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 2,500 laboratories participate in these programs, with over 50 percent from locations outside the United States.

Training and E-Learning

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 to present findings and exchange technical information.

Manuals from D02 include:

- Manual 51: Distillation and Vapor Pressure
- Manual 62: Automotive Lubricants
- Manual 72: Flash Point
- MONO 10: Fossil Fuels
- MONO 11: Sulfur

Committee Structure

Product Subcommittees
- Gasoline and Oxygenated Fuels
- Automotive Lubricants
- Turbine Oils
- Hydrocarbons for Chemical and Special Uses
- Burner, Diesel, Non-Aviation Gas Turbine and Marine Fuels
- Manufactured Carbon and Graphite Products
- Lubricating Greases
- Liquidfied Petroleum Gas
- Aviation Fuels
- Industrial Lubricants and Engineering Sciences of High Performance Fluids and Solids
- Hydraulic Fluids
- Recycled Products

Property Subcommittees
- - Combustion Characteristics
- Hydrocarbon Measurement for Custody Transfer (joint with API)
- Elemental Analysis
- Hydrocarbon Analysis
- Properties of Fuels, Petroleum Coke and Carbon Materials
- Analysis of Lubricants
- Flow Properties
- Volatility
- Oxidation of Lubricants
- Properties of Petroleum Waxes and Alternative Wax-Like Materials
- Environmental Standards for Lubricants
- Stability and Cleanliness of Liquid Fuels
- Performance Assessment and Validation of Process Stream Analyzer Systems

Coordinating Subcommittees
- Thermometry
- Proficiency Testing Programs
- International Standards and Related Activities
- Quality Assurance and Statistics
- Terminology
- In-Service Lubricant Testing and Condition Monitoring Services
- Executive

D02 at a Glance

- 2,500+ members representing petroleum corporations, alternative fuel manufacturers, pipelines, automotive manufacturers, engine companies, power plants, apparatus vendors, government, independent testing laboratories, research and academic organizations, and others
- 65+ countries represented
- 825+ petroleum standards
- Volumes 05.01 - 05.05, Annual Book of ASTM Standards
- 32+ technical subcommittees, six coordinating subcommittees
- Two in-person meetings each year, in June and December
- Sponsor of 25+ Proficiency Testing Programs — from lubricants and oil to diesel fuel — laboratories worldwide assess their test method performance
- Training courses on aviation fuels, crude oil, diesel fuels, gasoline and marine fuels
- More than a century of pioneering standards development

ASTM INTERNATIONAL
Helping our world work better

Over 12,000 ASTM standards operate globally. Defined and set by us, they improve the lives of millions every day. Combined with our innovative business services, they enhance performance and help everyone have confidence in the things they buy and use – from the toy in a child’s hand to the aircraft overhead.

Working across borders, disciplines, and industries, we harness the expertise of over 30,000 members to create consensus and improve performance in manufacturing and materials, products and processes, systems and services.

Understanding commercial needs and consumer priorities, we touch every part of everyday life: 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

April 2015
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 correlate with antiknock performance and are used by engine manufacturers, petroleum refiners and marketers, and in commerce to match fuels and engines. 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 Hydrotreated n-Paraffins, includes requirements that allow renewable fuels to be blended with conventional commercial and military (or gas turbine) aviation fuels.

Biofuels

Biodiesel

Committee D02, in response to the growing demand for quality, renewable alternative fuels, has completed a landmark set of standards defining 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


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.

Standards with a Global Reach

Manufacturers, independent laboratories, equipment vendors, government agencies and others around the world reference our petroleum 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 maintains contact 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.

2,500+ D02 Members
65+ Countries Represented
825+ Petroleum Standards
825+ Standards with a Global Reach
32+ Technical Subcommittees
Search D02 Standards
www.astm.org/DIGITAL_LIBRARY
Purchase D02 Standards
sales@astm.org | tel +1.877.909.ASTM