



GREASE - SILICONE

ESE-M1C171-A

1. SCOPE

The materials defined by these specifications are non-melting, stiff, smooth homogeneous, heat stable silicone compounds for use in high tension electrical connections, ignition systems and electronics equipment.

2. APPLICATION

These specifications were released originally for materials used in lubricating and giving an electrical sealant for spark plug and distributor boots in the ignition systems.

3. REQUIREMENTS

3.1 APPROVED SOURCES

This specification requires the use of approved sources. Only the sources identified on the Ford Approved Source List (ASL) can be used when this specification is listed on the drawing, CAD file, or other documents. The list of approved sources is located within Ford at www.mats.ford.com or available externally through a Ford Materials Engineer.

3.2 COLOR Light Gray

3.3 BLEED 0.5% max
(MIL-S-8660 B, para 3.12)

3.4 EVAPORATION 2.0% max
(MIL-S-8660B, Fed-STD-791, Method 321.1)

4. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification. Contact gmfs@ford.com for questions concerning Engineering Material Specifications. Grease approved to these specifications should have the following typical properties.

4.1 UNWORKED PENETRATION, tenths of a millimeter See FMD*
(ASTM D217, DIN ISO 2137)

*The ESE-M1C171-A specification has two approved sources with unique ranges.

4.2 VOLUME RESISTIVITY
(MIL-S-8660 B, para 3.7)

At 177 °C 1E11 OHM-cm min

Date	Action	Revisions	Rev. 06
2016 07 19	Revised	A2 removed from document and made inactive	A. Wedepohl, NA
2010 11 29	A - Revised	See Summary of Revisions	C. M. [unclear], NA
1976 08 17		Released CE3F-NC 774993-E1	



4.3 DIELECTRIC CONSTANT (MIL-S-8660 B, para 3.8)

At 1E3 Hz 3.1 max

At 1E9 Hz 3.1 max

4.4 INTERFACE COMPATIBILITY (Required by all 3 performance specs)

4.4.1 Chemical Attack to Painted Surfaces (FLTM BJ 126-01)

Note: Not tested for initial application of this grease. Grease must be tested for chemical attack to painted surfaces for applications that come in contact with paint surfaces, ex. E-coat and powder coat.

4.4.2 Resistance to Stress Cracking (FLTM BO 127-03)

Note: Not tested for initial application of this grease. Grease must be tested for resistance to stress cracking when used for additional applications that come in contact with polymers such as PC, ABS, PC+ABS, ASA or acrylic

4.4.3 Elastomer Compatibility (ASTM D 4289, 70 h, 100 °C, DIN 53505, DIN 53504)

Volume change Hardness change, max
Tensile Strength change

Note: Not tested for initial application of this grease. Grease must be tested for elastomer compatibility when used for additional applications that come in contact with elastomers. Application specific elastomer should be used for testing instead of a reference elastomer.

4.5 APPROVAL OF MATERIALS

Suppliers desiring approval of their materials shall first obtain an expression of interest from Purchasing, Design or Product Development, and Materials Engineering. The supplier shall submit a completed copy of their laboratory test reports, signed by a qualified and authorized representative of the test facility, demonstrating full compliance with all the requirements of the Material Specification. Tested material samples must be available for review upon request and kept for a minimum of one year. Upon request, the supplier will review the associated quality control documents (Process Failure Mode and Effects Analysis, Control Plans, Certification testing) with Ford.

4.6 SUPPLIER'S ONGOING RESPONSIBILITY

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

Prior to making any changes to the material originally approved, whether or not such changes affect the material's ability to meet the specification requirements, the supplier shall notify the affected Supplier Technical Assistance (STA), Purchasing, and Materials Engineering activities of the proposed changes (with reasons) by submission of a completed Suppliers Request for Engineering Approval, SREA.