



# Hysol® EA 9150

## Epoxy Resin

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### Description

Hysol EA 9150 is a low viscosity, two-part toughened system formulated for resin transfer molding.

### Features

Low Viscosity RTM Resin	Room Temperature Storage
Long Pot Life	Flexibility
Toughness	250°F/121°C Service Temperature

### Uncured Adhesive Properties

	<u>Part A</u>	<u>Part B</u>	<u>Mixed</u>
Color	Amber	Amber	Amber
Viscosity @ 77°F	250 Poise	1 Poise	25 Poise
Viscosity @ 25°C	25 Pa · S	0.100 Pa · S	2.5 Pa · S
Brookfield, HBT	Spdl 3 @ 20 rpm	Spdl 1 @ 20 rpm	Spdl 1 @ 20 rpm
Brookfield, HBT	Spdl 3 @ 2.1 rad/s	Spdl 1 @ 2.1 rad/s	Spdl 1 @ 2.1 rad/s
Specific Gravity	1.19	1.17	1.18
Shelf Life			
@ <40°F/4°C	1 year	1 year	1 year
@ <77°F/25°C	1 year	1 year	1 year
@ <90°F/32°C	1 year	1 year	1 year

### Handling

**Mixing** - This product requires mixing two components together just prior to application to the parts to be resin transfer molded. Complete mixing is necessary. The temperature of the separate components prior to mixing is not critical, but should be greater than 77°F/25°C. PART B MUST BE THOROUGHLY MIXED PRIOR TO MIXING OF THE SYSTEM. Meter mix users should have capability to mix and degas part B prior to dispensing.

<u>Mix Ratio</u>	<u>Part A</u>	<u>Part B</u>
By Weight	100	88

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

### Hysol EA 9150 Part B mixing guidelines:

For either a one gallon or a five gallon unit, we recommend mixing the product at vortex speed (i.e. material swirling in can) for five minutes with a 4 inch Wal-Board paint and mud mixer, once the gallon or five gallon has been preconditioned to temperature between 120-140°F/49-60°C. Time to temperature is 1 hour for a one gallon container and 2-3 hours for a five gallon container .

Ideal meter mix equipment is for both heat, vacuum and agitation prior to dispensing of the part B.

**Pot Life** (450 g) >480 minutes @ 77°F/25°C.  
 Method - ASTM D 2471 in water bath.

**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 with your supplier's information pertaining to the safe and proper use of solvents.

**Curing** - Hysol EA 9150 may be cured one hour @ 250°F/121°C.

**Service Temperature**

Service temperature is defined as that temperature at which this resin system retains its mechanical performance and is approximately 250°F/121°C.

**Bulk Resin Properties**

**Tensile Properties** - tested using 0.125 inch (3.18 mm) thick castings per ASTM D 638.

Tensile Strength, psi/MPa @ 77°F/25°C	79
Tensile Modulus, ksi/MPa @ 77°F/25°C	414/2,852
Elongation at Break, % @ 77°F/25°C	5.0
Tg dry-cured @ 250°F/121°C by DSC	265°F/129°C
Tg dry-cured @ 250°F/121°C by DMTA	270°F/132°C
Shear Modulus dry, ksi/MPa	153.4/1,056
Shear Modulus wet*, ksi/MPa	150.2/1,034
Gel Time-Fisher Johns @ 250°F/121°C	11 mins
* 24 hours 212°F/100°C H <sub>2</sub> O	

**Compressive Properties** - tested using 0.5 inch (12.7 mm) diameter castings per ASTM D 695.

Compressive Strength, psi/MPa @ 77°F/25°C	14500/99.9
Compressive Modulus, ksi/MPa @ 77°F/25°C	2893

**Mechanical Composite Properties**

Properties of Hysol EA 9150 when used to make 7781 glass laminates.

	<u>psi</u>	<u>MPa</u>
Tensile Strength, @ 77°F/25°C	57,000 <sup>1</sup>	393
Flatwise Compressive Strength, @ 77°F/25°C	53,000 <sup>2</sup>	365
Flexural Strength, @ 77°F/25°C	86,000 <sup>3</sup>	593
Interlaminar Shear Strength:		
@ 77°F/25°C	7,200 <sup>4</sup>	49.6
@ 160°F/71°C	5,000 <sup>4</sup>	34.5
Compression Strength After Impact, @ 77°F/25°C	27,780 <sup>5</sup>	191
Damage Area After Impact (in <sup>2</sup> )/mm <sup>2</sup>	0.83 <sup>5</sup> /535 mm <sup>2</sup>	
24 Hour Water Absorption (wt%)	0.03 <sup>6</sup>	

<sup>1</sup> Tested per ASTM D638.

<sup>2</sup> Tested per ASTM D695.

<sup>3</sup> Tested per ASTM D790.

<sup>4</sup> Tested per ASTM D2344.

<sup>5</sup> Tested per SACMA SRM 2, using 1500 inch lbs/inch of thickness. Impacted using Dynatup impactor.

<sup>6</sup> Tested per ASTM D570.

### 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

**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.

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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