



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## *Certificate of Accreditation*

*Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:*

***Ebatco***

***10025 Valley View Road, Suite 150, Eden Prairie, MN 55344***

*(Hereinafter called the Organization) and hereby declares that Organization is accredited  
in accordance with the recognized International Standard:*

**ISO/IEC 17025:2017**

This accreditation demonstrates technical competence for a defined scope and the  
operation of a laboratory quality management system  
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

***Mechanical, Chemical, Thermodynamic, and Metallurgical (Chemical & Mechanical)***  
***(As detailed in the supplement)***

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate.  
This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby  
covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen  
President

*Initial Accreditation Date:*

November 03, 2017

*Issue Date:*

May 09, 2024

*Expiration Date:*

June 30, 2026

*Accreditation No.:*

92808

*Certificate No.:*

L24-346

Perry Johnson Laboratory  
Accreditation, Inc. (PJLA)  
755 W. Big Beaver, Suite 1325  
Troy, Michigan 48084

*The validity of this certificate is maintained through ongoing assessments based on a  
continuous accreditation cycle. The validity of this certificate should be  
confirmed through the PJLA website: [www.pjlab.com](http://www.pjlab.com)*



# Certificate of Accreditation: Supplement

## Ebatco

10025 Valley View Road, Suite 150, Eden Prairie, MN 55344  
Contact Name: Mr. Hayden Baker Phone: +1 952-941-2199

*Accreditation is granted to the facility to perform the following testing:*

FLEX CODE	FIELD OF TEST	ITEMS, MATERIALS, OR PRODUCTS TESTED	COMPONENT, CHARACTERISTIC, PARAMETER TESTED	SPECIFICATION OR STANDARD METHOD	TECHNOLOGY OR TECHNIQUE USED
F1, F2	Chemical <sup>F</sup>	Dry Particles or Particles in Solution	Particle Size	ASTM E2651	Laser Diffraction Particle Analyzer
F1, F2		Liquid Samples	Density	ASTM D4052	Density Meter
F1, F2			Dielectric Constant	ASTM D924	Dielectric Constant Meter
F1, F2			Refractive Index	ASTM D1747	Refractive Index Meter
F1, F2			Surface Tension	ISO 19403	Surface Tension (Pendant Drop)
F1, F2			Viscosity	ASTM D2556	Viscometer
F1, F2		Liquid Samples, Powders, and Solid Samples	Density	ASTM B962 ASTM B963	Archimedes Method
F1, F2		Liquid Samples and Surfactant Solution	Critical Micelle Concentration	ISO 4311	Surface Tensiometer
F1, F2			Dynamic Surface Tension	ASTM D3825	Dynamic Surface Tensiometer
F1, F2		Liquid Samples, Including those with Surfactants	Surface / Interfacial Tension	ASTM D1331	Surface Tensiometer
F1, F2		Nanomaterials / Microstructure Substrates and Liquids	Micro Contact Angle Advancing/Receding Angle Surface Free Energy	ASTM D7334 ASTM D7490 ISO 19403	Micro Contact Angle Meter
F1, F2		Particles in Solution	Particle Size	ASTM F2149	Particle Analysis (Electrical Sensing Zone)
F1, F2		Particles in Solution or Solid Surface	Particle Size	ASTM E2490	Particle Analysis (Dynamic Light Scattering)
F1, F2			Zeta Potential	ASTM E2865	Electrophoretic Light Scattering
F1, F2		Powders	Contact Angle	EDC No. 0102072	Washburn Infiltration Method
F1, F2		Solid Samples	Sedimentation	EDC No. 0102073	Surface Tensiometer
F1, F2		Solid Samples, Preferable Inorganic Compounds	Elemental Composition	ASTM E1508	Energy Dispersive X-Ray Spectroscopy
F1, F2		Solid Substrates and Liquid Samples	Contact Angle Advancing/Receding Angle Surface Free Energy	ASTM D7334 ASTM D7490 ISO 19403	Contact Angle Meter
F1, F2			Phase Identification	ASTM D934 ASTM D380	XRD
F1, F2		Polycrystalline Solids	Quantitative Composition	ASTM C1365 ASTM D3720	XRD



