



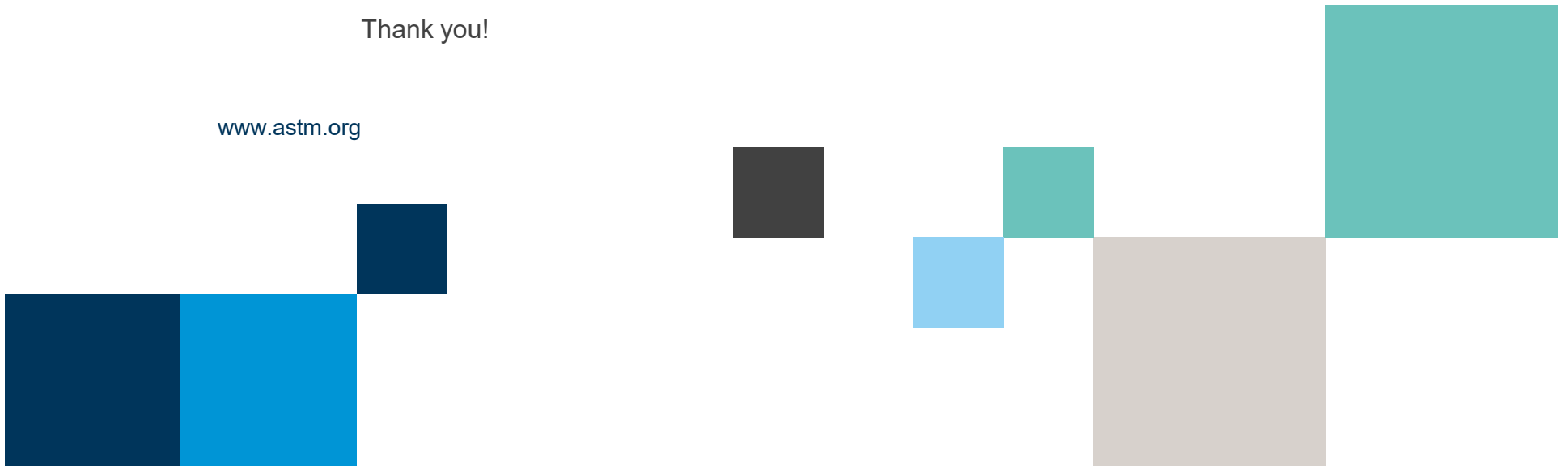
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WELCOME

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!

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ASTM International Proficiency Testing Programs

Amy Meacock
Director, Proficiency Testing Programs

April 2022

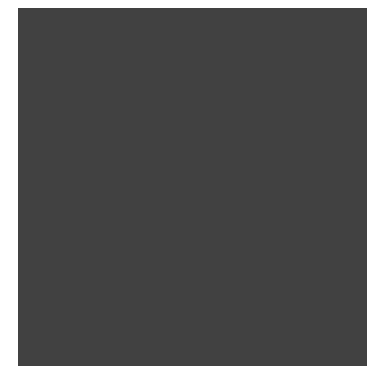
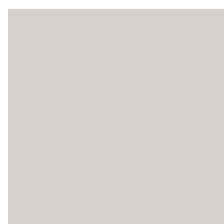
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Proficiency Testing Programs



