

## AUTOMOTIVE GEAR LUBRICANT CLASSIFICATIONS

### SAE J306 (Gear Oils)

Again, the classification is based on the lubricant viscosity measured at low and/or high temperatures. The high temperature values are determined according to method ASTM D445. The low temperature values are determined according to method ASTM D2983 'Method of Test for Apparent Viscosity at Low Temperature using the Brookfield Viscometer' and are measured in mPa.s (c.P).

Multi-grade oil satisfies the viscosity requirements of one of the W grades at low temperatures and one of the non-W grades at high temperature.

It should be noticed that there is no relationship between the SAE engine oil and gear oil classifications. A gear lubricant and an engine oil having the same viscosity will have widely different SAE grade designation as defined in the two classifications.

### Automotive Lubricant Viscosity Grades

Gear Oils – Except SAE J 306, 1998

SAE VISCOSITY GRADE	ASTM D2983 TEMPERATURE °C FOR VISCOSITY OF 150000mPa.S <sup>(1)</sup>	ASTM D445(mm <sup>2</sup> /s) VISCOSITY AT 100°C	
	MAX	MIN <sup>2</sup>	MAX
70W	-55 <sup>3</sup>	4.1	-
75W	-40	4.1	-
80W	-26	7.0	-
85W	-12	11.0	-
80		7.0	<11.0
85		11.0	<13.0
90		13.5	<24.0
140		24.0	<41.0
250		41.0	-

<sup>1</sup>Using ASTM D 2983, additional low temperature viscosity requirements may be appropriate for fluids intended for use in light-duty synchronised manual transmission.

<sup>2</sup>Limit must also be met after testing in CEC 1-45-T-93, Method C (20 hours)

<sup>3</sup> The precision of ASTM D 2983 has not been established for determinations made at temperatures below -40 C. This fact should be taken into consideration in any producer-consumer relationship.

Note: 1cP = 1 mPa.s; 1cSt = 1mm<sup>2</sup>/s