



GREASE, LITHIUM, SYNTHETIC HYDROCARBON, NLGI 2

WSS-M1C234-A2

1. SCOPE

The material defined by this specification is grease consisting of synthetic hydrocarbon, lithium soap thickener and other additives to give the desired characteristics.

2. APPLICATION

This specification was released originally for grease used to lubricate control mechanisms where excellent low temperature properties are required. Suitable for slides, plain or roller bearings with good plastics compatibility and damping characteristics.

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 (Visual)	Beige
3.3	COPPER CORROSION (DIN 51811 24h, 100°C)	1
3.4	WORKED PENETRATION, tenths of a millimeter (ASTM D 217, DIN ISO 2137, 60 stroke)	265 – 295
3.5	DROPPING POINT (ASTM D556, ASTM D 2265, DIN ISO 2176)	180 °C min

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 SOAP CONTENT (According to Formulation)	≤30%
4.2	BASE OIL VISCOSITY (DIN 51562 T01, ASTM D 445)	
	4.2.1 Kinematic Viscosity at 100 °C	4 - 6 mm ² /s
	4.2.2 Kinematic Viscosity at 40°C	18 - 32 mm ² /s

Date	Action	Revisions	Rev. 2
2011 06 28	Revised	See Summary of Revisions	S. Ryzyi, FNA
2004 04 29	Revised	Para 3.0 inserted; para 3.1, 3.2, 3.3, 3.6 & 4 deleted	
1995 02 28	C10460362	Released	

**4.3 PENETRATION, tenths of a millimeter**

(ASTM D 217, DIN ISO 2137)

4.3.1 Worked Penetration, 60 strokes 275

4.3.2 Prolonged Worked Penetration, 100,000 strokes +15

4.4 OXIDATION STABILITY

(ASTM D 942 or DIN 51808, 100hr at 99°C)

10 kPa

4.5 EMCOR TEST

(DIN 51802)

0

4.6 WATER WASHOUT

(ASTM D 1264, DIN 51807 T02, 80 °C)

1

4.7 WATER SPRAY OFF

(DIN 51807 T1, 90 °C)

0

4.8 OIL SEPARATION DURING STORAGE

(ASTM D 1742, DIN 51817 or FTMS 791 C 321.3)

1.7%

4.9 INTERFACE COMPATIBILITY4.9.1 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.

4.9.2 Resistance to Stress Cracking No cracking or crazing
(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

4.9.3 Elastomer Compatibility, NBR
(DIN 53521 SRE NBR, 48 hrs, 110 °C)

4.9.3.1 Volume Swell +2.4

4.9.3.2 Hardness Change, Durometer A Points - 1

5. SUMMARY OF REVISIONS**2011 06 28**

- Lot certification tests moved to requirements, all other requirements moved to general information.
- Added information on interface compatibility, low temperature torque, and oil separation which are requirements in WSS-M13P12-A.
- Removed Initial Qualifications and Ongoing Verification Plan
- Removed Supplement C