



Hysol[®] GR9800

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PRODUCT DESCRIPTION

Hysol[®] GR9800 (NB2786-69C) is a semiconductor grade, molded flip chip encapsulant specially designed for flip chip in array package applications. This material is applicable for underfilling and overmolding flip chip assemblies with any solder alloys (eutectic, high lead and lead-free) and gap sizes as low as 40 micron. With this material, the productivity of flip chip in package will be dramatically increased with cost reduction. This material meets the 260°C reflow profile precondition requirement.

PROPERTIES OF UNCURED MATERIAL

Color	Black
Hot Plate Gel Time @ 165°C, seconds	27
Spiral Flow @ 165°C, cm	104
Flash @ 165°C, mm	
3 mil channel	83
2 mil channel	46
1 mil channel	26
0.5 mil channel	5
0.25 mil channel	5
Maximum Filler Particle Size, μ	40
Filler Content, %	83

TYPICAL CURED PROPERTIES

Glass Transition Temperature, °C	212
Coefficient of Thermal Expansion, in/in/°C	
80-100°C	14×10^{-6}
200-240°C	48×10^{-6}
Specific Gravity	1.85
Shimadzu Viscosity @ 165°C, poise	289
Shrinkage, %	
As molded	0.11
After Post Cure	0.10
Flexural Strength @ RT, Mpa	102.6
Flexural Strength @ 215°C, Mpa	19.6
Flexural Modulus @ RT, Gpa	14.2
Flexural Modulus @ 215°C, Gpa	0.82
Moisture Absorption,	
168 hrs. @ 85°C/85%RH, %	0.43

HANDLING

Preheat Temperature, °C	75-95
Molding Temperature, °C	165-180
Molding Pressure, Mpa	7.5-10.0
Minimum Cure Time @ 165°C, minutes	2
Post Cure Time (if needed), hours @ 150°C	2-4

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 their strong oxidizing materials.

STORAGE

Powder Storage – Powder or performs should be stored at 10°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

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Loctite Corporation's products. Henkel Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

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Loctite Electronics

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