

LOCTITE HYSOL MG 20KF

December 2014

PRODUCT DESCRIPTION

LOCTITE HYSOL MG 20KF is a semiconductor grade mold compound providing the following product characteristics:

Technology	Epoxy
Cure	Heat
Appearance	Black
Filler Type	Fused Silica
Filler Weight, %	76
Application	Mold Compound
Target Package(s)	DO, BRG, TO, DIP
Product Benefits	• High wire sweep performance • Good electrical performance • Good workability
Flammability Rating	UL 94 V0 @ 1/8 inch thickness

LOCTITE HYSOL MG 20KF molding compound is formulated to provide a wide molding process window making it ideal for use in high throughput molding operations.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Spiral Flow, @ 175°C, cm	70
Gel Time @ 175°C, seconds	26
Shelf Life @ 5°C, days	183
Specific Gravity, g/cm ³	1.86

TYPICAL PROCESS DATA

Handling

Preheat Temperature, conventional mold, °C	80 to 90
Molding Temperature, °C	170 to 180
Molding Pressure, Kg/cm ²	30 to 70
Transfer Time, seconds:	
Automold	8 to 15
Conventional mold	10 to 20
Curing Time, seconds:	
Automold	60 to 80
Conventional mold	70 to 90
Post Mold Cure @ 175 °C, hours	4 to 6

LOCTITE HYSOL MG 20KF 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.

Please contact Henkel Technical Service for alternative process parameters if needed.

TYPICAL PROPERTIES OF CURED MATERIAL

All measurements are taken at 25°C, unless otherwise noted.

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

Physical Properties

Hot Hardness, Shore D, after 90 seconds	80
Glass Transition Temperature (Tg), °C	167
Coefficient of Thermal Expansion, ppm/°C:	
Below Tg	15
Above Tg	55
Flexural Modulus @ 25°C	N/mm ² 15,182
	(psi) (2,201,963)
Flexural Strength @ 25°C	N/mm ² 146
	(psi) (21,175)
DMA Modulus:	
@ 25°C	N/mm ² 19,100
	(psi) (2,770,220)
@ 175°C	N/mm ² 3,165
	(psi) (459,045)
@ 260°C	N/mm ² 1,490
	(psi) (216,105)
Moisture Absorption, 24 hours PCT, %	0.47

Application Specific Properties

Thermal Conductivity, W/(m-K)	0.7
Shrinkage, %	0.4
Extractable Ionic Content (ITM107B), ppm:	
Chloride (Cl-)	5.6
Sodium (Na+)	2.5
Potassium (K+)	0.19
Volume resistivity @ 25°C, 250 V, Ω-cm	2.1×10 ¹⁶

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.

Mold Compound materials 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. 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

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

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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