



# STYCAST 2741 LV

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## PRODUCT DESCRIPTION

STYCAST 2741 LV provides the following product characteristics:

<b>Technology</b>	Epoxy
Appearance, Resin (Component A)	Black
Appearance, Hardener (Component B)	Black
Components	Two components - requires mixing
<b>Cure</b>	Room Temperature or Heat Cure
Product Benefits	<ul style="list-style-type: none"><li>• Low viscosity</li><li>• General purpose</li><li>• Variable flexibility</li></ul>
Mix Ratio, by weight - Resin : Hardener <b>Rigid Formula</b>	100 : 25
Mix Ratio, by weight - Resin : Hardener <b>Semi-rigid Formula</b>	100 : 50
Mix Ratio, by weight - Resin : Hardener <b>Flexible Formula</b>	100 : 100
<b>Application</b>	Assembly
Operating Temperature <b>Rigid</b>	-40 to 90°C
Operating Temperature <b>Semi-rigid</b>	-55 to 80°C
Operating Temperature <b>Flexible</b>	-55 to 65°C
Surfaces	Metals, Glass and Plastics

STYCAST 2741 LV is a black, filled room temperature curing epoxy encapsulant. The hardness can be adjusted by varying the amount of CATALYST 15 LV used. STYCAST 2741 LV has excellent shock and impact resistance and excellent adhesion to glass, metals, plastics and ceramics.

STYCAST 2741 LV is designed for electronic embedment and in sealing or cementing of metals, ceramics and plastics. It is particularly useful when shock resistance and impact resistance are required.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

### Part A Properties STYCAST 2741 LV

Viscosity, , mPa·s (cP)	35,000
Specific Gravity	1.58
Shelf Life @ 25°C, months	12
Flash Point - See SDS	

### Part B Properties CAT 15LV

Viscosity, , mPa·s (cP)	11,000
Specific Gravity	0.97
Flash Point - See SDS	

## Mixed Properties

### Rigid Formulation

Mixed Viscosity, mPa·s (cP)	30,000
Specific Gravity	1.43
Working Time, 100g mass @ 25°C, minutes	120
Flash Point - See SDS	

### Semi-Rigid Formulation

Mixed Viscosity, mPa·s (cP)	25,000
Specific Gravity	1.34
Working Time, 100g mass @ 25°C, minutes	90
Flash Point - See SDS	

### Flexible Formulation

Mixed Viscosity, mPa·s (cP)	16,000
Specific Gravity	1.23
Working Time, 100g mass @ 25°C, minutes	90
Flash Point - See SDS	

## TYPICAL CURING PERFORMANCE

### Cure Schedule

16 to 24 hours @ 25°C
4 to 6 hours @ 45°C
2 to 4 hours @ 65°C
30 to 60 minutes @ 90°C

The above cure profile is a guideline recommendation. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

## TYPICAL PROPERTIES OF CURED MATERIAL

### Rigid Formulation

#### Physical Properties :

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	55
Above Tg, ppm/°C	148
Glass Transition Temperature, ISO 11357-2, °C	68
Thermal Conductivity, W/(m·K)	0.4
Shore Hardness, ISO 868, Durometer D	82
Water Absorption, ASTM D 570, %:	
24 hours	0.1

#### Electrical Properties:

Dielectric Breakdown Strength IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 MHz	3.27 / 0.08
Volume Resistivity, IEC 60093, Ω·cm	>1×10 <sup>15</sup>



## Semi-rigid Formulation

**Physical Properties**

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	63
Above Tg, ppm/°C	159
Glass Transition Temperature, ISO 11357-2, °C	38
Thermal Conductivity, W/(m-K)	0.4
Shore Hardness, ISO 868, Durometer D	74
Water Absorption, ASTM D 570, %:	
24 hours	0.2

**Electrical Properties**

Dielectric Breakdown Strength IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.45 / 0.02
Volume Resistivity, IEC 60093,	$>1 \times 10^{15}$

