



ENGINEERING MATERIAL SPECIFICATION

Material Name

Specification Number

SEALER, SILICONE RUBBER - NEUTRAL CURE

ESA-M4G294-A

1. SCOPE

The material defined by this specification is a one component silicone rubber adhesive/sealer which will cure at room temperature in the presence of moisture. Vapors given off during the cure are non-acidic.

2. APPLICATION

This specification was released originally for material used to attach molded acrylic medallions to wheel covers or ornaments.

3. REQUIREMENTS

3.1 The following tests are to be conducted on each lot of material.

3.1.1 Viscosity 6.5 +/- 2.0
(FLTM BV 3-1, except use
345 kPa air pressure and
a 3.18 mm diameter opening.)

3.1.2 Cure Rate Pass

Test Method: Apply a 3.18 mm diameter bead of sealer to a steel plate and allow to cure for 5 h at 25 +/- 3 C and 50 +/- 5 % relative humidity. After 5 h, compress the sealer bead to a height of 1.0 mm maximum for 1 min. Spacer bars may be used for proper dimensioning. Sealer must be sufficiently cured so the skin does not break, split or crack during compression.

3.1.3 Specific Gravity 1.04 +/- 0.03
(ASTM D 792, Method A)

3.2 The following tests plus the tests required in para 3.1, are to be conducted at the time of initial material approval and as directed by Quality Control. Requirements are to be fulfilled using approximately 1.8 mm thick slabs prepared in accordance with the manufacturer's recommendations.

3.2.1 Tensile Strength, MPa, min 1.2
(ASTM D 412, dumbbell specimen)

3.2.2 Elongation, % min 240
(ASTM D 412, dumbbell specimen)

Date	Release No.	Release/Revision
860701	RD-226350-C9	REVISED
87 10 14	CDR2-171150-C9	Released

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- 3.2.3 Hardness, Durometer A
(ASTM D 2240)

20-40

- 3.2.4 Quality

The material shall be a smooth homogeneous mixture, free from foreign materials and properties detrimental to normal production applications. It shall not contain particles or solid spots of sufficient size to cause blockage of an 0.05 mm diameter orifice.

- 3.2.5 Infrared Spectrophotometry

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

3.3 STATISTICAL PROCESS

Suppliers must conform to the requirements of Ford Quality System Standard Q-101. A mutually acceptable Control Plan as described therein is required for material/source approval. Appropriate statistical tools must be used to analyze process/product data so that variation in the final product is continuously reduced.

3.4 SUPPLIER'S RESPONSIBILITY

All materials supplied to this specification must be equivalent in all characteristics to the material upon which approval was originally granted.

Prior to making any change in the properties, composition, construction, color, processing or labeling of the material originally approved under this specification, whether or not such changes affect the material's ability to meet the specification requirements, the Supplier shall notify Purchasing, Toxicology and the affected Materials Engineering activity of the proposed changes and obtain the written approval of the Materials Engineering activity. Test data, test samples and a new code identification are to be submitted with the request.

Substance restrictions imposed by law, regulations or Ford, apply to the materials addressed by this document. The restrictions are defined in Engineering Material Specification WSS-M99P9999-A1, unless a different suffix (e.g., A2 or A3) is specified on the engineering document for the application.

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