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

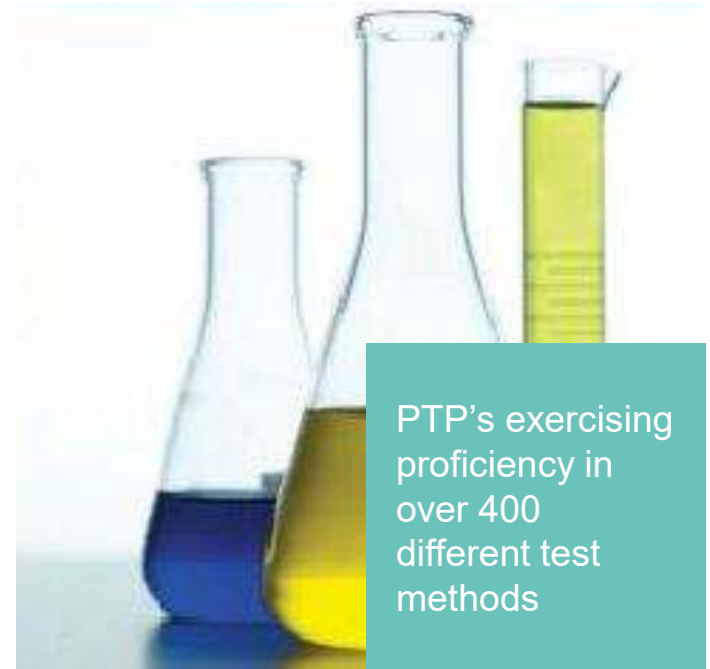
- CCRL launched in 1929, the program has grown to include different material types
 - Petroleum products
 - Plastics
 - Metals
 - Aromatic hydrocarbons
 - Additive Manufacturing
 - Insulating fluids
 - Engine coolants
 - Cement/Concrete
 - Rebar
 - Textiles
- Uniform, homogenous samples are analyzed 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



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:
 - Program registration, data collection and generation of statistical summary reports
 - Using D7915, Generalized Extreme Studentized Deviate (GESD) Technique to Identify Multiple Outliers
- We coordinate the preparation and distribution of test samples
 - 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**



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



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Programs in Metals
and Plastics Testing



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



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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

D737	Air Permeability of Textiles Fabrics
D1424	Tearing Strength of Fabrics by Falling-Pendulum Type (Elmendorf) Apparatus
D2261	Tearing Strength of Fabrics by the Tongue (Single Rip) Procedure
D3775	Fabric Count of Woven Fabric
D3776	Mass Per Unit Area (Weight) of Fabric
D5034	Breaking Strength and Elongation of Textile Fabrics (Grab Test)
D5035	Breaking Strength and Elongation of Textile Fabrics (Strip Method)
D5587	Tearing Strength of Textiles Fabrics (Trapezoid Procedure)

Proficiency Test Program for Yarn & Thread Performance Testing



Test Parameters

D1422	Twist in Single Spun Yards
D1423 (Test A)	Twist in Single Spun or Filament Yarn
D1907	Linear Density
D2256	Strength & Elongation Properties <ul style="list-style-type: none">•Straight Break Strength•Loop Strength

Proficiency Test Program for Knit Fabrics



Test Parameters

D2594	Stretch Properties of Knitted Fabrics Having Low Power
D3774	Width of Textile Fabric
D3776	Mass Per Unit Area (Weight) of Fabric
D3786	Bursting Strength of Textiles Fabrics – Diaphragm Bursting Strength Tester Method
D8007	Standard Test Method for Wale and Course Count of Weft Knitted Fabrics
AATCC 135	Dimensional Changes of Fabrics after Home Laundering
AATCC 179	Skewness Changes in Fabric and Garment Twist Resulting from Automatic Home Laundering

