



GREASE, LONG LIFE, NLGI 2

WSD-M1C227-A

1. SCOPE

The material defined by this specification is a grease consisting of a mineral oil and thickener, with polyethylene and molybdenum disulphide and other additives to give the desired characteristics.

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 (ASTM D 217, DIN ISO 2137, 60 strokes)	265-295
3.3	DROPPING POINT (ASTM D 566)	178 °C min
3.4	SOLIDS CONTENT (Fed Std. 791, Method 3720)	2.8 - 3.2%
3.5	FLOW (DIN 51805, 20C)	800-1200 mm

4. GENERAL INFORMATION

The information given below is provided for clarification and assistance in meeting the requirements of this specification. Grease approved to these specifications should have the following typical properties.

4.1	LITHIUM SOAP (12 hydroxystearate) (FLTM AJ 106-02)	6.4%
4.2	POLYETHYLENE (FLTM AJ 106-02, Density 0.956 at 20 °C)	4.6%
4.3	MOLYBDENUM DISULPHIDE (FLTM AJ 106-02, 2 - 5 micron size)	1.1%
4.4	VISCOSITY (ASTM D 445, DIN 51562, ISO 3164, at 100 °C)	15.3 mm ² /s
4.5	FLASH POINT (ASTM D 93)	232 °C min

Date	Action	Revisions
2010 12 02	Revised	See Summary of Revisions C. Mracna, NA
2005 02 14	Revised	Inserted 3.0; Deleted 3.1, 3.2, 3.3, 3.6 & 4
1990 02 04	Released	C10057353



4.6	POUR POINT (ASTM D 97, DIN ISO 3016)	-15 °C
4.7	PROLONGED WORKED PENETRATION (ASTM D 217, DIN ISO 2137, change after 100,000 strokes)	10%
4.8	OXIDATION STABILITY (ASTM D 942 or DIN 51808) Pressure drop after 1000 h	152 Kpa
4.9	OIL SEPARATION (ASTM D 1742, DIN 51817, FTMS 791 C 321.3, 7 days at 40 °C)	1.1%
4.10	FILM STRENGTH DURABILITY (ASTM D 2509, 4.54 kgf load, 8 h, min)	No score
4.11	CORROSION PREVENTION (ASTM D 1743)	Pass
4.12	INTERFACE COMPATIBILITY	

Production representative materials specific to the application should be used for the following tests.

4.12.1 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.

4.12.2 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.

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

Volume change
Tensile Strength change

Hardness change, max

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.

5. SUMMARY OF REVISIONS

2010 12 02

- Lot certification tests moved to requirements.
- Added information on interface compatibility which are requirements in WSS-M13P13-A.