



Test Monitoring Center

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OSCT Information Letter 05-1
Sequence No. 6
August 15, 2005

ASTM consensus has not yet been obtained on this information letter. An appropriate ASTM ballot will be issued in order to achieve such consensus.

TO: OSCT Mailing List

SUBJECT: 1. Updated Test Precision
2. Rounding Test Results Using ASTM E 29

1. At the April 6, 2005 OSCT Surveillance Panel meeting, the panel approved a motion to update the reference oil test precision data. A revised Table 3 of Test Method D5662 is attached. The old Section 10.1 and footnote 7 have been deleted. New Sections 10.1, 10.1.1, 10.1.1.1, 10.1.2, 10.1.2.1, and a new Note 1 of Test Method D5662 are attached.

2. At the April 6, 2005 OSCT Surveillance Panel meeting, the panel approved a motion to use ASTM E 29 for all test result rounding. A revised Section 2.1 and a new Section 9.3 of Test Method D5662 are attached.

These changes are effective the date of this information letter.

Don Bell
Acting Chairman
OSCT Surveillance Panel

John L. Zalar
Administrator
ASTM Test Monitoring Center

Attachment

c: ftp://ftp.astmtmc.cmu.edu/docs/gear/osct/procedure_and_ils/il05-1.pdf

Distribution: Email

(Revises Test Method D 5662-99)

2.1 *ASTM Standards:*

D 412 Test Method for Vulcanized Rubber and Thermoplastic Rubbers and Thermoplastic Elastomers--Tension

D 471 Test Method for Rubber Property—Effects of Liquids

D 2240 Test Method for Rubber Property—Durometer Hardness

D 5704 Test Method for Evaluation of the Thermal and Oxidative Stability of Lubricating Oils Used for Manual Transmissions and Final Drive Axles

D 5760 Specification for Performance of Manual Transmission Gear Lubricants

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

Delete old footnotes 3 and 4

Renumber footnotes 5 and 6 to new footnotes 3 and 4

9.3 Round test results according to Practice E 29.

Delete Old Sections 10.1 and footnote 7

10.1 Test precision is established on the basis of reference oil test results (for operationally valid tests) monitored by the ASTM TMC. The data are reviewed annually by the OSCT Surveillance Panel. Contact the ASTM TMC for the current industry data. Table 3 summarizes reference oil precision of the test as of August 2, 2004.

10.1.1. *Intermediate Precision Conditions*—Conditions where test results are obtained in the same laboratory with the same test method using the same test oil, with changing conditions such as operators, measuring equipment, test stands, and time between tests.

Note 1 - Intermediate precision is the appropriate term for this test method, rather than repeatability, which defines more rigorous within-laboratory conditions.

10.1.1.1 *Intermediate Precision Limit (i.p.)*—The difference between two results obtained under intermediate precision conditions that would in the long run, in the normal and correct conduct of the test method, exceed the value shown in Table 3, in only one case in twenty. When only a single test result is available, the Intermediate Precision Limit can be used to calculate a range (test result \pm Intermediate Precision Limit) outside of which a second test result would be expected to fall about one time in twenty.

10.1.2 *Reproducibility Conditions* — Conditions where test results are obtained with the same test method using the same test oil in different laboratories with different operators using different equipment.

10.1.2.1 *Reproducibility Limit (R)*—The difference obtained under reproducibility conditions that would in the long run, in the normal and correct conduct of the test method, exceed the value shown in Table 3, in only one case in twenty. When only a single test result is available, the Reproducibility Limit can be used to calculate a range (test result \pm Reproducibility Limit) outside of which a second test result would be expected to fall about one time in twenty.

(Revises Test Method D 5662-99)

TABLE 3 OSCT Reference Oil Precision^A

Where:

$S_{i.p.}$ = intermediate precision standard deviation,
i.p. = intermediate precision,
 S_R = reproducibility standard deviation, and
R = reproducibility.

Variable	Intermediate Precision		Reproducibility	
	$S_{i.p.}$	i.p. ^B	S_R	R ^B
Percent Elongation	12.27	34.36	12.44	34.83
Durometer Type A Hardness	5.11	14.31	5.12	14.34
Percent Volume Change	3.19	8.93	3.19	8.93

^A These statistics are based on results obtained on Test Monitoring Center Reference Oils 160, 161, and 162 over the period from August 1, 2002 through August 2, 2004.

^B This value is obtained by multiplying the standard deviation by 2.8