Written by Jane Alexander, Editor
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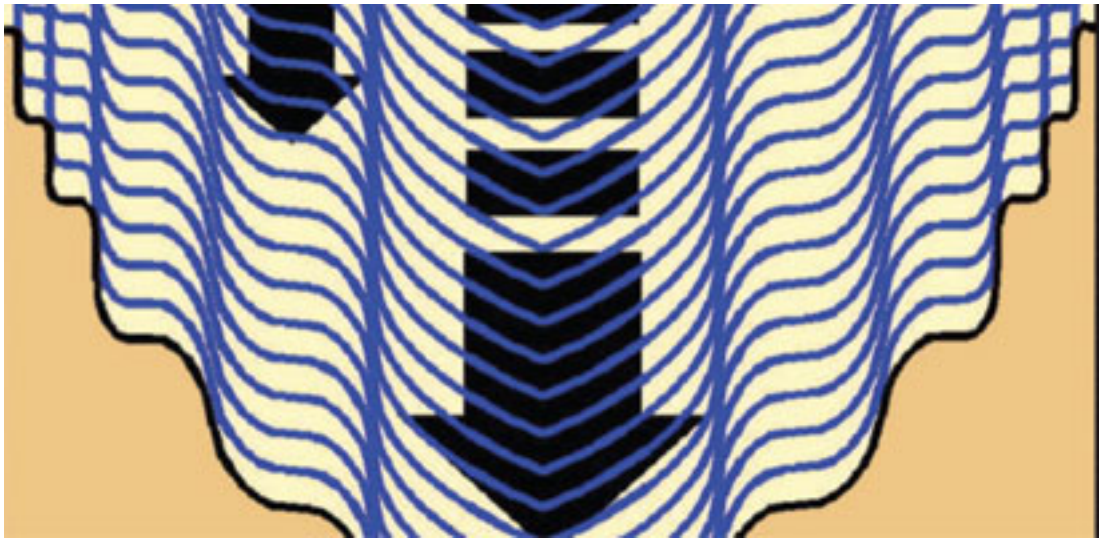

It's the most important lube quality. You can't afford not to regularly check the viscosity of the oils in your systems.

As noted in previous articles in this publication, oil life can be compromised by chemistry changes in a fluid (i.e., oxidation) or the introduction of contaminants (i.e., particles and water). There are several causes for such problems—*including introducing or mixing incorrect/incompatible products in a system* .
Thus, regular oil analysis of both industrial and engine oils is critical to the health of your equipment and processes. That includes testing regularly for viscosity.

