	77/25	(Substrate Failure)		
		1,500	10.3	
Etched Aluminum after Environmental Exposures:		(Substrate Failure)		
	30 Day Salt Spray	77/25	3,200	22.0
	30 Day 120°F/49°C,100% RH	77/25	2,900	20.0
	30 Day Hydraulic Oil	77/25	2,700	18.6
	7 Day Isopropyl Alcohol	77/25	2,600	17.9

### ***Peel Strength***

Floating Roller Peel strength tested per ASTM D3167 at a crosshead speed of 6 inches per minute.

<b>Substrate</b>	<b>Test Temperature, °F/°C</b>	<b>Typical Results</b>	
		<b>Lb/in</b>	<b>N/25mm</b>
Etched Aluminum	77/25	48	214
Degreased Aluminum	77/25	46	205

### **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 approximately 250°F/121°C.

### **Handling Precautions**

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

### **General:**

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! FLAMMABLE!** Keep away from heat, sparks or flame. May be harmful if inhaled or absorbed through skin. It may also cause eye and skin irritation such as allergic dermatitis.

PART B

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

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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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