



400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION



AMS 3365C

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Superseding AMS 3365B

Submitted for recognition as an American National Standard

SILICONE RUBBER COMPOUND
Room Temperature Vulcanizing, 35,000 Centipoise Viscosity
Durometer 40 - 55

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of February 22, 1989. It is recommended, therefore, that this specification not be specified for new designs.

This cover sheet should be attached to the "B" revision of the subject specification.

"NONCURRENT" refers to those materials which have previously been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division, however, does not recommend these as standard materials for future use in new designs. Each of these "NONCURRENT" specifications is available from SAE upon request.

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AEROSPACE MATERIAL SPECIFICATION

AMS 3365B

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Superseding AMS 3365A

Submitted for recognition as an American National Standard

SILICONE RUBBER COMPOUND
Room Temperature Vulcanizing, 35,000 Centipoise Viscosity
Durometer 40 - 55

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This cover sheet should be attached to the "A" revision of the subject specification.

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MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc.

485 Lexington Ave., New York, N.Y. 10017

AMS 3365B

Issued 1-15-61
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SILICONE RUBBER COMPOUND
Room Temperature Vulcanizing, 35,000 Centipoises Viscosity
Durometer 40 - 55

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **FORM:** Liquid compound, to which a separate catalyst is added for curing.
3. **APPLICATION:** Primarily for potting or encasement of electrical and electronic components with an elastomeric medium, or for production of mechanical rubber parts in low pressure tooling. Elastomeric properties are retained in operation at temperatures from -55 to +230 C (-67 to +446 F). For mechanical applications where compression set resistance is important, elevated temperature post-curing of parts may be required.
4. **TECHNICAL REQUIREMENTS:**
 - 4.1 **General:**
 - 4.1.1 **Curing:** When mixed with catalyst in accordance with manufacturer's recommendations and cured at room temperature, the compound shall polymerize to a uniform elastomeric material. A number of different catalysts may be found applicable by the user in order to vary pot life and cure time to meet specific production conditions. However, for purposes of qualification to this specification and for inspection control, a standard catalyst type and quantity, as supplied or recommended by the manufacturer of the base compound, shall be used.
 - 4.1.2 **Viscosity:** Viscosity of compound as received shall be 20,000 - 50,000 centipoises measured on a Brookfield Viscometer at 25 C \pm 1 (77 F \pm 1.8). In measuring viscosity, the viscometer spindle and speed used shall be consistent with the viscosity of the material being tested, in accordance with directions supplied by the manufacturer of the instrument.
 - 4.1.3 **Pot Life:** Compound mixed with the recommended catalyst addition (See 4.1.1) and maintained at a temperature not higher than 30 C (86 F) shall have a pot life of 2 - 5 hours. Pot life shall be determined as follows: Weigh a 10 g \pm 0.10 sample of the compound into a cup or dish 2 - 2.5 in. in diameter. Add the recommended type and amount of catalyst (See 4.1.1) and mix thoroughly with a small spatula for 60 sec \pm 10. Dip the spatula into the catalyzed compound and pull out strings of material. Repeat the pulling-out procedure at intervals until the strings break or pull back before stretching more than 1/8 inch. Pot life shall be recorded as the time interval between completion of the mixing cycle and first breaking of strings pulled 1/8 inch.
 - 4.1.4 **Shrinkage:** Compound mixed with the recommended catalyst addition (See 4.1.1) and free of air shall be capable of not shrinking more than 1% in any direction when cured for 24 hr in a mold followed by 48 hr in open air. Test specimen shall be a standard test slab approximately 6 in. x 6 in. and 0.075 in. \pm 0.005 thick. Curing temperature shall be 25 C \pm 2 (77 F \pm 3.6).
 - 4.1.5 **Corrosion:** The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.

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4.2 **Properties:** The compound, when mixed with the recommended catalyst addition (See 4.1.1) and cured, shall conform to the requirements of 4.2.1 and shall be capable of meeting the requirements of 4.2.2, 4.2.3, and 4.2.4. Tests shall be performed in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable, on standard test slabs prepared in accordance with 4.1.4. Test results from specimens found to contain air bubbles at the point of break may be discarded and new specimens selected for test. Air bubbles may be minimized by subjecting the catalyzed compound to low pressures or centrifuging before curing.

4.2.1 As Cured:

| | | |
|---|---------|--|
| 4.2.1.1 Hardness, Durometer "A" or equiv. | 40 - 55 | ASTM D676 |
| 4.2.1.2 Tensile Strength, psi, min | 350 | ASTM D412, Die B or C |
| 4.2.1.3 Elongation, %, min | 100 | ASTM D412, Die B or C |
| 4.2.1.4 Dielectric Strength, v per mil, min | 300 | ASTM D149 Electrode Dia: 2 in. Rate of Rise: 500 v per sec |

4.2.2 Dry Heat Resistance:

| | | |
|--|------------|---|
| 4.2.2.1 Hardness Change, Durometer "A" or equiv. | -10 to +10 | ASTM D573 Temperature: 225 C \pm 3 (437 F \pm 5.4) Time: 24 hr |
| 4.2.2.1.1 Hardness, Absolute, Durometer "A" or equiv., min | 35 | |
| 4.2.2.2 Tensile Strength Change, %, max | -35 | |
| 4.2.2.3 Elongation Change, %, max | -25 | |

4.2.3 Compression Set:

| | | |
|--|----|---|
| 4.2.3.1 Per cent of original deflection, max | 60 | ASTM D395, Method B Temperature: 100 C \pm 1 (212 F \pm 1.8) Time: 22 hr |
|--|----|---|

4.2.3.2 Per cent of original thickness, max

15

| | | |
|---|------|--|
| 4.2.4 <u>Low Temperature Brittleness:</u> | Pass | ASTM D746, Procedure B Temperature: -55 C \pm 3 (-67 F \pm 5.4) Time: 10 min. |
|---|------|--|

5. **QUALITY:** The product shall be uniform in quality and condition, clean, homogeneous, and free from foreign materials and from imperfections detrimental to fabrication, appearance, or performance of parts.

6. REPORTS:

6.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, vendor's compound number, part number, and quantity.