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

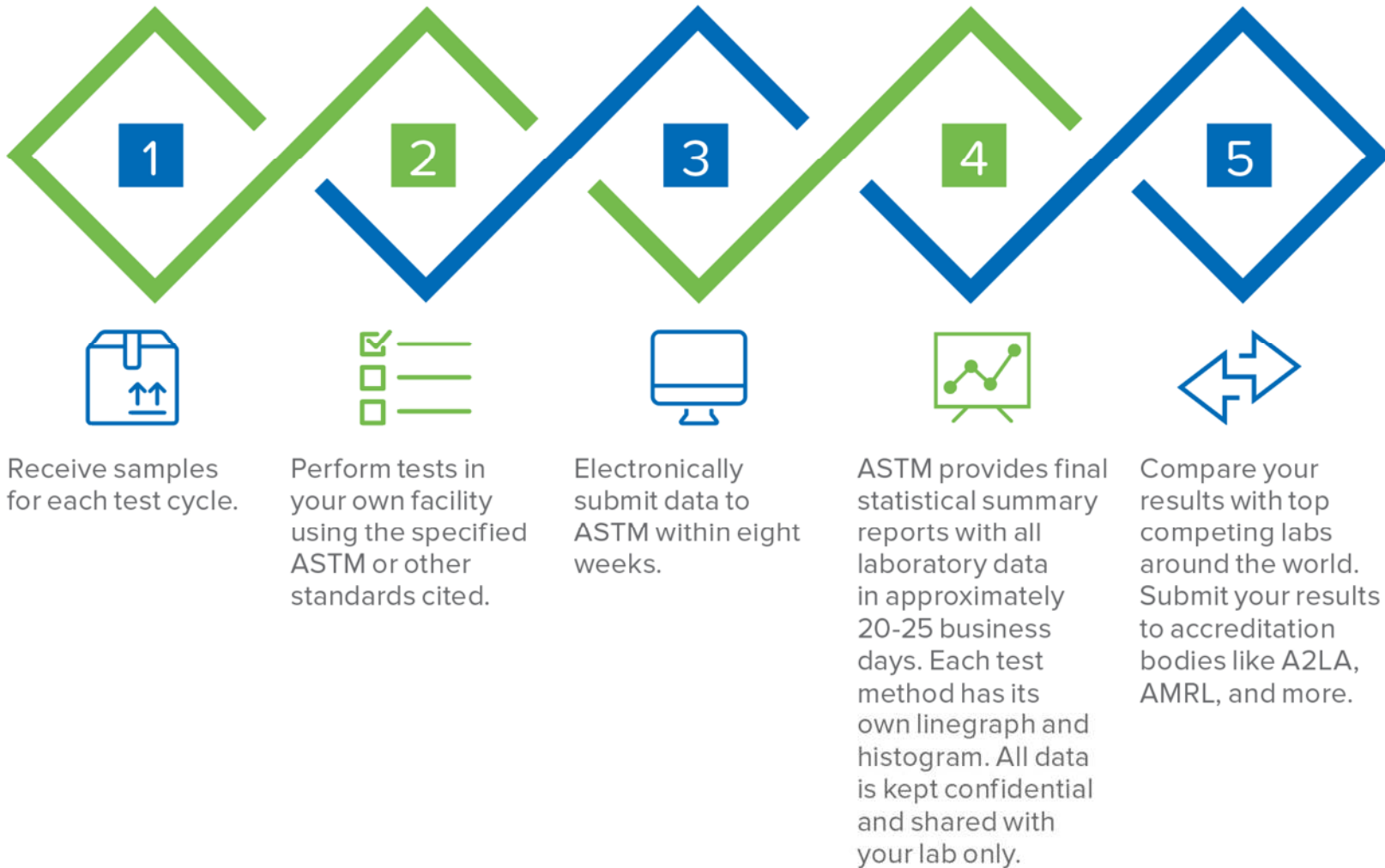
ISO 17043 Accreditation



- Successfully completed A2LA Accreditation process in 2017
- Meets ISO/IEC 17043:2010, “Conformity Assessment-General Requirements for Proficiency Testing”
- 45 programs are A2LA accredited
- Full list and scope at www.astm.org/ptp



How it Works



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

A screenshot of the login form for the PTP2 portal. It features two input fields: 'User Name / Email' and 'Password', both with red asterisks indicating required fields. Below the fields is a blue link for 'Forgot your Password?' and a yellow 'Submit' button.

User Name / Email *

Password *

[Forgot your Password ?](#)

Submit



Data Entry and Submission

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

Data Collection

Program : Woven Fabrics Cycle :2108
Laboratory :
Test : D2261 Tearing Strength

When completely finished, you must click the "Finish and Submit to ASTM" button

Light-
(Report results to the nearest 0.5 N (Newton) Cut in direction to tear warp yarn. NOTE: CONDUCT 5 TESTS. CALCULATIONS OPTION = AVERAGE OF 5 HIGHEST PEAKS FOR EACH TEST. NOTE: (This program is a MECHANICAL PROPERTIES TESTING PROGRAM OF TEXTILE FABRICS. The samples are labeled by STRENGTH OF FABRIC, not their weight by mass/unit area. Strength testing is part of program scope))

