



Designation: D 2272 – 9802

An American National Standard

Standard Test Method for Oxidation Stability of Steam Turbine Oils by Rotating Pressure Vessel¹

This standard is issued under the fixed designation D 2272; 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.

This standard has been approved for use by agencies of the Department of Defense.

¹ This test method is under the jurisdiction of ASTM Committee D-2 D02 on Petroleum Products and Lubricants and is the direct responsibility of Subcommittee D02.09 on Oxidation.

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1. Scope

1.1 This test method² utilizes an oxygen-pressured vessel to evaluate the oxidation stability of new and in-service turbine oils having the same composition (base stock and additives) in the presence of water and a copper catalyst coil at 150°C.

1.2 The values stated in ~~acceptable~~ SI units are to be regarded as the standard.

1.3 *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 6.2, 6.4, 6.5, 6.6, 6.10, and 6.11.

2. Referenced Documents

2.1 ASTM Standards:

B 1 Specification for Hard-Drawn Copper Wire³

D 235 Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)⁴

~~D 329 Specification for Acetone⁴~~

~~D 770 Specification for Isopropyl Alcohol⁴~~

~~D 943 Test Method for Oxidation Characteristics of Inhibited Mineral Oils⁵~~

D 1193 Specification for Reagent Water⁶

D 2112 Test Method for Oxidation Stability of Inhibited Mineral Insulating Oil by ~~Rotating Bomb~~ Pressure Vessel⁷

D 4057 Practice for Manual Sampling of Petroleum and Petroleum Products⁸

D 4742 Test Method for Oxidation Stability of Gasoline Automotive Engine Oils by Thin-Film Oxygen Uptake (TFOU)⁸

~~E 1 Specification for ASTM Thermometers⁹~~

2.2 British Standard:⁹

² von Fuchs, G. H., Claridge, E. L., and Zuidema, H. H., "The Rotary Bomb Oxidation Test for Inhibited Turbine Oils," *Materials Research and Standards*, MTRSA (formerly ASTM Bulletin), No. 186, December 1952, pp. 43-46; von Fuchs, G. H., "Rotary Bomb Oxidation Test²," *Lubrication Engineering*, Vol 16, No. 1, January 1960, pp. 22-31.

³ *Annual Book of ASTM Standards*, Vol 02.03.

⁴ *Annual Book of ASTM Standards*, Vol 06.04.

⁵ *Annual Book of ASTM Standards*, Vol 05.01.

⁶ *Annual Book of ASTM Standards*, Vol 11.01.

⁷ *Annual Book of ASTM Standards*, Vol 10.03.

⁸ *Annual Book of ASTM Standards*, Vol 05.02.

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⁹ Available from British Standards, Vol 14-03. Institute, 389 Chiswick High Rd., London, W4 4AL, United Kingdom.