

# upcoming meetings

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## Upcoming Meetings

Washington, D.C. (USA) – June 27 – July 2, 2020

D02 Committee on Petroleum Products, Liquid Fuels and Lubricants

D03 Committee on Gaseous Fuels

D19 Committee on Water

E48 Committee on Bioenergy and Industrial Chemicals from Biomass

G02 Committee on Wear and Erosion

# Attend ASTM International Meetings Express your Views!



**ASTM International standards-development meetings** are attended by a diverse group of industry representatives, including manufacturers, users, distributors, testing laboratories, academicians, consultants and government personnel. **ASTM** staff members are also present to provide any needed support or guidance related to **ASTM** policy. There is no charge to attend, and all are welcome. All attendees have a voice and are encouraged to participate in discussions.

## ASTM COMMITTEE ON PETROLEUM PRODUCTS, LIQUID FUELS, AND LUBRICANTS SEEKS GLOBAL UPDATES AND INTERNATIONAL LIAISON REPORTS

**ASTM International** administers over 12,800 **ASTM** standards to support quality, safety, innovation, and trade in dozens of industries across more than 140 countries. Every six months, like clockwork, **ASTM International's** petroleum products, liquid fuels and lubricants committee (D02) meets in June and December. These months are etched into our schedules. Approximately 1,100 members attend the five days of technical meetings. The committee, with a current membership of approximately 2,700 industry professionals and experts, currently has jurisdiction over 814 standards, published in six volumes of the Annual Book of **ASTM** Standards. These standards have, and continue to play, a preeminent role in all aspects relating to the standardization of petroleum products, liquid fuels and lubricants.

The scope of the committee is to promote knowledge and promulgate standard specifications, classifications, test methods, practices, guides, and terminology in the fuels and lubricant industries. **ASTM International** offers standards in multiple languages to assist scientists and users of the standards worldwide with the appropriate technical details. In 2001, **ASTM International** launched the Memorandum of Understanding (MOU) program to promote communication between international standards' bodies, awareness of each other's standardization systems, and many other added benefits. With 100 signed MOUs with standards' bodies worldwide, the program embodies the international aspect of **ASTM International**.

With such a diverse and comprehensive portfolio, a focused point of contact is needed to bring together our global community. The problem with globalization is not that the world is too big, but that the world is too small. With international access to all aspects of our daily routines, the important things get lost in the mundane life. We are intertwined in each other's lives as never before, yet we know little about each other's actual needs. This is where **ASTM International** brings significant resources, including a committee on international activities.

The coordinating subcommittee on international standards and related activities (D02.93), proposes to tackle the intelligence-gathering about the fuels and lubricant industries around the world. **ASTM International** seeks to strengthen the global fuel community with insight and

expertise not only to benefit the members of **ASTM** but also the worldwide community. The subcommittee coordinates the committee's activities on liaison and cooperation with worldwide standardization organizations for all fuels in all applications and associated products.

Within the subcommittee, the global updates and international liaison reports group (D02.93.02) specifically addresses the coordination of updates from the numerous countries involved with **ASTM International's** petroleum products, liquid fuels and lubricants committee. The current reports encompass biofuels and marine fuels. The goal is to broaden the existing reports and add more that include aviation fuels, liquefied petroleum gas, gasolines, distillates, lubricants, oils, hydraulic fuels, and other hydrocarbons to just name a few.

A glance at <https://www.astm.org/COMMIT/SUBCOMMIT/D02.htm> will highlight the extensive reach of **ASTM** D02 committee.

Look back at a 1936 abstract from W. H. Bateman, "Liquefied Petroleum Gas", in Symposium on Industrial Fuels held in Philadelphia, PA.

"The liquefied petroleum gas industry received its initial start from Herman Blau, who developed blaugas in Germany, some twenty-eight years ago. This gas was originally used for lighting, although more recently it has been used for cooking, heating and as fuel for the Graf Zeppelin."

**ASTM International's** commitment to helping our world work better is a legacy that is worth investing in. **ASTM** offers a wealth of opportunities in leadership, expertise, and growth. Together, we can make **ASTM International** even more valuable and relevant as we support science, innovation and quality through global participation and contribution.

