WELCOME

Thank you for joining the session. This session will be recorded. Due to the number of participants, all attendees have been muted upon entry. If you have any questions, please use the chat feature and your questions will be addressed at the end of the presentation. Any questions not addressed by the close of the program will be collected and addressed by email.

Thank you!

www.astm.org
ASTM International Proficiency Testing Programs

Amy Meacock
Director, Proficiency Testing Programs

April 2022

www.astm.org
Proficiency Testing Programs
Proficiency Testing Overview

- Benefits
- Program Offerings
- Registration
- PTP2 Website
- Adding Methods
- Request for New Programs
Benefits of Proficiency Testing

- Participation helps satisfy laboratory accreditation requirements
- Lab Quality Assurance (QA)
  - Data for monitoring lab strengths and weaknesses
  - Residual sample material useful as internal QA sample
- Internal method comparison
- Discover method sensitivities
- Demonstrate your testing capability to customers
- Test results and associated statistics help ASTM validate test method performance under real world conditions
- Used by sponsoring ASTM committees to improve the test methods
Over 90 years of Proficiency Testing Experience

ASTM Proficiency Testing Programs

- CCRL launched in 1929, the program has grown to include different material types

  - Petroleum products
  - Plastics
  - Metals
  - Aromatic hydrocarbons
  - Additive Manufacturing
  - Insulating fluids
  - Engine coolants
  - Cement/Concrete
  - Rebar
  - Textiles

- Uniform, homogenous samples are analyzed by participating labs using specified methods and results are submitted for statistical analysis

- Post testing, a final statistical report summarizing the testing performed by labs around the world is distributed

56 proficiency testing programs involve 2,300 Laboratories and 8,300 units of participation. 52% of participation from outside USA.
ASTM Proficiency Testing Program (PTP)

- A program designed as a statistical quality control tool enabling participating laboratories to assess their performance in conducting ASTM or other test methods such as: ISO, EN, UOP, IEC, AATCC, etc.

- We provide management and the administrative support:
  o Program registration, data collection and generation of statistical summary reports
  o Using D7915, Generalized Extreme Studentized Deviate (GESD) Technique to Identify Multiple Outliers

- We coordinate the preparation and distribution of test samples
  o Some test samples are prepared by outside contractors

- Our program provides instructions, lab worksheets and electronic data submission, all accessible on the ASTM PTP website
ASTM Proficiency Testing Program Types

Petroleum Products and Lubricants (D02)

- #2 Diesel Fuel
- #6 Fuel Oil
- Automatic Transmission Fluid (ATF)
- Automotive Lubricants Additives
- Aviation Turbine Fuel - (Jet A)
- Aviation Turbine Fuel - (Military F24)
- Base Oil
- Biodiesel
- Biodiesel Blend (B6 to B20)
- Cetane
- Crude Oil
- Engine Oil Lubricants
- Fuel Ethanol
- Gear Oil
- General Gas Oils
- Hydraulic Fluids & Oils Program
- In Service Oil Monitoring Hydraulic Fluids/Oils
- In-Service Diesel Lubricating Oil Monitoring
- Industrial Gear Oil
- Liquefied Petroleum Gas
- Lubricating Grease
- Motor Gasoline
- Naphtha
- Octane Testing
- Petroleum Wax
- Reformulated Gasoline (RFG)
- Turbine Oil
- Ultra-Low Sulfur Diesel Fuel

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Proficiency programs in petroleum based products
ASTM Proficiency Testing Program Types

Cement and Concrete Testing (ASTM Committees C01, C09)

- Concrete
- Concrete Masonry Units
- Portland Cement
- Masonry Cement
- Blended Cement
- Pozzolan
- Masonry Mortar
- Rebar (reinforcing steel)

Managed by CCRL

8 Proficiency programs in cement and concrete
ASTM Proficiency Testing Program Types

Metals Testing (E01, E28)
- Mechanical Properties Testing of Metals
- Plain Carbon and Low-Alloy Steel (Chemical Analysis)
- Stainless Steel (Chemical Analysis)
- Aluminum (Chemical Analysis)
- Determination of Gold in Bullion

