



GR2820

August 2010

PRODUCT DESCRIPTION

GR2820 provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Cure	Heat cure
Product Benefits	• Green product • Optimum performance • Thin wall crack resistance • Low stress • Low moisture absorption • High moldability • Fast cycle time • Lasermark capability
Filler Weight, %	85
Typical Package Application	Tantalum capacitor
Application	Molding compound
Flammability	94 V-0

GR2820 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.

GR2820 meets UL 94 V-0 Flammability at 6.35mm thickness.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Gel Time @ 175 °C, seconds	15
Spiral Flow, @ 175°C, inches	35
Shelf Life:	
@ -4°C, months	6

TYPICAL PROCESS DATA**Handling**

Preheat Temperature, °C	80 to 95
Molding Temperature, °C	140 to 180
Transfer Pressure, Kg/cm ²	40 to 85
Transfer Time, seconds	6 to 15
Curing Time, 3 mm section:	
Conventional mold:	
@ 175°C, seconds	40 to 70
Automold:	
@ 175°C, seconds	30 to 60
Post Cure @ 175°C, hours	2 to 6

GR2820 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	12×10 ⁻⁶
Above Tg	43×10 ⁻⁶
Glass Transition Temperature, °C	165
Specific Gravity	1.96
Molded shrinkage, as molded, %	0.1
Flexural Strength Kg/mm ² :	
@ 25 °C	14
Flexural Modulus Kg/mm ² :	
@ 25 °C	1,800
Thermal Conductivity, W/mk	0.8
Moisture Absorption, %:	
168 hours @ 85°C/85% RH	0.35

Electrical Properties:

Volume Resistivity, ohms-cm, 500 volts:	
@ 25°C	10×10 ¹⁵

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