



GR869

July 2010

PRODUCT DESCRIPTION

GR869 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• Green product • Low stress • High adhesion • Low moisture absorption • Excellent solder reflow resistance • High moldability
Filler Weight, %	87
Typical Package Application	SOIC, TSOP and QFP
Application	Molding compound
Flammability	94 V-0
Filler Size Max, µm	75
Filler Type	Spherical Silica

GR869 is a green semiconductor grade molding compound especially designed for SOIC, TSOP and QFP packages with Ni/Pd and copper leadframes. It offers much improved JEDEC performance as well as moldability property.

GR869 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, inches	43
Shelf Life:	
@ 5°C, months	6
Hot Hardness, Shore-D @ 175°C, 90 seconds	80

TYPICAL PROCESS DATA

Handling

Preheat Temperature, °C	80 to 90
Molding Temperature, °C	170 to 190
Transfer Pressure, Kg/cm ²	40 to 85
Transfer Time, seconds	5 to 10
Curing Time, 3 mm section:	
Conventional mold:	
@ 175°C, seconds	60 to 90
Automold:	
@ 175°C, seconds	50 to 90
Post Cure @ 175°C, hours	2 to 6

GR869 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	9×10 ⁻⁶
Above Tg	45×10 ⁻⁶
Glass Transition Temperature, °C	100
Specific Gravity	1.96
Flexural Strength, MPa:	
@ 25 °C	120
Flexural Modulus, GPa:	
@ 25 °C	18.5
Thermal Conductivity, W/mk	0.8
Moisture Absorption, %:	
168 hours @ 85°C/85% RH	0.18

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.

Powder Storage - Powder or preforms should be stored at -4°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

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

Note

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Reference 0.0