

Standards with a Global Reach

Manufacturers, independent laboratories, equipment vendors, government agencies and others around the world reference our petroleum, renewable and alternative fuels, and lubricants standards — standards developed by stakeholders from more than 65 countries. In the United States, the U.S. Environmental Protection Agency and other federal government agencies, including the U.S. Department of Defense and the U.S. Customs Office, as well as state governments and others, cite them in regulations, contracts, purchase orders, laboratory testing and more.

D02 works closely with a number of other ASTM technical committees active in related fields of interest, from D03 on Gaseous Fuels and E20 on Temperature Measurement to F07 on Aerospace and Aircraft. D02 also provides technical assistance to national standards bodies through the ASTM Memorandum of Understanding program, and it maintains liaisons with the Energy Institute in London, the American Gas Processors Association, the American Petroleum Institute and the European Committee for Standardization.

D02 Proficiency Testing Programs

The committee sponsors testing programs related to petroleum fuels and lubricants. Proficiency testing programs (www.astm.org/STATQA) include diesel fuel, aviation turbine fuel, reformulated gasoline, fuel ethanol, biodiesel, engine oil lubricants and gear oil. They provide participants with a statistical quality assurance tool to assess their performance both internally and through comparison with other laboratories worldwide. More than 4,500 laboratories participate in these programs, with over 50 percent from locations outside the United States.

Training and eLearning

Responding to the demand for education about ASTM petroleum specifications and test methods, we offer training courses taught by industry experts in a classroom or corporate setting, as well as online self-study options. Courses cover crude oil, aviation fuels, gasoline, marine fuels, diesel fuels and more. Visit www.astm.org/TRAIN.

Research and Publications

D02 symposia and workshops are held regularly to provide an opportunity for members and other industry experts to present findings and exchange technical information. Special technical publications, compilations, manuals and adjuncts result from these programs and other dedicated committee efforts.

Manuals from D02 include:

- Manual 1: Significance of Tests for Petroleum Products, 9th Edition
- Manual 5: Aviation Fuel Quality Control Procedures, 5th Edition
- Manual 37: Fuels and Lubricants Handbook: Technology, Properties, Performance and Testing, 2nd Edition
- Manual 44: Petroleum Products, Liquid Fuels and Lubricants, 3rd Edition
- Manual 51: Distillation and Vapor Pressure
- Manual 58: Petroleum Refining and Natural Gas
- Manual 62: Automotive Lubricants and Testing
- Manual 68: Crude Oils: Their Sampling, Analysis and Evaluation
- Manual 72: Flash Point
- MONO 10: Fossil Fuels
- MONO 11: Sulfur

2,500+
D02 Members

32+
Technical
Subcommittees

ASTM INTERNATIONAL Helping our world work better

Committed to serving global societal needs, ASTM International positively impacts public health and safety, consumer confidence, and overall quality of life. We integrate consensus standards — developed with our international membership of volunteer technical experts — and innovative services to improve lives... Helping our world work better.

ASTM International
100 Barr Harbor Drive
P.O. Box C700
West Conshohocken, PA
19428-2959
USA
tel +1.610.832.9500
fax +1.610.832.9555
service@astm.org
www.astm.org

June 2021



ASTM INTERNATIONAL
Helping our world work better

Committee D02 Petroleum Products, Liquid Fuels and Lubricants

www.astm.org/COMMITTEE/D02



ASTM Committee D02 was formed at the dawn of the 20th century following the introduction of revolutionary new technologies. The committee is globally respected for formulating test methods, specifications, practices, guides and standardized terminology for petroleum, petroleum products, and renewable and alternative liquid fuels, including petrochemical and liquefied petroleum gases and lubricants.

875+

Petroleum Standards

75+

Countries Represented

Gasoline, Diesel and Aviation Fuels

D02 standards help ensure safe and environmentally sound fuels purchased at local gas stations. One aspect is gasoline’s octane number, standardized in D2699, Test Method for Research Octane Number of Spark-Ignition Engine Fuel, and D2700, Test Method for Motor Octane Number of Spark-Ignition Engine Fuel, which define antiknock performance and are used by engine manufacturers, petroleum refiners and marketers, and in commerce to match fuels and engine performance requirements. D4814, Specification for Automotive Spark-Ignition Engine Fuel, describes the characteristics and requirements of automotive fuels for use over a wide range of operating conditions.

For diesel fuel, D975, Specification for Diesel Fuel Oils, covers seven grades of fuels suitable for various types of diesel engines as well as performance requirements for the individual grades.

D02 is also responsible for standards that define specific types of aviation gasoline and turbine fuels for civil applications. These standards, such as D1655, Specification for Aviation Turbine Fuels, help provide for the safe and economical operation of aircraft with fuels that are clean, dry and free of any contamination prior to use. D7566, Specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons, includes requirements that allow renewable fuels to be blended with conventional commercial and military (or gas turbine) fuel.

Biofuels

Biodiesel

Committee D02, in response to the growing demand for quality, renewable alternative fuels, has completed a landmark set of standards delineating performance requirements for biodiesel.

The standards include D6751, Specification for Biodiesel Fuel Blend Stock (B100) for Middle Distillate Fuels, which controls biodiesel (B100) quality prior to blending with conventional diesel fuels. D7467, Specification for Diesel Fuel Oil, Biodiesel Blends (B6 to B20), covers requirements for these fuel blends. In addition, the time-honored diesel standard, D975, Specification for Diesel Fuel Oils, includes an allowance for up to 5 percent biodiesel, and D396, Specification for Fuel Oils, now allows for up to 20 percent biodiesel in oils used in heating and boiler applications.

Ethanol

D02 biofuel standards covering ethanol include D4806, Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel; D4814, Specification for Automotive Spark-Ignition Engine Fuel; D5798, Specification for Ethanol Fuel Blends for Flexible-Fuel Automotive Spark-Ignition Engines; and D7794, Practice for Blending Mid-Level Ethanol Fuel Blends for Flexible-Fuel Vehicles with Automotive Spark-Ignition Engines.

Oils, Greases and More

The committee also develops and maintains standards that help preserve vehicle engines and ensure their smooth operation, as well as the moving parts of other equipment.

D4950, Classification and Specification of Automotive Service Greases, helps improve the quality of greases used in servicing automobiles, trucks and other vehicles through defining requirements that describe the properties and performance of chassis greases and wheel-bearing greases. D4485, Specification for Performance of Active API Service Category Engine Oils, covers oils for both light duty and heavy duty internal combustion engines found in various on- and off-road equipment.

D02 standards such as D2699, Test Method for Research Octane Number of Spark-Ignition Engine Fuel, assure consumers of the indicated octane numbers — a familiar gasoline quality that links to product performance — when filling their cars with gas. Legislators, along with engine manufacturers, petroleum refiners and marketers, use octane numbers as a primary measurement to match fuels with engines.

The committee’s work additionally takes in standards activities for industrial lubricants, hydraulic fluids, paraffin wax, used oils, recycled products and more.

As the committee actively develops standards for today, it looks ahead to the future of the industry. The committee is reviewing fluid requirements for electric vehicles and and hybrid vehicles and potential standards required for these new fluids.

84

eLearning Courses

50+

Proficiency Testing Programs

7

Live Training Courses

To see a current list of subcommittees and topics, visit www.astm.org/COMMITTEE/D02