



GREASE, LITHIUM COMPLEX SOAP, WHEEL BEARINGS

WSS-M1C267-A1

1. SCOPE

The material defined by this specification is a NLGI Grade 2 grease consisting of a paraffinic mineral oil and a lithium complex soap that meets NLGI GC/LB.

2. APPLICATION

This specification was released originally for grease used to provide lifetime lubrication for wheel bearings with an operating range of - 40 to 175 °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 (Visual)

Green

3.3 PENETRATION, tenths of a millimeter (ASTM D 217, DIN ISO 2137)

3.3.1 Unworked Penetration

265 – 295

3.3.2 Worked Penetration, 60 stroke

265 – 295

3.4 DROPPING POINT (ASTM D 2265, DIN ISO 2176)

246 °C min

3.5 ROLL STABILITY, tenths of a millimeter (ASTM D 1831, ASTM D 217)

10% max change in
consistency from worked
value

4. GENERAL INFORMATION

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

4.1 LITHIUM SOAP CONTENT (According to formulation)

7% by weight

Date	Action	Revisions	Rev. 1
2010 11 18	Revised	See Summary of Revisions	A. Wedemühl, NA
2004 06 25	Activated		T. Covert



4.2	PENETRATION , tenths of a millimeter (ASTM D 217, DIN ISO 2137)	
4.2.1	Unworked Penetration	265 – 295
4.2.2	Worked Penetration, 60 strokes	265 – 295
4.2.3	Prolonged Worked Penetration, 100,000 strokes	+/- 40 Change from 60 stroke value
4.3	BASE OIL VISCOSITY (ASTM D 445, DIN 51562, ISO 3104)	
	Mineral oil viscosity at 40 °C	135 – 165 mm ² /sec
4.4	LOAD CARRYING PROPERTIES	
4.4.1	Timken OK Load (ASTM D 2509) (45 lbs)	20.4 kg
4.4.2	Ball Wear Test, Wear Scar dia. (ASTM D 2266, DIN 51350 T 5, 40 kg, 1200 rpm, 75 °C, 1 h)	0.5 mm
4.4.3	4-Ball EP Weld Point (ASTM D 2596, DIN 51350 T 4)	250 kg
4.4.4	4-Ball Load Wear Index (ASTM D 2596)	40
4.5	OXIDATION STABILITY ((ASTM D 942 Oxygen Bomb or DIN 51808))	
	Pressure Drop in 500 hours	69 kPa
4.6	CORROSION PROTECTION (ASTM D 1743)	Pass
4.7	COPPER STRIP CORROSION (ASTM D 4048)	1A
4.8	WATER WASHOUT (ASTM D 1264, DIN 51807 T02)	5%
4.9	OIL SEPARATION DURING STORAGE (ASTM D 1742, DIN 51817 or FTMS 791 C 321.3)	3%
4.10	WHEEL BEARING LEAKAGE LOSS (ASTM D 1263, 163 °C, 60 g pack)	2 g
4.11	HIGH TEMPERATURE WHEEL BEARING LIFE (ASTM D 3527)	100 hours
4.12	HIGH TEMPERATURE WHEEL BEARING LEAKAGE (ASTM D 4290)	4 grams