



Hysol® GR380

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PRODUCT DESCRIPTION

Hysol® GR380 is a green (non-Bromine, non-Antimony, non-Phosphorous), low stress epoxy molding compound designed specifically for the encapsulation of SMD, PDIP and SOIC packages. This material is applicable for devices having chip dimensions of up to 250 mils square. In addition to IC applications, GR380 is ideal for High Voltage Rectifier, Power Discrete and Small Outline Transistors.

TYPICAL UNCURED PROPERTIES

Color	Black
Spiral Flow, cm/in @ 177°C, as produced	86/34
Hot Plate Gel Time, @ 177°C, seconds	32
Shelf Life @ 5°C, months	12

TYPICAL CURED PROPERTIES

Glass Transition Temperature, °C	160
Coefficient of Thermal Expansion, cm/cm/°C	
50° - 100°C	17×10^{-6}
220° - 240°C	70×10^{-6}
Specific Gravity	1.84
Molded Shrinkage, as molded, %	0.4
Flexural Strength, Kg/mm ²	13
Flexural Modulus, Kg/mm ²	1350
Thermal Conductivity, CGS units	18×10^{-4}
Flammability Rating @ 6mm thickness	V-0
Moisture Absorption, @ 1 Atm steam, %	
100 hours	0.7
1000 hours	0.9
Volume Resistivity, 500 volts, ohm-cm	
@ 21°C	6.0×10^{16}
@ 100 °C	7.0×10^{15}
100 hours @ 1 Atm	3.0×10^{15}
1000 hours @ 1 Atm	1.7×10^{15}
Water Extract Data, 1.5-hour water boil	
conductivity, micromhos	20
pH of extract	5.3
chloride content, ppm	2.0
sodium content, ppm	2.0

HANDLING

GR380 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 below.

Preheat Temperature,	
conventional mold, °C	85-100
automold, seconds	0-4
Molding Temperature, °C	170-190
Molding Pressure, Kg/cm ²	35-70
Transfer Time, seconds	
conventional mold	15-25
automold	5-10

Curing Time, 3mm section, seconds

conventional mold	@ 170°C	90-120
	@ 190°C	60-90
automold	@ 170°C	25-40
	@ 190°C	20-30

Post Cure Time/Temperature, hours

@ 175°C	2-4
@ 190°C	1-2

GENERAL INFORMATION

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

STORAGE

Powder Storage – Powder or performs 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 22 Kg pail is 24 hours.

DATA RANGES

The data contained herein may be reported as a typical value and/or range values based on actual test data and are verified on a periodic basis.

Note

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