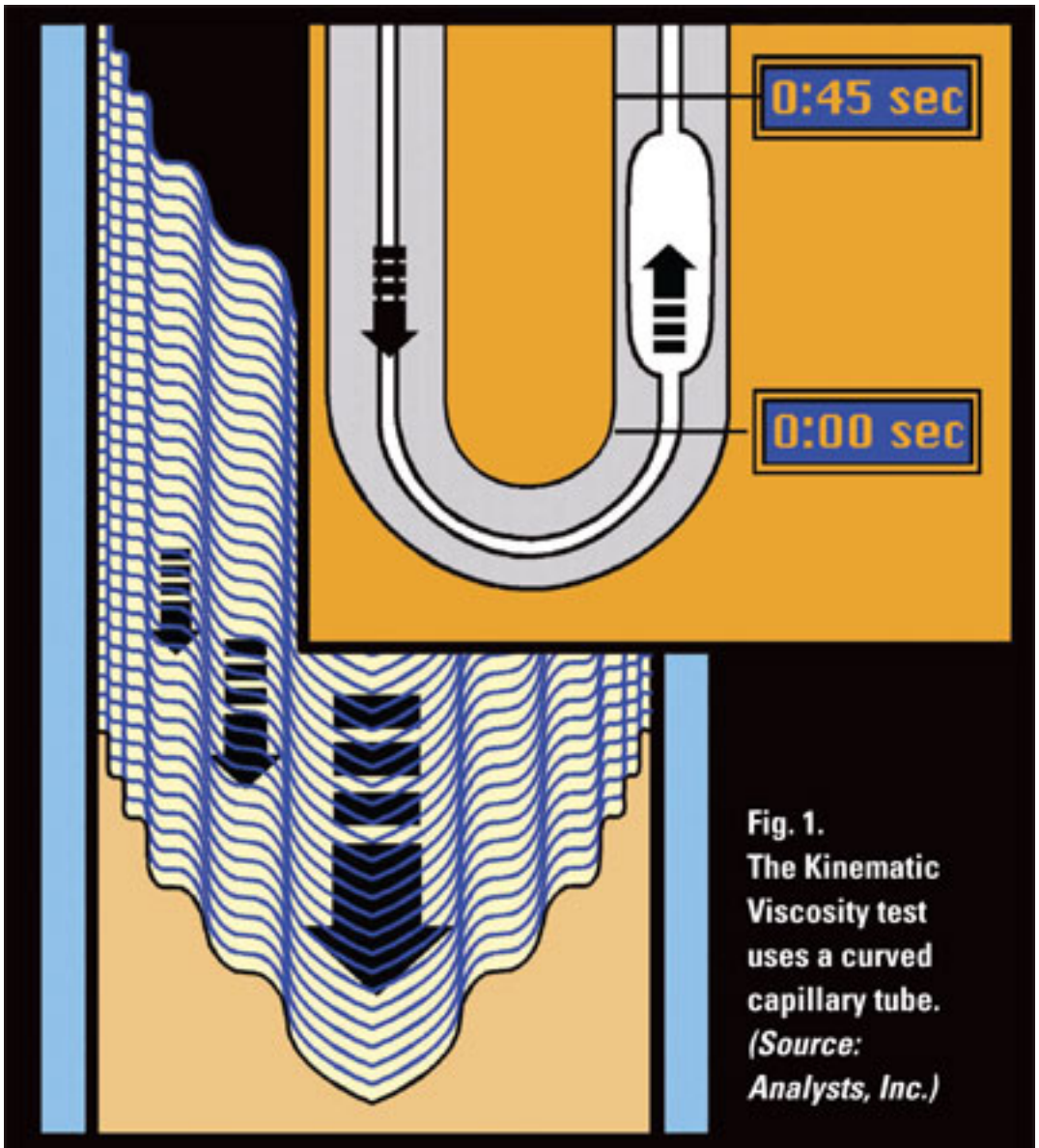

Fig. 1.
The Kinematic Viscosity test uses a curved capillary tube.
(Source: Analysts, Inc.)

Table I. ISO Viscosity Classification System

ISO Viscosity Grade	Midpoint Kinematic Viscosity cSt at 40 C	Kinematic Viscosity Limits cSt at 40 C Minimum	Maximum
ISOVG2	2.2	1.98	2.42
ISOVG3	3.2	2.88	3.52
ISOVG5	4.6	4.14	5.06
ISOVG7	6.8	6.12	7.48
ISOVG10	10	9.00	11.0
ISOVG15	15	13.5	16.5
ISOVG22	22	19.8	24.2
ISOVG32	32	28.8	35.2
ISOVG46	46	41.4	50.6
ISOVG68	68	61.2	74.8
ISOVG100	100	90.0	110
ISOVG150	150	135	165
ISOVG220	220	198	242
ISOVG320	320	288	352
ISOVG460	460	414	506
ISOVG680	680	612	748
ISOVG1000	1000	900	1100
ISOVG1500	1500	1350	1650

Viscosity grades for engine oils are classified as SAE viscosity—*which is a range of kinematic viscosity* [illegible] *Table II*. This

Table II. SAE Viscosity Classification For Engine Oils

SAE Viscosity Grade	Kinematic Viscosity[4] (cSt) at 100 C Min.	Kinematic Viscosity[4] (cSt) at 100 C Max
20	5.6	<9.3
30	9.3	<12.5
40	12.5	<16.3
50	16.3	<21.9
60	21.9	<26.1

[illegible]