Result 1	Result 2	Result 3	Result 4	Result 5
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Minimum	Maximum	Average	Lab Range (Max minus Min)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Medium
(Report results to the nearest 0.5 N (Newton) Cut in direction to tear warp yarn. NOTE: CONDUCT 5 TESTS. CALCULATIONS OPTION = AVERAGE OF 5 HIGHEST PEAKS FOR EACH TEST. NOTE: (This program is a MECHANICAL PROPERTIES TESTING PROGRAM OF TEXTILE FABRICS. The samples are labeled by STRENGTH OF FABRIC, not their weight by mass/unit area. Strength testing is part of program scope))

Result 1	Result 2	Result 3	Result 4	Result 5
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Minimum	Maximum	Average	Lab Range (Max minus Min)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

Heavy
(Report results to the nearest 0.5 N (Newton) Cut in direction to tear warp yarn. NOTE: CONDUCT 5 TESTS. CALCULATIONS OPTION = AVERAGE OF 5 HIGHEST PEAKS FOR EACH TEST. NOTE: (This program is a MECHANICAL PROPERTIES TESTING PROGRAM OF TEXTILE FABRICS. The samples are labeled by STRENGTH OF FABRIC, not their weight by mass/unit area. Strength testing is part of program scope))

Result 1	Result 2	Result 3	Result 4	Result 5
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Minimum	Maximum	Average	Lab Range (Max minus Min)	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	

[Save and Continue](#) [Clear Fields](#) [Finish and Submit to ASTM](#)

Dashboard - Laboratory



View of Accepted, Rejected and Partial Statistics Calculated



Lab Manager

Settings ▼

Home Participants ▼ Users Samples ▼ Reports ▼ Test Results ▼

D3775 Fabric Count - Warp Ends	All	Numeric		
D3775 Fabric Count - Warp Ends	Light	Numeric	Accepted	✓
D3775 Fabric Count - Warp Ends	Medium	Numeric	Accepted	✓
D3775 Fabric Count - Warp Ends	Heavy	Numeric	Accepted	✓
D3775 Fabric Count - Filling Picks	All	Numeric		
D3775 Fabric Count - Filling Picks	Light	Numeric	Rejected	✗
D3775 Fabric Count - Filling Picks	Medium	Numeric	Accepted	✓
D3775 Fabric Count - Filling Picks	Heavy	Numeric	Accepted	✓
D3776 Fabric Weight- Option C - Small Swatch of Fabric	All	Numeric		
D3776 Fabric Weight- Option C - Small Swatch of Fabric	Light	Numeric	Rejected	✗
D3776 Fabric Weight- Option C - Small Swatch of Fabric	Medium	Numeric	Rejected	✗

Reports for Download - Laboratory



Laboratory Reports

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



Average, Light

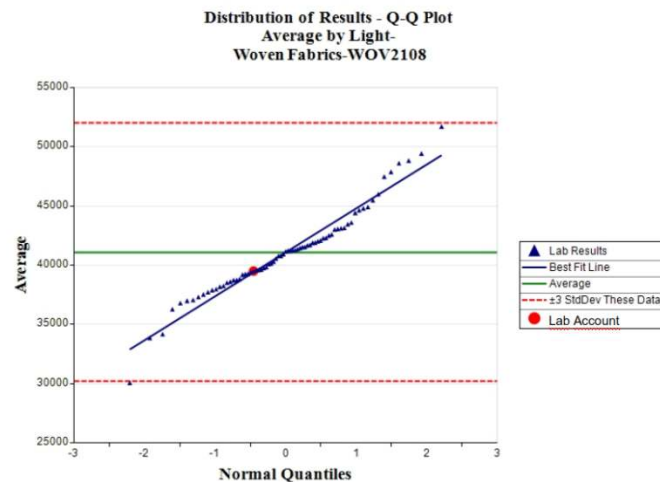
Data Report for Laboratory Name
Average by Light
Woven Fabrics WOV2108

Z-Scores						
	Result	WOV2108	WOV2102	Count	Average	StdDev
Laboratory Name WOV2108 Result	12.5	-0.75	NDS	1	-0.75	
Notes			NDS			

