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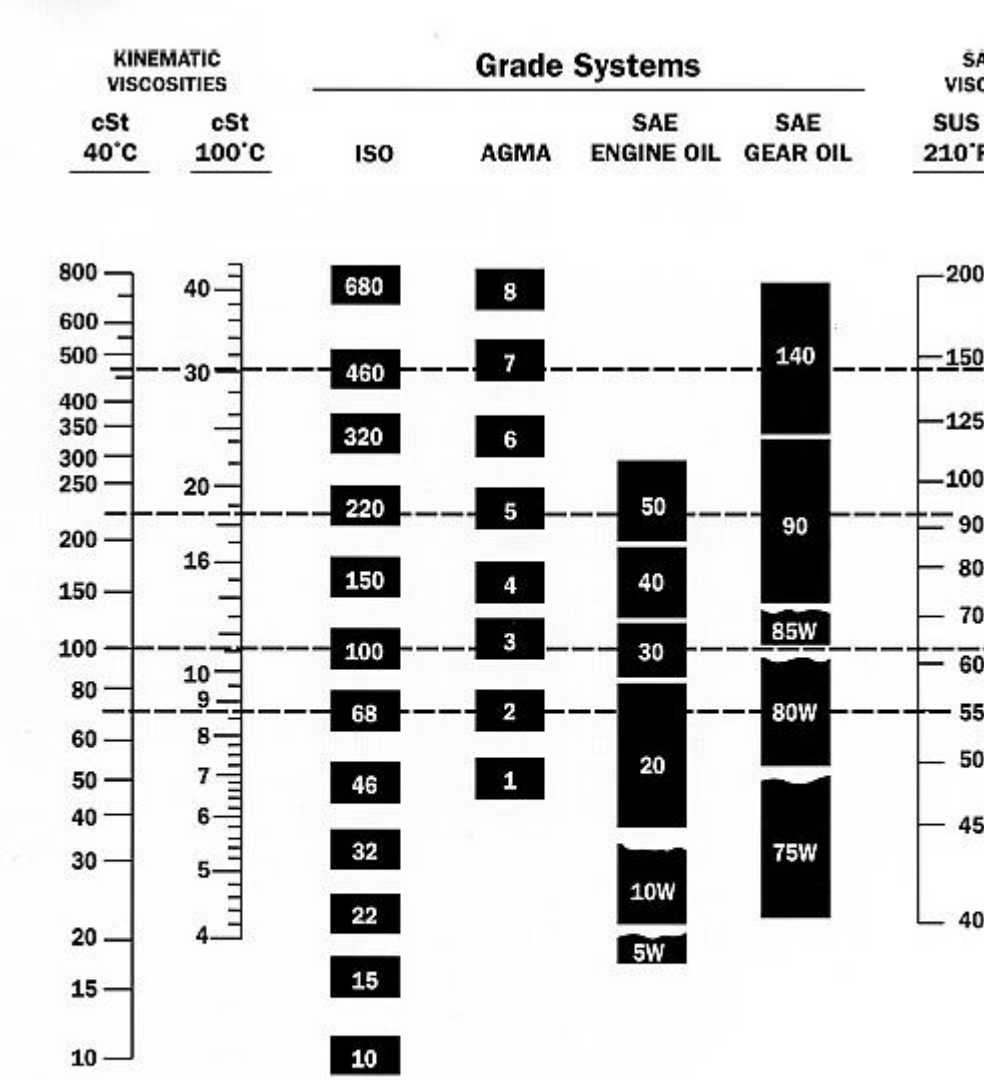
Viscosity Charts



Viscosities can be related horizontally only. For example, the following oils have similar viscosities: ISO 460, AGMA 7 and SAE GEAR OIL 140.

The viscosity/temperature relationships are based on 95 VI oils and are usable only fo mono grade engine oils, gear oils and other 95 VI oils.

Crankcase oils and gear oils are based on 100°C viscosity. The "W" grades are classif on low temperature properties. ISO oils and AGMA grades are based on 40°C viscosity

VISCOSITY @ 100deg C	VISCOSITY @ 40deg C
MOTOR OILS, HYDRAULIC OILS	ISO GRADE
SAE GRADE RANGE (cST)	ISO GRADE RANGE (cST)

5	3.80-*	32	28.8-35.2
10	4.10-*	46	41.4-50.6
20	5.60-9.29	68	61.2-74.8
30	9.30-12.49	100	90.0-110
40	12.50-16.29	150	135-165
50	16.30-21.89	220	198-242
60	21.90-26.09	320	288-352
80	7.0-11.00	460	414-506
90	13.50-23.99	680	612-748
140	24.00-40.99	1000	900-1100
250	41.00-UP	1500	1350-1650

Viscosities can be related horizontally only
Viscosities based on 96 VI single grade oils.
ISO are specified at 40 deg C
AGMA are specified at 40 deg C
SAE 75w, 80w, 85, 5w, & 10w
specified at low temperature.
Equivalent viscosities for 100 & 210 deg F are shown
SAE 90 to 250 and 20 to 50 specified at 100 deg C.

ISO VISCOSITY CLASSIFICATION SYSTEM

Many petroleum products are graded according to the ISO Viscosity Classification System, approved by the international standards organization (ISO). Each ISO viscosity grade number corresponds to the mid-point of a viscosity range expressed in centistokes(cSt) at 40 deg C. For example, a lubricant with an ISO grade of 32 has a viscosity within the range of 28.8-35.2, the midpoint of which is 32.

Rule of Thumb: The comparable ISO grade of a given product whose viscosity in SUS at 100 deg F is known can be determined by using the following conversion formula:

SUS @ 100 deg F/5=cSt @ 40 deg C.

cst= 0.226xSUS-(195/SUS)