



PRODUCT DESCRIPTION

GR640HV-L1(M7A) provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	<ul style="list-style-type: none">• Green product• Low stress• High moldability• High reliability• Low cost of ownership
Filler Weight, %	75
Typical Package Application	SOT, SMD, SMX and TO
Application	Molding compound
Flammability	UL94 V-0
Flame Retardant	Nitrogen compound
Surface Finish	Cu and Ag

Hysol®GR640HV-L1(M7A) epoxy molding compound delivers outstanding performance and ease of use. This material is designed to achieve JEDEC Level 1 requirements, at 260°C reflow temperature.

GR640HV-L1(M7A) meets UL 94 V-0 Flammability at 3.175mm thickness.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Gel Time @ 175 °C, seconds	28
Spiral Flow, @ 175°C, cm	71
Shelf Life: @ 5°C, months	12

TYPICAL PROCESS DATA

Handling

Preheat Temperature :	
Conventional mold, °C	80 to 100
Automold, seconds	0 to 5
Molding Temperature, °C	150 to 195
Molding Pressure, Kg/cm ²	40 to 100
Transfer Time:	
Conventional mold, seconds	10 to 15
Automold, seconds	4 to 10
Curing Time, :	
Conventional mold:	
@ 175°C, seconds	60 to 120
Automold:	
@ 175°C, seconds	50 to 90
Post Mold Cure @ 175 °C, hours	4 to 8

GR640HV-L1(M7A) 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 otherwise specified.

Physical Properties:

Coefficient of Thermal Expansion, cm/°C :	
Below Tg	16×10 ⁻⁶
Above Tg	58×10 ⁻⁶
Glass Transition Temperature, °C	165
Specific Gravity	1.85
Molded shrinkage, as molded, %	0.28
Flexural Strength Kgf/mm ² : @ 25 °C	12.5
Flexural Modulus Kgf/mm ² : @ 25 °C	1,371
Thermal Conductivity, W/m.k	0.7
Moisture Absorption, (PCT24hrs), %:	0.42

Water Extract Data, 20 hours water boil:

Conductivity, µs/cm	54
pH of extract	5.8
Extractable Ionic Content, ppm:	
Chloride (Cl-)	21
Sodium (Na+)	6

Electrical Properties:

Volume Resistivity @ 21 °C, 500 Volts, ohms-cm	12×10 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 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.

Powder Storage - Powder or preforms should be stored at 5°C or below, in closed containers. After removal from cold storage, the material **MUST** be allowed to come to room temperature, in the sealed container, to avoid moisture contamination. The suggested waiting time for a standard 15 kg carton box is 24 hours.

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 Electronics Co., Ltd. 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 best knowledge and experience of the product as at the date of this TDS. Hysol Huawei Electronics Co., Ltd. is, 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.

Any liability in respect of the information in the Technical Data Sheet regarding the concerned product is excluded.