



GREASE, GENERAL CHASSIS - LONG LIFE LUBRICATION

ESA-M1C75-B

1. SCOPE

The material defined by this specification is an NLGI Grade 2 grease consisting of a mineral oil and lithium soap base with polyethylene and molybdenum disulfide additives to give the desired characteristics of a long life lubricant

2. APPLICATION

This specification was released originally for grease used as a long life chassis lubricant for steering linkage joints and wheel bearings.

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 WORKED PENETRATION, tenths of a millimeter 265 – 295
(ASTM D 217, DIN ISO 2137, 60 stroke)

3.3 DROPPING POINT 177 °C min
(ASTM D 2265, DIN ISO 2176)

3.4 WATER WASHOUT, 7% max
(ASTM D 1264, DIN 51807 T02, 79 °C)

4. GENERAL INFORMATION

This 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 LITHIUM 12 HYDROXY STEARATE SOAP 4 – 15 %
(ASTM D128)

4.2 POLYETHYLENE 4 – 7 %
(ASTM D128)

4.3 MOLYBDENUM DISULFIDE 1 %
(ASTM D128, 2 to 5 micron size)

Date	Action	Revisions	Rev. 3
2012 07 17	Revised	See Summary of Revisions	T, Covert, NA
2003 10 22	Revised	Para 3.0 inserted; para 3.15 and 4 deleted	
1966 09 14	Released	AV2-282	

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**4.4 BASE OIL PROPERTIES**

4.4.1 Viscosity at 100 °C
(ASTM D445, DIN 51562, ISO 3104) 13 – 16 mm²/s

4.4.2 Pour Point
(ASTM D97, DIN ISO 3016) -15 °C

4.5 MOISTURE CONTENT 0.25 %
(ASTM D95)

4.6 PENETRATION, tenths of a millimeter
(ASTM D217, DIN ISO 2137,)

4.6.1 Worked Penetration, 60 strokes 278 – 286

4.6.2 Prolonged Worked Penetration, 100,000 strokes
+50 increase over
60 stroke value

4.7 FILM STRENGTH DURABILITY
(FLTM BJ 101-04, 10 lb (4.54 kg) Load)

4.7.1 After 8 hours No Score

4.7.2 Scar Width after 8 hours 0.9 mm

4.8 CORROSION PROTECTION Timken cup from 4.7) No rust or
(ASTM D1743) discoloration

Place Timken Cup in 95-100% Humidity Chamber
(Bell Jar) at 23 °C +/- 2 °C for 300 h. Clean cup
with solvent and examine visibly and under microscope.

4.9 OXIDATION STABILITY
(ASTM D942)

4.9.1 Pressure drop after 1,000 hours 96 – 165 kPa
(14 – 24 psi)

4.10 OIL SEPARATION DURING STORAGE 12 ml max
(ASTM D1742, modified to show oil
separation in ml at 96 h)

4.11 STRINGINESS TEST 10 -14 mm
(FLTM BJ 013-01)

4.12 WHEEL BEARING LEAKAGE LOSS 0.6 – 2.0 g
(FLTM BJ 113-03)

4.13 INTERFACE COMPATIBILITY

4.13.1 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.