Plastics Testing (D20)
- Polyethylene Plastics Testing
- Multiple Plastics - Mechanical Properties Testing
- Polypropylene - Mechanical Properties Testing
- Flammability of Plastics Testing
- Thermal Analyses of Plastics
- Elemental Analyses of Plastics
ASTM Proficiency Testing Program Types

Additive Manufacturing (B09, F42, E01)
– Powder Metallurgy

Aromatic Hydrocarbon Testing (D16)

Aqueous Solution Testing (D15)
– Engine Coolants
– Diesel Exhaust Fluids

Electrical Insulating Fluids (D27)
– Insulation Fluid Quality– In-Service Insulating Fluid
– Dissolved Gas Analyses

Textiles (D13)
– Woven Fabric Testing
– Yarns and Threads
– Knit Fabrics
ASTM Proficiency Testing Program Types

Additive Manufacturing (ASTM Committees B09, F42, E01)
- Powder Metallurgy

Aromatic Hydrocarbon (ASTM Committee D16)
- Aromatic Hydrocarbons
- Purified Terephthalic Acid - NEW

Aqueous Solution Testing (ASTM Committee D15)
- Engine Coolants
- Diesel Exhaust Fluids

Electrical Insulating Fluids (ASTM Committees D27)
- Insulation Fluid Quality– In-Service Insulating Fluid
- Dissolved Gas Analyses

Programs in Additive Manufacturing, Aromatic Hydrocarbons and Electrical Insulating Fluids
ASTM Proficiency Testing Program Types

Textiles (ASTM Committee D13)

- Woven Textiles
  - February and August cycles
  - 3 yard fabric samples each cycle
  - Light, Medium, Heavy weight

- Yarns and Threads
  - June and December cycles
  - 500 yard spool each cycle
  - Appropriate yarn or thread, such as 2-ply cotton

- Knit Fabrics
  - June and December
  - 3 yard fabric samples each cycle
  - Single knit, double knit, stretch knit
Proficiency Test Program for Woven Fabrics

Test Parameters

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D737</td>
<td>Air Permeability of Textiles Fabrics</td>
</tr>
<tr>
<td>D1424</td>
<td>Tearing Strength of Fabrics by Falling-Pendulum Type (Elmendorf) Apparatus</td>
</tr>
<tr>
<td>D2261</td>
<td>Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure</td>
</tr>
<tr>
<td>D3775</td>
<td>Fabric Count of Woven Fabric</td>
</tr>
<tr>
<td>D3776</td>
<td>Mass Per Unit Area (Weight) of Fabric</td>
</tr>
<tr>
<td>D5034</td>
<td>Breaking Strength and Elongation of Textile Fabrics (Grab Test)</td>
</tr>
<tr>
<td>D5035</td>
<td>Breaking Strength and Elongation of Textile Fabrics (Strip Method)</td>
</tr>
<tr>
<td>D5587</td>
<td>Tearing Strength of Textiles Fabrics (Trapezoid Procedure)</td>
</tr>
</tbody>
</table>
**Proficiency Test Program for Yarn & Thread Performance Testing**

**Test Parameters**

<table>
<thead>
<tr>
<th>ASTM Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1422</td>
<td>Twist in Single Spun Yards</td>
</tr>
<tr>
<td>D1423 (Test A)</td>
<td>Twist in Single Spun or Filament Yarn</td>
</tr>
<tr>
<td>D1907</td>
<td>Linear Density</td>
</tr>
<tr>
<td>D2256</td>
<td>Strength &amp; Elongation Properties</td>
</tr>
<tr>
<td></td>
<td>• Straight Break Strength</td>
</tr>
<tr>
<td></td>
<td>• Loop Strength</td>
</tr>
</tbody>
</table>
# Proficiency Test Program for Knit Fabrics

## Test Parameters

<table>
<thead>
<tr>
<th>Test Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2594</td>
<td>Stretch Properties of Knitted Fabrics Having Low Power</td>
</tr>
<tr>
<td>D3774</td>
<td>Width of Textile Fabric</td>
</tr>
<tr>
<td>D3776</td>
<td>Mass Per Unit Area (Weight) of Fabric</td>
</tr>
<tr>
<td>D3786</td>
<td>Bursting Strength of Textiles Fabrics – Diaphragm Bursting Strength Tester Method</td>
</tr>
<tr>
<td>D8007</td>
<td>Standard Test Method for Wale and Course Count of Weft Knitted Fabrics</td>
</tr>
<tr>
<td>AATCC 135</td>
<td>Dimensional Changes of Fabrics after Home Laundering</td>
</tr>
<tr>
<td>AATCC 179</td>
<td>Skewness Changes in Fabric and Garment Twist Resulting from Automatic Home Laundering</td>
</tr>
</tbody>
</table>
NEW ASTM Proficiency Testing Program

