



GREASE, SILICONE, LITHIUM SOAP, NLGI 2-3

WSS-M1C281-A1

1. SCOPE

The material defined by this specification is a NLGI Grade 2 to 3 grease consisting of Phenylmethyl silicone oil based and lithium soap thickener with extreme pressure additives (Molybdenum disulfide) and other additives to give desired characteristics.

2. APPLICATION

This specification was released originally for materials used for the lubrication of lower control arm and stabilizer bar to prevent squeak and rattle at suspension system. The grease is suitable for operating temperature between – 40 °C and + 200 °C.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.2 COLOR Grey Black
(Visual)

3.3 WORKED PENETRATION, tenths of a millimeter 220 – 280
(ASTM D217, DIN ISO 2137, 60 stroke)

3.4 EVAPORATION 3.0% max
(ASTM D972, 24h at 100 °C)

3.5 BLEED 5.0% max
(FLTM-791C, Method 321.3, 24h at 100 °C)

3.6 WATER WASHOUT 1.8% max
(ASTM D1264, DIN 51807 T02, 80 °C)

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 this specification should have the following typical properties.

4.1 COMPOSITION

4.1.1 Base Oil Content (Silicone Oil) 70 - 90%
(According to formulation)

4.1.2 Thickener Content (Lithium soap) 10 - 30%
(According to formulation)

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**4.2 BASE OIL VISCOSITY**

(ASTM D445, D2161)

4.2.1 Kinematic Viscosity at 100 °C 20 mm²/s4.2.2 Kinematic Viscosity at 40°C 84 mm²/s**4.3 PENETRATION, tenths of a millimeter**

(ASTM D217, ISO 2137, 60 strokes, 25°C)

4.3.1 Worked Penetration, 60 strokes 244

4.3.2 Prolonged Worked Penetration, 100,000 strokes 279

4.4 DROPPING POINT

(ASTM D556, ASTM D2265, DIN ISO 2176)

210 °C

4.6 OXIDATION STABILITY

(ASTM D942 or DIN 51808, 100hr at 99°C)

10 kPa

4.7 CORROSION PROTECTION

(ASTM D1743)

Pass

4.8 OIL SEPARATION DURING STORAGE

(ASTM D 1742, 24h, 0.25Psi, 40 °C)

0.02%

4.9 LOW TEMPERATURE TORQUE

(ASTM D1478 or IP 186)

-40 °C Starting Torque 4349 gf-cm

-40 °C Running Torque 433 gf-cm

4.10 INTERFACE COMPATIBILITY**4.10.1 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.

4.10.2 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

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

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.

Determine change in volume, hardness change tensile strength and elongation