



Designation: D6823 – 24

Standard Specification for Commercial Boiler Fuels With Used Lubricating Oils¹

This standard is issued under the fixed designation D6823; 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 U.S. Department of Defense.

1. Scope*

1.1 This specification covers four grades of fuel oil made of at least 25 % used lubricating oils. The four grades of fuel are intended for use in various types of fuel-oil-burning industrial equipment and commercial boilers under various climatic and operating conditions. These fuels are not intended for use in residential heaters.

1.1.1 Grades RFC4, RFC5L, RFC5H and RFC6 are used lubricating oil blends of increasing viscosity, with or without middle distillate or residual fuel oil, or both, that are intended for use in industrial burners and commercial boilers equipped to handle these types of fuels. This specification is for applications where Specification D6448 would not meet the performance or other requirements of the burner or boiler in question.

NOTE 1—For information on the significance of the terminology and test methods used in this specification, see Appendix X1.

1.2 This specification is for use in contracts for the purchase of fuel oils derived from used lubricating oil and for the guidance of consumers of such fuels. This specification does not address the frequency with which any particular test must be run.

1.3 Nothing in this specification shall preclude observance of national or local regulations which can be more restrictive. In some jurisdictions, used oil is considered a hazardous waste and fuels derived from used oil are required to meet certain criteria before use as a fuel.

NOTE 2—For United States federal requirements imposed on used oil generators, transporters and transfer facilities, reproprocessors, marketers, and burners, see 40 CFR Part 279.

NOTE 3—The generation and dissipation of static electricity can create problems in the handling of distillate burner fuel oils. For more information on the subject, see Guide D4865.

1.4 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

¹ This specification is under the jurisdiction of ASTM Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants and is the direct responsibility of Subcommittee D02.P0 on Recycled Products.

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1.4.1 *Exception*—Table 1 and Table X1.1 include inch-pound values in parentheses for information only.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D56 Test Method for Flash Point by Tag Closed Cup Tester

D93 Test Methods for Flash Point by Pensky-Martens Closed Cup Tester

D95 Test Method for Water in Petroleum Products and Bituminous Materials by Distillation

D97 Test Method for Pour Point of Petroleum Products

D129 Test Method for Sulfur in Petroleum Products (General High Pressure Decomposition Device Method) (Withdrawn 2023)³

D240 Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter

D396 Specification for Fuel Oils

D445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity)

D473 Test Method for Sediment in Crude Oils and Fuel Oils by the Extraction Method

D482 Test Method for Ash from Petroleum Products

D664 Test Method for Acid Number of Petroleum Products by Potentiometric Titration

D974 Test Method for Acid and Base Number by Color-Indicator Titration

D1266 Test Method for Sulfur in Petroleum Products (Lamp Method)

D1298 Test Method for Density, Relative Density, or API

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. 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