AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3362

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Revised

SILICONE RUBBER COMPOUND
Room Temperature Vulcanizing, 15,000 Centipoises Viscosity
(Durometer 35 - 55)

1. ACKNOWLEDGMENT: A vendor shall mention this specification number 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 -65 +450 F (-55 to +230 C). 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 5,000 - 25,000 centipoises measured on a Brookfield Viscometer at 75 F ± 5 (23.9 C ± 2.8). 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 85 F (30 C) shall have a pot life of 2 - 6 hours. Pot life shall be determined as follows: Weigh a 10 g ± 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 ± 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.

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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. ± 0.005 thick. Curing temperature shall be 75 F ± 5 (23.9 C ± 2.8).

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.

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 the listed ASTM methods specified 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 shall 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.	35 - 55	
4.2.1.2	Tensile Strength, psi, min	250	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:		ASTM D573 Temperature: 450 F ± 5 (232.2 C ± 2.8) Time: 24 hr
4.2.2.1	Hardness Change, Durometer "A" or equiv.	-10 to + 10	
4.2.2.2	Tensile Strength Change, %, max	-25	
4.2.2.3	Elongation Change, %, max	-25	
4.2.3	Compression Set:		ASTM D395, Method B Temperature: 212 F ± 5 (100 C ± 2.8) Time: 22 hr
4.2.3.1	Per cent of original deflection, max	60	
4.2.3.2	Per cent of original thickness, max	15	
4.2.4	Low Temperature Resistance:		ASTM D746, Procedure B Temperature: -67 F ± 2 (-55 C ± 1.1) Time: 10 min.
4.2.4.1	Brittleness	Pass	