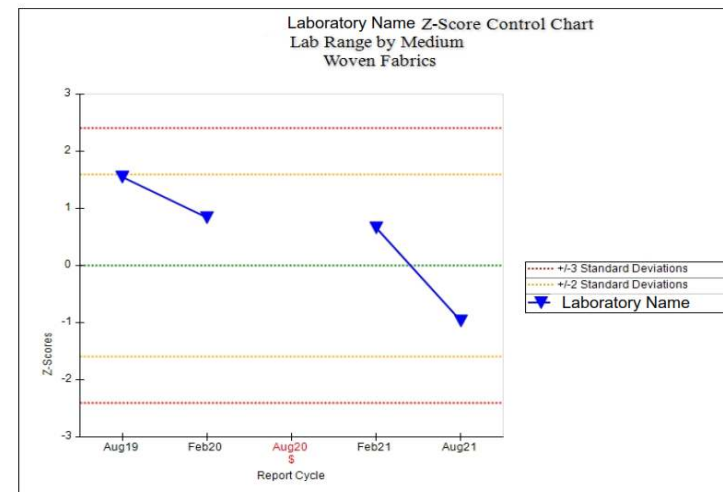
Performance Summary for All Labs			Legend	
Conforming Results	96		NDS	No Data Submitted
Results Used	94		NCR	Non Conforming Results
Average	13.14		NSP1	No Statistics Performed, <5 results submitted.
StdDev	0.86		NSP2	No Statistics Performed, mixed data set w/ >18% non-numeric results.
ASTM R		There is no ASTM Reproducibility for this method.	NSP3	No Statistics Performed, as recommended by program reviewer.
These Data R	2.38		NSP4	No Statistics Performed, mixed data set w/ >16% ND results.
TPI			1	Test result outside ±3 sigma range for these test data
ADrs Statistic	2.08	Not Normal	2	Test result outside ±3 sigma range ASTM Reproducibility
StdDev Z Pooled from all Labs	1.45		3	Z-Score outside of range -2 to 2
			#	Z-Score > 90
			R	Rejected by GESD



Distribution of Results



Z-Score Control Chart





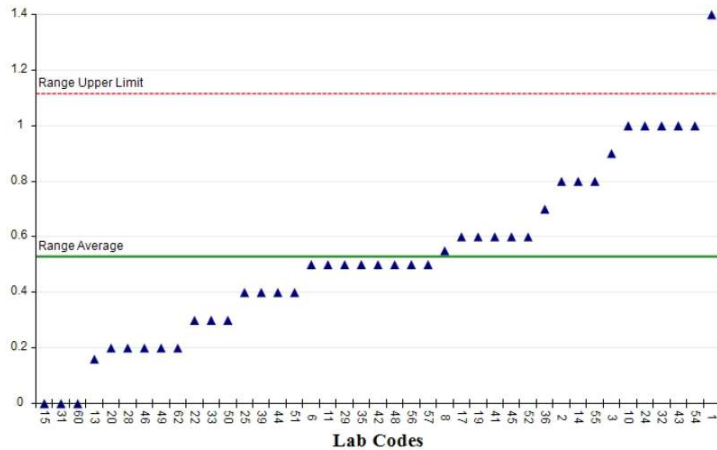
Reports for Download – Program D13

Program Reports

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

Range Data Plot

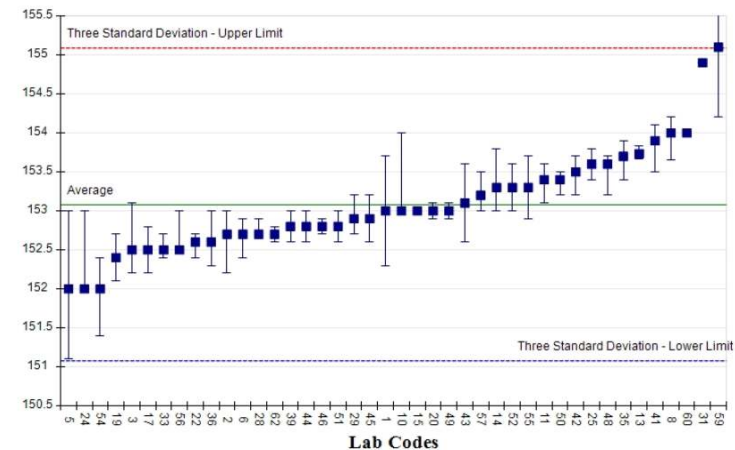
Sample ID:KF 2112
D3774-18 - Width - Option B, Laboratory Sample Removed from Full Roll or Bolt
Double Knit - Red - Width (including selvages)



