



ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
ENCAPSULANT, SILICONE DIELECTRIC GEL	WSS-M99G128-B1
ENCAPSULANT, SILICONE DIELECTRIC GEL, LOW TEMPERATURE RESISTANT	WSS-M99G128-B2
ENCAPSULANT, SILICONE DIELECTRIC TOUGH GEL	WSS-M99G128-B3

1. SCOPE

B1 The material defined by this specification is a very soft, 2 part, silicone gel.

B2 The material defined by this specification is a very soft, fast room temperature cure, 2 part, silicone gel, with a freezing point below -60C.

B3 The material defined by this specification is a flexible, firm, 2 part, silicone gel.

2. APPLICATION

B1 This specification was released originally for a compound used in sealing and potting diodes in the alternator rectifier circuit, with the exception of modules containing wire bonds.

B2 This specification was released originally for a compound used in sealing and potting in the mass air flow sensor, with the exception of modules containing wire bonds.

B3 This specification was released originally for a compound used in sealing and potting in the distributed battery module, with the exception of modules containing wire bonds.

3. REQUIREMENTS

3.1 QUALITY SYSTEM REQUIREMENTS

Material suppliers and part producers must conform to Quality System Requirements, QS-9000. Material specification requirements are to be used for initial qualification of materials. A Control Plan for ongoing production verification is required. This plan must be reviewed and approved by the relevant Ford Materials activity and/or Ford Supplier Technical Assistance (STA) prior to production parts submission. Appropriate statistical tools must be used to analyze process/product data and assure consistent processing of the materials.

Part producers using this material in their products, must use Ford approved materials and must conform to a process control plan which has been approved by STA and/or the relevant Materials Activity.

Date	Action	Changes/Revisions
1999 08 23	Revised	Added -B3; Comp. Rev. & Updated J. Skelly
1995 12 04	Revised	Revised para 3.3.1 S. DeGrood
1995 08 14	Activated	S. DeGrood

Page 1 of 3

9009160 0070453 017



3.2 INFRARED SPECTROPHOTOMETRY AND/OR THERMAL ANALYSIS

Ford Motor Company, at its option, may conduct infrared and/or thermal analysis of material/parts supplied to this specification. The IR spectra and thermograms established for initial approval shall constitute the reference standard and shall be kept on file at the designated material laboratory. All samples shall produce IR spectra and thermograms that correspond to the reference standard when tested under the same conditions.

3.3 CONDITIONING AND TEST CONDITIONS

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

3.4 Viscosity - Brookfield Viscometer, mm²/s
(ASTM D1084 Method "B", model LVT,
60 rpm, # 3 spindle for B1/B2, 30 rpm,
#2 spindle for B3)

		B1	B2	B3
3.4.1	Part A	200 - 700	300 - 700	200 - 700
3.4.2	Part B	200 - 700	300 - 700	200 - 700
3.4.2	Mixed	200 - 700	300 - 700	N/A
3.5	Gel Time, minutes (ASTM D 2471, components at R.T.)	5 - 15 at 135°C	10 - 25 at 25°C	5 - 15 at 22°C
3.6	Penetration, mm (FLTM BJ 123-03, cured 1 h at 150 °C)	3 - 8	6.0 - 11.0	N/A
3.7	Hardness, Durometer, 00 (ASTM D 2240, cured 30 minutes at 150 °C)	N/A	N/A	45-75

For the following tests, samples are cured 1 h at 150°C unless otherwise noted.

3.8	Dielectric Strength, min (ASTM D 149)	15 kV/mm	15 kV/mm	15 kV/mm
3.9	Specific Gravity (ASTM D 792, Method A)	0.96-0.98	0.96-0.98	0.96-0.99

9009160 0070454 T53