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F1, F2	Chemical <sup>F</sup>	Variable	Transmission Bulk Analysis	ASTM E1252	FTIR
F1, F2			Bulk Analysis	ASTM E573 ASTM E1252	ATR FTIR
F1, F2			Qualitative Analysis	ASTM E334 ASTM E1252	FTIR Transmission & Reflection Microscopic Analysis (Obj.: 4x, 15x, 25x)
F1, F2				ASTM E573 ASTM E334 ASTM E1252	ATR Microscopic Analysis (Obj: 15x)
F1, F2				ASTM E334 ASTM E1252	FTIR Transmission and Reflection Focal Plane Array Imaging (Obj: 4x)
F1, F2				ASTM E334 ASTM E1252	FTIR Transmission and Reflection Focal Plane Array Imaging (Obj: 15x, 25x)
F1, F2			Qualitative Analysis	ASTM E573 ASTM E334 ASTM E1252	ATR Focal Plane Array Imaging (Obj: 15x)
F1, F2			Qualitative Analysis	EDC# 0102096	Raman Microscopy
F1, F2			AFM	ASTM E2859 ASTM E2382	AFM
F1, F2		Variable	EFM	ASTM E2859 ASTM E2382	EFM
F1, F2			MFM	ASTM E2859 ASTM E2382	MFM
F1, F2		Powders, Particles, and Fibers	Powder Zeta Potential	ISO 13099	Powder Zeta Potential Cylindrical Cell (Streaming Potential)
F1, F2		Surfaces	Surface Zeta Potential (Streaming Potential)	ISO 13099	Surface Zeta Potential (Streaming Potential)
F1, F2		Flexible Tubing	Surface Zeta Potential (Streaming Potential)	ISO 13099	Surface Zeta Potential (Streaming Potential)
F1, F2		Liquids	Turbidity	ISO 7027 ASTM D6855 ASTM D7315	Turbidity Meter



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F1, F2	Chemical <sup>F</sup>	Liquids	Elemental Composition (Ag, Al, As, Au, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cs, Cu, Fe, Hg, Ir, K, Li, Mg, Mn, Mo, Na, Ni, Pb, Pd, Pt, Rb, Rh, Ru, Sb, Se, Sr, Ti, Th, U, V, Zn)	EPA 200.7 ASTM UOP 303 ASTM UOP 389 ASTM UOP 549 ASTM UOP 714 ASTM UOP 796 ASTM UOP 925 ASTM UOP 961 ASTM UOP 972 ASTM UOP 972 ASTM UOP 1003 ASTM C1301 ASTM C1875 ASTM D7151 ASTM D5708 ASTM D7111 ASTM D7260 ASTM D7691 ASTM D5185 ASTM D5600 ASTM E1479	ICP-OES/ICP-AES
F1, F2		Liquids, Semi-Solids	Rheology Viscosity G' G'' Tan Delta	ASTM D4440 ASTM D4473 ASTM D5279 DIN 1342 1-3 DIN 3219 DIN 13343 DIN 51810 Part 1 DIN 51810 Part 2 DIN 53019-1 DIN 53019-2 DIN 54458 EN 3219 EN 14770 ISO 3219 ISO 6721-1 Pharmacopoeia Europe 2.2.8 Viscosity Pharmacopoeia Europe 2.2.10 - Rotating Viscometer Method Pharmacopoeia Europe 0132 USP 912 - Rotational Rheometer Methods	Rheometer



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F1, F2	Chemical <sup>F</sup>	Solid Materials	Color	CIEL*a*b* ASTM E2194 SAE J1545	Colorimeter
F1, F2			Gloss	ASTM D523	Gloss Meter
F1, F2		Solids	Refractive Index	ISO 489	Refractive Index Meter
F1, F2	Mechanical <sup>F</sup>	Adhesive Materials	Peel Strength	ASTM D3330	Versatile Peel Strength Analyzer
F1, F2		Ceramics, Fabrics, Geologicals, Membranes, Papers, and Porous Materials	Porosity	ASTM F316	Porometer
F1, F2		Solid Materials	Surface Roughness	ASTM E2244	Optical Profilometry
F1, F2			Dimensional and Microstructural Analysis	ASTM E766	Scanning Electron Microscopy
F1, F2		Solid Materials (Tested Dry or Lubricated)	Coefficient of Friction	ASTM G115	Triboster
F1, F2		Solid Materials, Thin Films, Coatings	Micro Hardness	ASTM E384	Micro indentation
F1, F2			Plastic Resistance	ASTM C1624 ISO 20502	Micro scratch
F1, F2			Interfacial Adhesion		
F1, F2			Scratch Resistance		
F1, F2			Modulus Mapping	EDC No. 0102054	Modulus Mapping
F1, F2			Nano-DMA	EDC No. 0102055	Nano-DMA
F1, F2			Nanohardness	ASTM E2546	Nanoindentation
F1, F2			Elastic modulus		
F1, F2			Plastic Resistance	ASTM C1624 ASTM D7187	Nanoscratch
F1, F2			Interfacial Adhesion		
F1, F2			Scratch Resistance		
F1, F2			Surface Topography	ISO 3274	Scanning Probe Microscopy
F1, F2			Scratch Resistance	ISO 1518	Scratch
F1, F2			Wear Resistance	EDC No. 0102066	Scanning Wear
F1, F2			Plastic Resistance	ASTM C1624 ISO 20502	Macro scratch
F1, F2			Interfacial Adhesion		
F1, F2			Scratch Resistance		