We are seeking highlights for the D02.93.02 section from our partners around the world in the specific segments covered by the technical subcommittees within D02. While membership to **ASTM** is always encouraged, it is not required to provide information and engage in dialogue. Send your thoughts, presentations and summaries to Jean-Francois Borny, Chair of D02.93.02 at [jean-francois.borny@mcdermott.com](mailto:jean-francois.borny@mcdermott.com).

## ASTM STANDARDS & COVID-19

**ASTM International** is providing no-cost public access to important **ASTM** standards used in the production and testing of personal protective equipment - including face masks, medical gowns, gloves, and hand sanitizers - to support manufacturers, test labs, health care professionals, and the general public as they respond to the global COVID-19 public health emergency. Search using the hyperlink below, register if you are a new user to our reading room and then you may access and download a PDF of the standards relevant to the global health pandemic. You will be asked to login at no cost to you.

<https://www.astm.org/COVID-19/>

### Questions for ASTM International

Membership / Technical Committees  
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## TIPS FOR BUILDING CONSENSUS REMOTELY

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In these difficult times, do standards development efforts necessarily come to a stop? No. But how do we keep things going?

BY SCOTT ORTHEY

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Standards development takes place largely on the web. However, we tend to rely on face-to-face meetings for content development and negotiations following balloting. With the recent meeting cancellations, your task groups and subcommittees can make the most of our web tools to continue your standards work, including crucial after-ballot discussions, without meeting in person.

### Collaboration Areas

Online Work Item Collaboration Areas are specifically geared toward achieving consensus on draft standards or revisions prior to ballot and are designed to be simple and straightforward. After you log on through My ASTM, you will find My Collaboration Areas in My Committees under the My Tools box on the right-hand side of the page. Essentially, collaboration areas include tools for developing drafts, including posting drafts, polling capabilities, related files, discussion, and many other helpful functions, including participant communication elements such as email and scheduling online meetings.

### Virtual Meetings

Virtual meetings, which combine teleconferencing and document sharing, also foster participation by giving task group members the opportunity to discuss a draft standard remotely but in real-time. Flexibility and interactivity highlight this option. To take advantage of virtual meetings, use the Schedule an Online Meeting function in your collaboration area or contact your staff manager. Virtual meetings can be effective in forging a resolution to disapprovals on ballots or collaborating on content to be balloted. Staff can send invitations to members and guests for any day and time needed, provided there is not a conflict with a previously scheduled meeting.

### Agendas

For your meeting, consider using Create my Agenda to make an overall list of the activities of a subcommittee (one

that can be edited). Under My Tools in the Meetings, Minutes & Agendas button, you will find Create My Agenda. After clicking Create My Agenda, you will be asked to select the subcommittee and enter the meeting date, location, and time. The date, location, and time data are merely to inform the agenda. They do not require validation nor are they saved for future action of any kind. This tool automatically composes your agenda with Ballot Results (ballots closed since last meeting) and Outstanding Negatives Needing Resolution (prior to last meeting). Your agenda will be created in a Microsoft Word document, and you can extract just those parts that your task group needs for the virtual meeting.

### Balloting

Large conference calls make voting difficult. Instead of handling negatives in a virtual meeting, try balloting the negatives. If you have negative votes on ballots, consider holding small meetings of task groups and coming up with recommendations that may be balloted if needed. For instance, invite the negative voter and technical contact and key members to a virtual meeting to hammer out a resolution. If that resolution is a not persuasive, or a not related action, it may be balloted. Work with your staff manager and see if you could have a ballot to vote on negatives that will allow the item to progress at the same pace as it would have if the committee had met face-to-face. To ballot main committee negatives, you will need permission of the sub and main chairs. For subcommittee negatives you just need the permission of the sub chair.

### Phone and Email

Don't underestimate the power of one-on-one calls and emails with negative voters.



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## SPRING 2020 PUBLIC TRAINING CALENDAR FOR D02

All training courses listed are subject to change.

### PETROLEUM LAB TECHNICIAN CERTIFICATE SERIES

With over 80 courses, this E-Learning series covers the most performed test methods in the petroleum industry.

Due to restrictions for COVID-19, all ASTM courses are now virtual classes.