Testing for Hemp Flower – NEW!
- ASTM Committee D37 on Cannabis
- Designed to reflect real-world processes for labs who test hemp flower

Distillers Dried Grain with Solubles – NEW!
- Distiller Grains Technology Council
- Testing nutritional content of DDGS, a by-product in the ethanol and distillery industry

Transportable Moisture Limit of Coal – NEW!
- Using ASTM, ISO and IMSBC Code methods
- Analyses of Coal similar to a solid, bulk cargo in ocean vessels
ISO 17043 Accreditation

- Successfully completed A2LA Accreditation process in 2017


- 45 programs are A2LA accredited

- Full list and scope at www.astm.org/ptp
How it Works

1. Receive samples for each test cycle.
2. Perform tests in your own facility using the specified ASTM or other standards cited.
3. Electronically submit data to ASTM within eight weeks.
4. ASTM provides final statistical summary reports with all laboratory data in approximately 20-25 business days. Each test method has its own linegraph and histogram. All data is kept confidential and shared with your lab only.
5. Compare your results with top competing labs around the world. Submit your results to accreditation bodies like A2LA, AMRL, and more.
Mange Your Programs with PTP2 Portal

– One-stop service point for ASTM PTP customers anywhere in the world at anytime

– You are provided with a PTP account number and unique password to access

– Submit data and download reports

Log in at ptp2.astm.org

User Name / Email

Password

Forgot your Password?

Submit
### Data Entry and Submission

**Entry by page or use left column to go to specific method**

<table>
<thead>
<tr>
<th>Test Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program</strong>: Woven Fabrics Cycle 2019</td>
</tr>
<tr>
<td><strong>Laboratory</strong>:</td>
</tr>
<tr>
<td><strong>Test</strong>: D3520 Testing Strength</td>
</tr>
<tr>
<td><strong>Light</strong></td>
</tr>
<tr>
<td>Result 1</td>
</tr>
<tr>
<td>Minimum</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
</tr>
<tr>
<td>Result 1</td>
</tr>
<tr>
<td>Minimum</td>
</tr>
<tr>
<td><strong>Heavy</strong></td>
</tr>
<tr>
<td>Result 1</td>
</tr>
<tr>
<td>Minimum</td>
</tr>
</tbody>
</table>

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ASTM International Proficiency Testing Program

6 April 2022
### Dashboard - Laboratory

**View of Accepted, Rejected and Partial Statistics Calculated**

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3775 Fabric Count - Warp Ends</td>
<td>All</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Warp Ends</td>
<td>Light</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Warp Ends</td>
<td>Medium</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Warp Ends</td>
<td>Heavy</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Filling Picks</td>
<td>All</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Filling Picks</td>
<td>Light</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Filling Picks</td>
<td>Medium</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3775 Fabric Count - Filling Picks</td>
<td>Heavy</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3776 Fabric Weight - Option C - Small Swatch of Fabric</td>
<td>All</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3776 Fabric Weight - Option C - Small Swatch of Fabric</td>
<td>Light</td>
<td>Numeric</td>
</tr>
<tr>
<td>D3776 Fabric Weight - Option C - Small Swatch of Fabric</td>
<td>Medium</td>
<td>Numeric</td>
</tr>
</tbody>
</table>
Reports for Download - Laboratory

**Laboratory Reports**

- Specific to one Laboratory
- Highlights statistics
- Lab displayed on charts
- Chart for historic z-score
Program Reports

- All data from all participants
- Range Data Plots
- Vertical Box and Whiskers using Range and Average from Labs
Reports for Download - Company

Company Reports

- Available to Data Coordinators
- All data from one Company
- Statistical comparison of Company and other Laboratories
- Company historical z-score chart
Reports for Download - Custom

Custom Reports

- xml format
- Excel format

Formats can be used in data management systems
Adding Methods to Existing Program

