



LUBRICANT, SAE 75W-140, HYPOID GEAR, SYNTHETIC

WSL-M2C192-A

1. SCOPE

The material defined by this specification contains poly-alpha-olefin (PAO) synthetic hydrocarbon base lubricant. No Viscosity Index improver is used. The sulfur/phosphorus/nitrogen/boron additive system has superior thermal and oxidation stability and functions at SAE J2360/MIL-PRF-2105E performance levels.

2. APPLICATION

This specification was released originally for material used to lubricate conventional and limited slip differential hypoid gear rear axles.

Note: Use in limited slip differential axles require addition of a friction modifier additive.

3. STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.1 ACCEPTANCE REQUIREMENTS

These tests must be conducted on each blend of material and the method of sampling must conform to ASTM D 4057.

3.1.1	Sulfur (ASTM D4951 / D4927 / D1552)	2.0 - 2.8%
3.1.2	Phosphorus (ASTM D4951 / 4927)	0.11 - 0.16%
3.1.3	Moisture, max (ASTM D95 / D4928 / D7546)	0.3%
3.1.4	Viscosity at 100 °C, (ASTM D445)	24.2 to 26.8 cSt
3.1.5	Viscosity Index, min (ASTM D2270)	162
3.1.6	Pour Point, max (ASTM D97)	-42 °C
3.1.7	Flash Point, min (ASTM D92)	165 °C

Date	Action	Revisions
2010 05 13	Revised	See Summary of Revisions C. Ved
2007 06 08	Revised	Revised paragraph 1, 3.4.5, 3.5.1, 3.5.2 & 3.5.6 C. Ved
1992 08 05	Released	NL00E10064524000 L. Cullen



3.1.8	Copper Corrosion, max (ASTM D130, except 3 h at 121 +/- 2 °C)	2b
3.1.9	Anti-Foaming Properties (ASTM D 892)	
	• Volume of Foam, max (After sequences I, II and III)	25 mL
	• Volume of Foam, max (After 5 minutes standing)	0 mL

3.2 QUALIFICATION TEST

In addition to initial acceptance tests, these are to be conducted by all new suppliers prior to source approval.

3.2.1	Non-Channeling Temperature, max. FTM # 791C Method 3456.2	-45 °C
3.2.2	Thermal Oxidation Stability L-60-1, ASTM D5704	
	• Viscosity Increase, mm ² /s, max	50%
	• Normal Pentane Insolubles, max	1.5%
	• Toluene Insolubles, max	1.5%
	• Carbon/varnish, min	7.5
	• Sludge, min	9.4
3.2.3	Timken Machine Abrasion Weight Loss, max (D2782, cup and block combined)	10 mg
3.2.4	Boron (ASTM D4951)	0.016 - 0.030%
3.2.5	Nitrogen (ASTM D4629 / D3228)	0.07 - 0.150%
3.2.6	Brookfield Viscosity at -40 °C (ASTM D 2983)	150,000 mPa.s, max