## Flexible Formulation

**Physical Properties :**

Coefficient of Thermal Expansion ASTM D 3386:	
Below Tg, ppm/°C	80
Above Tg, ppm/°C	188
Glass Transition Temperature, ISO 11357-2, °C	21
Thermal Conductivity, W/(m-K)	0.4
Shore Hardness, ISO 868, Durometer D	50
Water Absorption, ASTM D 570, %:	
24 hours	1.7

**Electrical Properties:**

Dielectric Breakdown Strength IEC 60243-1, kV/mm	16
Dielectric Constant / Dissipation Factor, IEC 60250:	
1 mHz	3.5 / 0.07
Volume Resistivity, IEC 60093,	$>1 \times 10^{15}$

**TYPICAL PERFORMANCE OF CURED MATERIAL**

## Rigid Formulation

## Lap Shear Strength, ISO 4587:

Aluminium:		
Tested @ 25 °C	N/mm <sup>2</sup>	17
	(psi)	(2,400)
Tested @ 65 °C	N/mm <sup>2</sup>	9
	(psi)	(1,300)

## Semi-Rigid Formulation

## Lap Shear Strength, ISO 4587:

Aluminium:		
Tested @ 25 °C	N/mm <sup>2</sup>	16
	(psi)	(2,300)
Tested @ 65 °C	N/mm <sup>2</sup>	3.5
	(psi)	(500)

## Flexible Formulation

## Lap Shear Strength, ISO 4587:

Aluminium:		
Tested @ 25 °C	N/mm <sup>2</sup>	7
	(psi)	(1,000)

**GENERAL INFORMATION**

For safe handling information on this product, consult the Safety Data Sheet, (SDS).

**DIRECTIONS FOR USE**

1. Complete cleaning of the substrates should be performed to remove contamination such as oxide layers, dust, moisture, salt and oils which can cause poor adhesion or corrosion in a bonded part.
2. Some separation of components is common during shipping and storage. For this reason, it is recommended that the contents of the shipping container be thoroughly mixed prior to use.
3. Power mixing is preferred to ensure a homogeneous product.
4. Accurately weigh STYCAST 2741 LV and Catalyst 15 LV into a clean container in the recommended ratio.
5. Blend components by hand, using a kneading motion, for 2 to 3 minutes. Scrape the bottom and sides of the mixing container frequently to produce a uniform mixture.
6. If possible, power mix for an additional 2 to 3 minutes. Avoid high mixing speeds. This can entrap excessive amounts of air. It can also cause overheating of the mixture, resulting in reduced working life.
7. To ensure a void free embedment, vacuum deairing or degassing should be performed to remove any entrapped air introduced during the mixing operation.
8. Pump-down or pull vacuum on the mixture to achieve an ultimate vacuum or absolute pressure of 1- 5 torr or mmHg. The foam will rise several times the liquid height and then subside. Continue vacuum deairing until most of the bubbling has ceased. This usually requires 3 - 10 minutes.
9. To facilitate deairing in difficult to deair materials, add 1-3 drops of an air release agent, such as ANTIFOAM 88, into 100 grams of mixture. Gentle warming will also help, but working life will be shortened.
10. Pour mixture into cavity or mold. Gentle warming of the mold or assembly reduces the viscosity. This improves the flow of the material into the unit having intricate shapes or tightly packed coils or components.  
Further vacuum deairing in the mold may be required for critical applications

**STORAGE:**

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

**Optimal Storage : 25 °C**

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

**Conversions**

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$   
 $\text{kV/mm} \times 25.4 = \text{V/mil}$   
 $\text{mm} / 25.4 = \text{inches}$   
 $\text{N} \times 0.225 = \text{lb}$   
 $\text{N/mm} \times 5.71 = \text{lb/in}$   
 $\text{psi} \times 145 = \text{N/mm}^2$   
 $\text{MPa} = \text{N/mm}^2$   
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$   
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$   
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$   
 $\text{mPa}\cdot\text{s} = \text{cP}$

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The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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