Designation: D7224 – 14

An American National Standard

Standard Test Method for Determining Water Separation Characteristics of Kerosine-Type Aviation Turbine Fuels Containing Additives by Portable Separometer[1]

This standard is issued under the fixed designation D7224; 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.

INTRODUCTION

This test method was developed to satisfy three objectives: *(1)* Develop a test method that would respond in the same manner as Test Method D3948 to strong surfactants, but not give low micro-separometer (MSEP) ratings to fuels containing weak surfactants (additives) that do not degrade the performance of commercial filter separator elements; *(2)* Use filter media in the coalescer test that would be representative of the filtration media in commercial filter separator elements; and *(3)* Improve the precision of the test method compared to Test Method D3948.

This test method was developed using material that is representative of coalescing materials currently used in commercial filter separator elements. The fiberglass coalescing material used in Test Method D3948 was suitable for coalescing filters in use when that test method was developed, but developments in coalescing elements in the intervening years have resulted in improved materials that are not affected by weak surfactants. Test Method D3948 yields low results on some additized fuels that do not affect the performance of filter separators (coalescing filters) in actual service. Since this test method was developed with material that is representative of the media used in current filter separators, the results by this test method are more relevant to performance in current filter separators.

1. Scope*

1.1 This test method covers a rapid portable means for field and laboratory use to rate the ability of kerosine-type aviation turbine fuels, both neat and those containing additives, to release entrained or emulsified water when passed through fiberglass coalescing material.

1.1.1 This test method is applicable to kerosine-type aviation turbine fuels including: Jet A and Jet A-1 (as described in Specification D1655); JP-5, JP-7, JP-8, and JP-8+100. (See Section 6.)

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

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 8.2 – 8.5.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D1655 Specification for Aviation Turbine Fuels

D2550 Method of Test for Water Separation Characteristics of Aviation Turbine Fuels (Withdrawn 1989)[3]

D3602 Test Method for Water Separation Characteristics of Aviation Turbine Fuels (Withdrawn 1994)[3]

D3948 Test Method for Determining Water Separation Characteristics of Aviation Turbine Fuels by Portable Separometer

D4306 Practice for Aviation Fuel Sample Containers for Tests Affected by Trace Contamination

D7261 Test Method for Determining Water Separation Characteristics of Diesel Fuels by Portable Separometer

[1] This test method is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.J0.05 on Fuel Cleanliness.

Current edition approved Dec. 1, 2014. Published January 2015. Originally approved in 2005. Last previous edition approved in 2013 as D7224 – 13. DOI: 10.1520/D7224-14.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[3] The last approved version of this historical standard is referenced on www.astm.org.

***A Summary of Changes section appears at the end of this standard**

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