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F1, F2	Mechanical <sup>F</sup>	Printed Materials	Smear Rubbing	ASTM D5264	Smear Rubbing
F1, F2		Polycrystalline Solids	Residual Stress	ASTM E915 ASTM E2860	XRD Residual Stress
F1, F2		Solid Materials	Tensile, Compression, 3-Point Bend, 4-Point Bend, and Shear	ASTM A370 ASTM C1499 ASTM C1550 ASTM C1609 ASTM C297 ASTM C364 ASTM C365 ASTM C469 ASTM C633 ASTM C1161 ASTM C1421 ASTM D1002 ASTM D1004 ASTM D1037 ASTM D1184 ASTM D1335 ASTM D1414 ASTM D143 ASTM D1621 ASTM D1623 ASTM D1708 ASTM D1761 ASTM D1781 ASTM D1876 ASTM D2256 ASTM D2261 ASTM D2295 ASTM D2344 ASTM D2519 ASTM D2844 ASTM D3039 ASTM D3043 ASTM D3163 ASTM D3167 ASTM D3410 ASTM D3518 ASTM D3574 ASTM D3822 ASTM D3846 ASTM D4018 ASTM D412 ASTM D413 ASTM D4255 ASTM D429	Universal Testing Machine





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F1, F2	Mechanical <sup>F</sup>	Solid Materials	Tensile, Compression, 3-Point Bend, 4-Point Bend, and Shear	ASTM D4833 ASTM D5034 ASTM D5035 ASTM D5045 ASTM D5083 ASTM D5379 ASTM D5528 ASTM D5587 ASTM D575 ASTM D5766 ASTM D5868 ASTM D5961 ASTM D6068 ASTM D624 ASTM D6319 ASTM D638 ASTM D6641 ASTM D6671 ASTM D695 ASTM D7137 ASTM D7269 ASTM D732 ASTM D7774 ASTM D790 ASTM D882 ASTM D885 ASTM D903 ASTM D905 ASTM E1820 ASTM E190 ASTM E290 ASTM E399 ASTM E8/E8M ASTM F1264 ASTM F1306 ASTM F1717 ASTM F2077 ASTM F2606 ASTM F382 ASTM F606 ASTM F88	Universal Testing Machine



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F1, F2	Metallurgical (Mechanical <sup>F</sup> & Chemical <sup>F</sup> )	Solids	Metallographic Phase Identification	ASTM E45 ASTM B795 ASTM A247 ASTM E1268 ASTM G209 ASTM B657 ASTM E2567 ASTM A892	Microscopy
F1, F2		Metals and Alloys	Sample Preparation	ASTM E407	Metallographic Sample Preparation
F1, F2			Grain Size	ASTM E112 ASTM E1382 ASTM E1181	Microscopy
F1, F2			Case Depth	ASTM B931 ASTM B934	Microscopy and Hardness Testing Unit
F1, F2		Rigid Solids	Microstructural Analysis	ASTM B748 ASTM E1508	Microscopy
F1, F2			Metallographic Sample Preparation	ASTM E3	Metallographic Sample Preparation
F1, F2	Thermodynamic <sup>F</sup>	Liquid and Solid Samples	Thermal Properties	ASTM E1356 ASTM E794	Differential Scanning Calorimetry
			Phase Transitions		
			Specific Heat Capacity		
			Heat of Fusion		
F1, F2			Mass Loss/Gain	ASTM E2402 ASTM E2250	Thermogravimetric Analysis
F1, F2		Solid Samples	Phase Transitions	ASTM E1640	Dynamic Mechanical Analysis
			Mechanical Properties		
F1, F2			Coefficient of Thermal Expansion	ASTM E831	Thermal Mechanical Analysis
F1, F2		Variable	Thermal Properties	ASTM E2716 ASTM E2602 ASTM E1952	Modulated Differential Scanning Calorimetry
			Phase Transitions		
			Specific Heat Capacity		
			Heat of Fusion		





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*Accreditation is granted to the facility to perform the following testing:*

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location.
2. Flex Code:
  - F1-Introduction of the testing of a new item, material, matrix, or product for an accredited test method
  - F2-Introduction of a new version of an accredited standard method (with no modifications)
  - F3-Introduction of a new parameter/component/analyte to an accredited test method
  - F4- Introduction of a new version or modifications of an accredited non-standard method
  - F5-Introduction of a new method that is equivalent to an accredited method (using same technology or technique)

