PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Netzsch Instruments North America, LLC
Applications Laboratory

129 Middlesex Turnpike, Burlington, MA 01803

(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):

Chemical, Mechanical and Thermodynamic Testing
(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

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

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
January 03, 2020	March 27, 2024	May 31, 2026

Accreditation No.:	*Certificate No.:*
74626	L24-238

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.pjlabs.com

Certificate of Accreditation: Supplement

Netzsch Instruments North America, LLC
Applications Laboratory
129 Middlesex Turnpike, Burlington, MA 01803
Contact Name: Mr. Brad Hammond Phone: 781-418-1803

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 [F]	Polymers	Oxidative-Induction Time of Polyolefins	ASTM D3895	Differential Scanning Calorimetry
F1, F2	Mechanical [F]	Polymers, Metals, Ceramics, Composites, Glass	Linear Thermal Expansion of Solid Materials	ASTM E228	Push-Rod Dilatometer
F1, F2			Linear Thermal Expansion of Solid Materials	ASTM E831	Thermomechanical Analysis
F1, F2		Polymers	Determination of Properties of Polymeric Materials	ASTM D3835	Capillary Rheometer
F1, F2		Polymers, Composites	Plastics: Dynamic Mechanical Properties: In Flexure (Three-Point Bending)	ASTM D5023	Dynamic Mechanical Analyzer
F1, F2		Non-Newtonian Materials	Rheological Properties of Non-Newtonian Materials	ASTM D2196	Rotational Rheometer
F1, F2	Thermodynamic [F]	Insulations	Steady-State Heat Flux Measurements and Thermal Transmission Properties	ASTM C177	Guarded-Hot-Plate Apparatus
F1, F2			Steady-State Thermal Transmission Properties	ASTM C518	Heat Flow Meter Apparatus
F1, F2		Polymers, Ceramics, Composites	Evaluating the Resistance to Thermal Transmission	ASTM E1530	Guarded Heat Flow Meter Technique
F1, F2		Polymers, Metals, Ceramics, Composites, Liquids, Glass	Thermal Diffusivity and Measurement of Specific Heat Capacity and Calculation of Thermal Conductivity	ASTM E1461	Flash Method
F1, F2			Determining Specific Heat Capacity	ASTM E1269	Differential Scanning Calorimetry
F1, F2			Enthalpies of Fusion and Crystallization	ASTM E793	Differential Scanning Calorimetry
F1, F2			Melting And Crystallization Temperatures	ASTM E794	Thermal Analysis
F1, F2			Compositional Analysis	ASTM E1131	Thermogravimetry
F1, F2		Liquids, Melts	Determining Vapor Pressure	ASTM E1782	Thermal Analysis
F1, F2		Polymers, Glass, Composites	Assignment of the Glass Transition Temperature	ASTM E1545	Thermomechanical Analysis

Certificate of Accreditation: Supplement

Netzsch Instruments North America, LLC
Applications Laboratory
129 Middlesex Turnpike, Burlington, MA 01803
Contact Name: Mr. Brad Hammond Phone: 781-418-1803

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)