



# PERRY JOHNSON LABORATORY ACCREDITATION, INC.

## Certificate of Accreditation

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

**Quest Engineering Solutions**  
10 Cook Street, Billerica, MA 01821

*(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 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

*Initial Accreditation Date:*

March 12, 2015

*Issue Date*

December 05, 2023

*Expiration Date:*

January 31, 2026

*Accreditation No.:*

83878

*Certificate No.:*

L23-889

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.pjllabs.com](http://www.pjllabs.com)*



# Certificate of Accreditation: Supplement

## Quest Engineering Solutions

10 Cook Street, Billerica, MA 01821

Contact name: Mr. Omar Qashat Phone: 978-667-7000

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

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Thermodynamic <sup>F</sup>	Medical, Military, Commercial and Consumer Products	Temperature and Humidity	MIL STD 167-1 MIL STD 202 MIL STD 810 MIL STD 883 ASTM F1980 ASTM D4332 ASTM E171 ASTM D4279 RTCA/DO-160 IEC 60068-2-14 IEC 60068-2-38 IEC 60601-1-11 SAE J1455	-100 °C to 200 °C Up to 100 % RH
Mechanical <sup>F</sup>		Vibration	MIL STD 202 MIL STD 810 MIL STD 883 MIL STD 167 ASTM D999 IEC 60068-2-55 IEC 60068-2-6 IEC 60068-2-29 IEC 60068-2-64 IEC 60601-1-11 IEC 60601-2-24 IEC 60721-3-4 SAE J1455	1 Hz to 10 000 Hz
			ISO 16750-3 ANSI C136.31 IEC/EN 61373 ISO 21649 IPC-TM-650 ISO 21649	1 Hz to 5 000 Hz
			MIL STD 167 MIL STD 202 MIL STD 810 MIL STD 883 RTCA/DO-160 IEC 60068-2-31 IEC 60068-2-55 IEC 60068-2-27 IEC 60601-1-11 IEC 60721-3-4 IEC 60601-2-24 SAE J1455	0.5 g to 50 000 g (peak) 0.5 ms to 1 s
		Mechanical Shock	ISO 21649	1 g to 3 000 g 0.1 ms to 1 s



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Mechanical <sup>F</sup>	Medical, Military, Commercial and Consumer Products	Salt Fog	MIL STD 202 MIL STD 810 MIL STD 883 ASTM B117 RTCA/DO-160 IEC 60068-2-11 ISO 9227	Up to 50 °C Up to 5 % solution
		Tensile, Yield, Peel	MIL STD 202 MIL STD 810 ASTM F88 ASTM D638 ASTM D638	0.2 kgf to 500 kgf Displacement Resolution: 0.05 inches
		AirFlow	MIL STD 202 MIL STD 810 ANS/AMCA 210 ANS/ASHRAE 51	5 cfm to 400 cfm
		Shipping Simulation	MIL STD 810 ASTM D7386 ASTM D4169 ASTM D5276 ASTM 999 ASTM D5487 ASTM D4728 ASTM D7386	Vibration: 1 Hz to 3 000 Hz Shock: 0.5 g to 50 000 g and 0.05 ms to 1 s
		Altitude and Pressure	MIL STD 810 ASTM D6653 RTCA/DO-160 IEC 60068-2-13 IEC 60068-2-39 IEC 60068-2-40 IEC 60601-1-11	Up to 60 psig
		Intrusion Protections (IPX)	IEC 60529	IPXYab X= IP 60529 categories 0 to 6 Y= IP 60529 categories 0 to 8 a= All additional letter categories included b= All supplemental letter categories included



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Mechanical <sup>F</sup>	Medical, Military, Commercial and Consumer Products	Medical Package Integrity Testing	ASTM F1440	Closed Package Testing			
			ASTM F88	0.2 kgf to 500 kgf			
			ASTM F1886	Qualitative Visual			
			ASTM F1929				
			ASTM F3039	Qualitative Visual			
			ASTM F2054	Closed Package Testing			
			ASTM F2096	Up to 1.5 psig			
			ASTM D3078	Up to 1.5 psig			
		Acoustic	MIL STD 202 MIL STD 810 MIL STD 1474D ISO 7779/ ISO3744 ANSI S12.11	1 Hz to 20 000 Hz 10 dB to 130 dB			
					Temperature and Humidity	ISO 21649 IPC-TM-650 ISO 21649	-80 °C to 300 °C Up to 100 % RH

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location.