



# HYSOL GR 9810-1P

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## PRODUCT DESCRIPTION

HYSOL GR 9810-1P provides the following product characteristics:

<b>Technology</b>	Epoxy
<b>Appearance</b>	Black
<b>Cure</b>	Heat cure
<b>Product Benefits</b>	<ul style="list-style-type: none"> <li>• Green product</li> <li>• Advanced warpage control</li> <li>• Long spiral flow</li> <li>• Excellent room temperature working life</li> <li>• Low shrinkage</li> <li>• High Tg</li> <li>• Excellent dimensional stability</li> </ul>
<b>Filler Type</b>	Spherical
<b>Filler Weight, %</b>	85
<b>Typical Package Application</b>	POP and SCSP
<b>Application</b>	Molding compound
<b>Flammability</b>	94 V-0

HYSOL GR 9810-1P is a state of the art epoxy molding compound developed to meet the stringent encapsulation requirements of package on package (POP and SCSP). It significantly increased beyond that of standard green compound chemistry.

HYSOL GR 9810-1P meets UL 94 V-0 Flammability at 6.35mm thickness.

## TYPICAL PROPERTIES OF UNCURED MATERIAL

Particle Size, $\mu\text{m}$ , maximum	75
Gel Time @ 175 °C, seconds	32
Spiral Flow, @ 175°C, cm	150
Shelf Life: @ 5°C, days	365

## TYPICAL PROCESS DATA

### Handling

Preheat Temperature :	
Automold, seconds	0 to 3
Conventional mold, °C	77 to 94
Molding Temperature, °C	160 to 190
Molding Pressure, Kg/cm <sup>2</sup>	30 to 60
Transfer Time:	
Conventional mold, seconds	15 to 20
Automold, seconds	3 to 6
Curing Time, 3 mm section:	
Conventional mold:	
@ 175°C, seconds	70 to 90
Automold:	
@ 175°C, seconds	50 to 70
Post Cure @ 175°C, hours	2 to 6

HYSOL GR 9810-1P 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	11
Above Tg	50
Glass Transition Temperature (Tg) by TMA, °C	170
Molded shrinkage, as molded, %	0.1
Specific Gravity	1.95
Flexural Strength Kg/mm <sup>2</sup> :	
@ Room Temperature	14
@ 240 °C	2
Flexural Modulus Kg/mm <sup>2</sup> :	
@ Room Temperature	2,100
@ 220 °C	230
Thermal Conductivity, W/(m-K)	0.9
Water Absorption, %	0.27

## GENERAL INFORMATION

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

**Not for product specifications**

The technical data contained herein are intended as reference only. Please contact Hysol Huawei Electronics Co., Ltd. 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 greater than or below 5°C can adversely affect product properties.**

Material removed from containers may be contaminated during use. Do not return product to the original container. Hysol Huawei Electronics Co., Ltd. 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 Hysol Huawei Technical Service Center or Customer Service Representative.

**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. Hysol Huawei 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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