Process to add new method

- Contact ASTM PTP, ptp@astm.org or ameacock@astm.org
- Specify method and program to be added
- Committee or Subcommittee for the product and test method is contacted
  - Is this method applicable to this product?
- Survey sent
  - Gauge interest of participants about the test method
- Method added
  - Based on survey results, need at least 6 labs to agree to submit data
  - Survey passes, method added to next cycle
Request to Create New PT Program

Process to create a new PT Program

- Complete form on PTP website or contact ameacock@astm.org
- ASTM will discuss with Committee for need of program
- Is product used for program easily available in bulk? Homogeneous?
- What test methods will be included in new program?
- Survey sent to possible participants to gauge interest
- Based on results (25 labs agree to participate), ASTM PTP will work with Committee and Technical Advisor to create the program
- Subcontractor to handle sample handling and distribution is needed
- Source and supply of bulk material is needed
PTP Webpage:
https://www.astm.org/products-services/proficiency-testing.html
Attend a PTP2 Free Webinar

Webinar:
How to Effectively Use the PTP2 App to Manage Your Programs

New to the ASTM PTP2 Application or need a refresher? Attend this free webinar for a quick tutorial on navigating the app, with information and demonstrations on:

- How to find your selected program(s)
- Entering your data
- Retrieving reports
- Navigating the app when you have multiple labs
- Creating a single data report for multiple labs

Register to learn how to effectively use the PTP2 app to manage your programs

- March 24 | 10 AM EST
- June 16 | 10 AM EST
- Sept. 15 | 10 AM EST
Frequently Asked Questions (FAQ)

- **I want to register for a program, but it looks as if I missed the first test cycle. Can I still sign up?**
  - Yes. You can still register for a program if you have missed the first test cycle. Please follow the instructions on the online registration form.

- **Does the PTP program fee cover international shipping? Or is shipping additional?**
  - Depends on the program. The petroleum programs require international participants to provide a third-party shipper or freight forwarder. International participants pay for their own shipping for these programs. Other programs, such as Yarns and Threads, the cost of shipping is included in the registration fee. Please go to the PTP Webpage to check each program.

- **How does the program work when there are multiple international locations within one company?**
  - Every location that wants to participate must register. If one company has multiple locations around the world, each laboratory will register and receive their own sample for testing. In the PTP reporting system, an employee can be designated as a Data Coordinator. Data Coordinators can generate Company Reports that will allow him or her to see all the labs' data in one report.

- **Does the program fee have to be paid in USD? Is it paid at the beginning or end of the program?**
  - Yes, the program fees must be paid in USD, this is also referenced on our invoices. All registration fees are paid at the beginning of the program.

- **My laboratory does not perform all the test methods in the program, can we still participate?**
  - Yes, a laboratory does not need to submit results for all the test methods in the program. A laboratory should only submit results for methods within their capability. Samples must not be split between locations if one lab tests some methods and another lab tests other methods.

- **Are copies of the test methods included with the sample or part of registration?**
  - No, the laboratory is responsible to obtain their own copies of all test methods. Companies can purchase ASTM test methods from our Compass website, or a laboratory may purchase a subscription to Compass so they can access the test methods used most frequently in the laboratory. Please contact John Gallagher, jgallagher@astm.org for more information.

- **Do the PT Programs include just ASTM test methods?**
  - No, some PT Programs include additional test methods provided by ISO, AATCC, IEC and others.
Helpful Links

- PTP Webpage
  https://www.astm.org/products-services/proficiency-testing.html

- Link to schedule a one-on-one tutorial
  https://marketing.astm.org/acton/media/9652/astm-tp2-tutorial

- Login for PTP2
  http://ptp2.astm.org/pages/Welcome.aspx

- PTP Frequently Asked Questions (FAQ)
  https://www.astm.org/media/pdf/ASTM_PTP_FAQ.pdf
Questions?
Thank you

www.astm.org

Amy Meacock, Director
ameacock@astm.org

Jessica Boone, Manager
jboone@astm.org

General Questions
ptp@astm.org
Thank you for your participation in today’s session.

Any unaddressed questions submitted through the chat will be collected and answered by email. If you have further questions, please submit them to GlobalCooperation@astm.org.

The session recording will be made available on: https://astmppecollaboration.org/jsmo-astm-cooperation