### UPCOMING COURSES:

- **Diesel Fuels: Specifications and Test Methods**  
*Apr 27th to May 1st*
- **NEW: Statistics in ASTM Standard Test Method Development, Application, and Quality Assurance - NEW Three Day Course**  
*June 1st through 5th*
- **Questions from the Field, Answers from the Expert - Statistical Quality Control Charts and ASTM D6299**  
*June 17 1-2 p.m. ET*
- **Understanding Test Method Precision, Bias, ILS Design, Statistical Quality Control Charts, and TIER III SQC Requirements - ASTM Committee Week Class**  
*June 9th and 10th*

To register or for more information about ASTM Training programs, visit: <https://www.astm.org/TRAIN>

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## CLIMATE PLANNING AT OIL AND CHEMICAL RELEASE SITES

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ASTM International's committee on environmental assessment, risk management, and corrective action (E50) is developing a standard aimed at helping plan and implement climate-related policies at oil and chemical release sites.

The standard will cover site assessment, feasibility studies, remedial design, and implementation, according to committee member Helen Waldorf.

"The proposed standard will apply to waste sites where oil or other hazardous materials have come to be located," says Waldorf. "This includes locations under the U.S. Federal Superfund and Resource Conservation and Recovery Act waste management programs, as well as state, tribal,

municipal, and industry-sponsored waste management programs. It's designed to prepare for, protect against, and respond to climate-related events such as floods, fire, and sea-level rise."

Waldorf says that the proposed standard will be used by industries, states, and other agencies as a guide to structure assessment, remedial design actions, and remedy review.

Interested parties are invited to join in the development of the proposed standard (WK66522). ASTM International is also in the process of exploring other needed climate standards activities.



# STANDARDS AND THE GROWTH OF ELECTRIC VEHICLES

The growth of electric vehicles has led to the growth of other markets, such as lubricants.

BY DR. RAJ SHAH, PHILIP IACCARINO, AND DR. MATHIAS WOYDT

According to the International Energy Agency's Global Electric Vehicle Outlook, 1.3 billion passenger vehicles drove the world's roads in 2018. Of these, 5.2 million (just below 0.5%) were electric vehicles.

However, in the first half of 2019, the Electric Vehicle World Sales Database states that global battery electric vehicle (BEV) and plug-in hybrid (PHEV) production reached 1,134,000, meaning the current share of these vehicles sold today in the global light vehicle market is about 2.5%.

This growing demand for electric vehicles will significantly impact other markets, such as the lubricant and metal-working fluids markets. Electric vehicles require fewer mechanical parts and less machining than internal combustion (IC) vehicles and have much different lubrication requirements.

While IC vehicles require frequent replacement of engine oil, gear oil, transmission fluid, wheel bearing grease, and chassis grease, electric vehicles require a much lower overall volume of lubricants. Most notably, electric vehicles do not require engine oil. Currently, the most popular configuration for an electric vehicle engine involves one reduction gear (a gear that reduces rotational speed and is part of the powertrain) and one differential (the device that allows tires on the same axle to rotate at different speeds). Each is lubricated with 3–4 liters of the same gear fluid, which is less than their IC counterparts.

Luckily, **ASTM International's** committee on petroleum products, liquid fuels, and lubricants (D02) already has many lubricant-related standards in place that can be adapted to the electric vehicle market and spur its future growth. The most relevant are:

**1) Standard test method for determination of corrosion-preventative properties of lubricating greases under dynamic wet conditions (D6138)**

Also referred to as the "Emcor Test," this method assesses a grease's ability to prevent corrosion and rust when exposed to water. The test is typically used for rolling-bearing applications (i.e., preventing friction in parts that bear weight, such as a wheel bearing). Rust can compromise the longevity of the bearing, so a high-quality grease should protect the bearings in an electric vehicle, even in humid and wet conditions.

**2) Standard test method for roll stability of lubricating greases (D1831)**

This test method determines the change in the "worked penetrations" of the grease after being subjected to low shear for two hours. [Note: "Worked penetrations" refers to a common parameter in a test that determines the



*Electric vehicles require smaller amounts of lubricants than internal combustion vehicles.*

consistency of grease in an engine.] The results indicate the grease's change in consistency, something that could potentially occur while someone is driving the car. Since roll stability is used in many grease specifications for all kinds of cars, the method will continue to be an important test for electric vehicles.

