



Designation: D 4742 – 02a

An American National Standard

Standard Test Method for Oxidation Stability of Gasoline Automotive Engine Oils by Thin-Film Oxygen Uptake (TFOU)¹

This standard is issued under the fixed designation D 4742; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method evaluates the oxidation stability of engine oils for gasoline automotive engines. This test, run at 160°C, utilizes a high pressure reactor pressurized with oxygen along with a metal catalyst package, a fuel catalyst, and water in a partial simulation of the conditions to which an oil may be subjected in a gasoline combustion engine. This test method can be used for engine oils with viscosity in the range from 4 mm²/s (cSt) to 21 mm²/s (cSt) at 100°C, including re-refined oils.

1.2 This test method is not a substitute for the engine testing of an engine oil in established engine tests, such as Sequence IIID.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information purposes only.

1.4 This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use. For specific warning statements, see Sections 7 and 8.

1.4 ~~The values stated in SI units are to be regarded as the standard. The values given in parentheses are provided for information purposes only.~~

2. Referenced Documents

2.1 ASTM Standards:

A 314 Specification for Stainless Steel Billets and Bars for Forging²

¹ This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.09 on Oxidation.

Current edition approved Feb April 10, 2002. Published April July 2002. Originally published as D 4742–88. Last previous edition ~~D 4742–96~~. D 4742–02.