Knit Fabrics - KF2112 D3774-18 - Width - Option B, Laboratory Sample Removed from Full Roll or Bolt Double Knit - Red - Width (including selvages)											
Lab Code	Result 1	Result 2	Result 3	Result 4	Result 5	Average	Minimum	Maximum	Lab Range	Z-score	Flag
19	152.7	152.5	152.3	152.5	152.1	152.4	152.1	152.7	0.6	-1.02	
20	152.9	153.1	153.0	153.0	153.0	153.0	152.9	153.1	0.2	-0.12	
22	152.6	152.7	152.6	152.4	152.5	152.6	152.4	152.7	0.3	-0.72	
24	153	151	152	152	152	152	152	153	1	-1.61	
25	153.8	153.7	153.4	153.5	153.6	153.6	153.4	153.8	0.4	0.77	
28	152.7	152.7	152.7	152.9	152.7	152.7	152.7	152.9	0.2	-0.57	
29	153.2	153.1	152.7	152.8	152.5	152.9	152.7	153.2	0.5	-0.27	
31	154.9	154.9	154.9	154.9	154.9	154.9	154.9	154.9	0.0	2.71	3
32	157	156	156	156	157	156	156	157	1	4.36	R,1,3
33	152.7	152.7	152.4	152.4	152.4	152.5	152.4	152.7	0.3	-0.87	
35	153.9	153.4	153.8	153.6	153.7	153.7	153.4	153.9	0.5	0.92	
36	152.3	152.6	153.0	152.8	152.5	152.6	152.3	153.0	0.7	-0.72	
39	152.6	153.0	152.8	152.8	152.8	152.8	152.6	153.0	0.4	-0.42	
41	153.9	153.5	153.8	154.0	154.1	153.9	153.5	154.1	0.6	1.22	
42	153.7	153.7	153.5	153.2	153.2	153.5	153.2	153.7	0.5	0.62	

Double Knit - Red - Width (including selvages) - Vertical Box & Whiskers Plot

Sample ID:KF 2112
D3774-18 - Width - Option B, Laboratory Sample Removed from Full Roll or Bolt
Double Knit - Red - Width (including selvages)





Reports for Download - Company

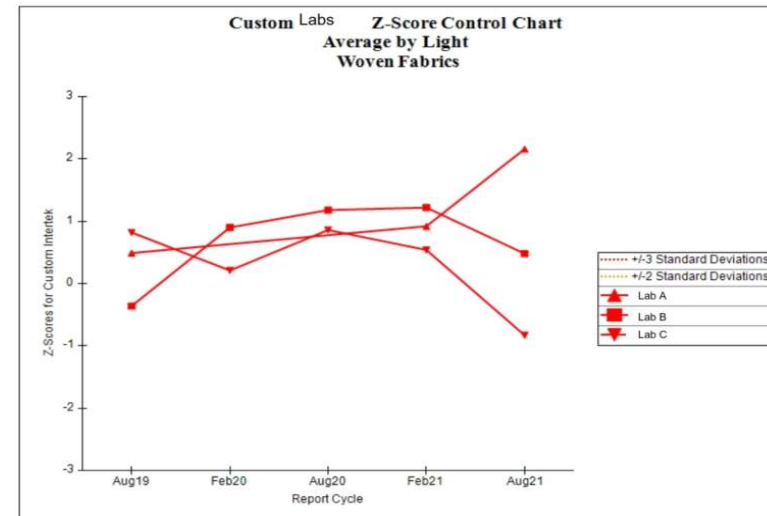
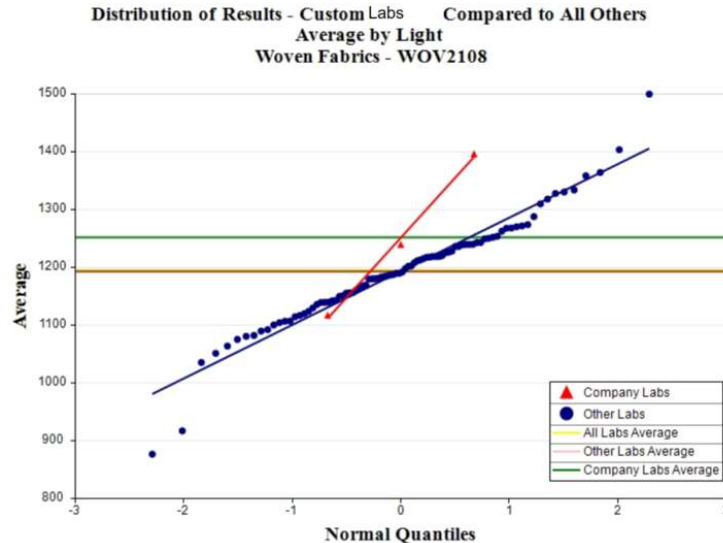
Company Reports