**3) Standard test method for life of lubricating greases in ball bearings at elevated temperatures (D3336)**

This method evaluates a grease's ability to provide lubrication in a ball bearing while under light loads, at high speeds, and at high temperatures. As electric vehicles operate with considerable temperature variations and with higher torques compared to IC vehicles, this test method helps determine if a grease used in an electric vehicle will sustain these conditions for an extended period of time.

**4) Standard test methods for low-temperature torque of ball bearing grease (D1478) and of wheel bearing grease (D4693), respectively**

These two methods measure the extent to which a grease slows the rotation of a bearing while at low temperatures. As electric vehicles operate with higher torques due to their weight, greases with improved low-temperature torque may be developed, especially for vehicles used in cold environments.

**5) Standard test methods for determining extreme pressure properties of lubricating greases via the four-ball method (D2596) and the SRV test machine (D5706), respectively**

These test methods are valuable for characterizing metal surfaces that are in contact with each other while under high-stress rubbing conditions. These conditions are present in both IC and electric vehicles and can affect performance.

**6) Standard test method for determining fretting wear resistance of lubricating greases under high Hertzian contact pressures using the SRV test machine (D7594)**

This method is valuable when analyzing the friction and wear-reduction properties of greases, and is commonly used as a screening test for greases used in ball and roller bearings, roller or ball screw drives, and side-shaft systems such as CV joints. By reducing the tribological frictional losses in an electric vehicle, an electric vehicle's range can be maximized.

There are many other **ASTM International** methods that are relevant to the complex lubrication systems in the engines of IC vehicles which can be applied to electric vehicles. If electric vehicles are to grow within the global passenger vehicle market, these methods may need to accommodate lubricant specifications that are defined for electric vehicles.

Additionally, **ASTM** offers other basic test methods for specific properties related to electric fields, which have yet to be reviewed and assessed for lubricants used in electric vehicles, but which could be applicable in the future:

- Standard test method for dielectric breakdown voltage and dielectric strength of solid electrical insulating materials at commercial power frequencies (D149);
- Standard test methods for DC? resistance or conductance of insulating materials (D257);
- Standard test methods for dielectric breakdown voltage of insulating liquids using VDE electrodes (D1816);
- Standard test methods for electrical conductivity of aviation and distillate fuels (D2624);
- Standard test methods for electrical conductivity of liquid hydrocarbons by precision meter (D4308).

Optimization of lubrication must occur for the growth of electric vehicles throughout the world, and new lubricant developments, specifications, and standardizations will be necessary to address the demands of the electric vehicle market. Committees such as D02 will be at the forefront of the development of these standards.

Dr. Raj Shah is director at Koehler Instrument Company and Mr. Philip Iaccarino is an intern with Koehler Instrument Company, Bohemia, New York; Dr. Mathias Woydt is managing director of MATRILUB Materials, Tribology, Lubrication, Berlin, Germany.

## SYMPOSIUM HIGHLIGHTING STANDARD GUIDES AND PRACTICES THAT SUPPORT THE LUBRICANT CONDITION MONITORING INDUSTRY

Subcommittees D02.96 (CS96) and D02.C will discuss new technologies in an upcoming symposium that will highlight beneficial Standard Methods, Guides and Practices that Support the Lubricant Condition Monitoring Industry. The symposium will present state of the art developments covering new technologies and condition monitoring strategies that are pertinent to all sectors of the in-service lubricant analysis community, including service providers,

lubricant and instrument manufacturers, and end-users.

The one-day event is on Monday Dec. 7 in Austin, Texas in conjunction with the semi-annual week-long standards meetings of D02 and related committees. All stakeholders and members of the public are invited. Symposium participants are welcome to join sub-committee members for the presentations and the standards meetings which will follow the symposium.

Additional technical information is available from symposium Co-Chairs Mindy Villalba, SGS Herguth Laboratories, Inc, (mindy.villalba@sgs.com, +1 707-554-4611) or Lisa Williams, AMETEK Spectro Scientific (lisa.williams@ametek.com, +1 717-578-1152).

Further information can also be found here: <http://www.astm.org/D02SymposiumCFPDec2020>