

LOCTITE HYSOL GR 646HV-L1

November 2012

PRODUCT DESCRIPTION

LOCTITE HYSOL GR 646HV-L1 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• Fast cure • Low stress • Green product
Filler Weight, %	75
Filler Type	Fused Silica
Typical Package Application	Discrete devices and Small signal and small outline transisitor
Application	Molding compound
Flammability	94 V-0

LOCTITE HYSOL GR 646HV-L1 is recommended for automatic molding operations. LOCTITE HYSOL GR 646HV-L1 epoxy molding compound delivers outstanding performance and ease of use.

LOCTITE HYSOL GR 646HV-L1 meets UL 94 V-0 Flammability at 6.35mm thickness.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Gel Time @ 175°C, seconds	14
Spiral Flow, @ 175°C, cm	69
Shelf Life:	
@ 5°C, days	365
Specific Gravity	1.82

TYPICAL PROCESS DATA**Handling**

Molding Temperature, °C	160 to 200
Molding Pressure, Kg/cm ²	40 to 80
Transfer Time:	
Automold, seconds	3 to 6
Curing Time, :	
@ 160°C, seconds	25 to 40
@ 180°C, seconds	20 to 35
Post Cure @ 175°C, hours	0 to 4

LOCTITE HYSOL GR 646HV-L1 has been formulated to provide the best possible moldability and as wide a molding latitude as possible. Although molding and curing conditions will vary from situation to situation, recommended starting ranges are shown above.

TYPICAL PROPERTIES OF CURED MATERIAL

All measurements taken at 25 °C unless otherwise noted. All physical, electrical and analytical measurements taken on specimens cured for 2 minutes @ 175 °C with post cure of 6 hours at 175 °C, unless other wise specified.

Physical Properties:

Coefficient of Thermal Expansion , ppm/°C:	
Below Tg	18
Above Tg	61
Glass Transition Temperature STP 65B, °C	156
Molded shrinkage, as molded, %	0.43
Flexural strength	N/mm ² 147
	(psi) 21,315
Flexural modulus	N/mm ² 15,067
	(psi) 2,184,715
Thermal Conductivity , W/(m-K)	0.69
Water Extract Data, 90 minutes water boil:	
Conductivity, µmhos/cm	34
pH of extract	4.7
Chloride (Cl-), ppm	6.4
Sodium (Na+), ppm	5.0

Electrical Properties:

Volume Resistivity @ 21°C, 250 volts, ohms-cm	28.8×10 ¹⁵
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GENERAL INFORMATION

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

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials.

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Storage

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

Optimal Storage: 5°C. Storage below -20°C or greater than 30°C can adversely affect product properties.

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

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

Disclaimer

Note:

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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Reference 0.0