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

Data Report for Custom Company Laboratories
Average by
Woven Fabrics WOV2108

Company Labs	Result	Notes	Overall Z-Score	Within Company Z-Score	2102 Z-Score	2008 Z-Score	2002 Z-Score	1908 Z-Score	1902 Z-Score	1808 Z-Score	Number of Accrued Z-Scores	Average Of Latest Z-Scores	StdDev Of Latest Z-Scores
Lab A	1240.0		0.48	-0.08	1.22	1.18	0.90	-0.36	-1.38	0.53	7	0.37	0.94
Lab B	1117.6		-0.83	-0.96	0.54	0.86	0.21	0.82	-0.52	0.02	7	0.16	0.65
Lab C	1396.8	3	2.16	1.04	0.92	NDS	NDS	0.49	0.41	-0.36	5	0.72	0.93

Summary of Results	All Labs	Company Labs	Other Labs	
Number Valid Results	96	3	93	
Number Used	93	3	90	
Average	1195.28	1251.47	1193.41	No Difference
StdDev	93.11	139.95	91.71	No Difference
ASTM R		N/A	N/A	
These Data R	257.91	387.67	254.05	
TPI				
ADrs Statistic	0.78	0.29	0.76	Marginally Normal
Pooled StdDev of Z	1.13	0.84	1.14	



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

Find a Program

Search name, test method, topic

GO

[Suggest a 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>



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ASTM International

Trusted
Cost Effective
Thorough

ASTM Proficiency Testing Programs (PTP)

ASTM Proficiency Testing Programs (PTP) are statistical quality assurance programs that enable laboratories to evaluate and improve performance, and maintain and fulfill mandatory accreditation requirements.

[Register for a Program](#) [Contact Us](#)

- Watch On-Demand Webinar
- Keep Your Lab on Top Ebook
- Suggest a Program

ACCREDITED Accredited Proficiency Testing Provider [Learn More](#)

PTP2 User Webinar
Learn about our PTP2 Portal and ASTM Training & eLearning Programs

How it Works
Learn more about ASTM Proficiency Testing

Request PTP2 Tutorial
Schedule a one-on-one overview of our custom portal to manage your programs more efficiently

FAQs
How to register your lab, enter test data, access final reports, and more

Proficiency Testing Program Options by Committee

Committee C01 on Cement and C09 on Concrete and Aggregates
Committee B09 on Metal Powders and Metal Powder Products
Committee D02 on Petroleum Products, Liquid Fuels, and Lubricants
Committee D13 on Textiles

Attend a PTP2 Free Webinar



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 PTP2 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-ntp2-tutorial>
- Login for PTP2
<http://ntp2.astm.org/pages/Welcome.aspx>
- PTP Frequently Asked Questions (FAQ)
https://www.astm.org/media/pdf/ASTM_NTP_FAQ.pdf



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Questions?





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Thank you

www.astm.org

Amy Meacock, Director
ameacock@astm.org

Jessica Boone, Manager
jboone@astm.org

General Questions
ptp@astm.org





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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>

www.astm.org

