



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Hammond Company
755 Larry Court, Waukesha, WI 53186

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

ISO/IEC 17025:2005

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 January 2009):

Calibration of Optical Comparators and Vision Systems
(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/Operations Manager

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

Initial Accreditation Date:

November 20, 2003

Issue Date:

January 11, 2018

Expiration Date:

January 31, 2020

Accreditation No.:

59250

Certificate No.:

L18-18

*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.pjilabs.com*



Certificate of Accreditation: Supplement

Hammond Company

755 Larry Court, Waukesha, WI 53186
 Contact Name: John Davenport Phone: 262-798-4243

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

Dimensional

| MEASURED INSTRUMENT, QUANTITY OR GAUGE | RANGE (AND SPECIFICATION WHERE APPROPRIATE) | CALIBRATION AND MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (\pm) | CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED |
|--|---|--|--|
| Optical Comparator – Linear Accuracy ^F | 0.01 in to 12 in | 370 μ in | Glass Reticle |
| | 12 in to 24 in | 440 μ in | |
| Optical Comparator- Squareness ^F | Horizontal Displacement at 3 in of Y travel | 51 μ in | Glass Grid |
| Optical Comparator – Magnification Accuracy ^F | 10 X | 0.061 % | |
| | 20 X | 0.043 % | |
| | 31.25 X | 0.039 % | |
| | 50 X | 0.034 % | |
| | 62.5 X | 0.022 % | |
| 100 X | 0.017 % | | |
| Vision System – Non-Linear Accuracy ^F | 6 in x 8 in | 95 μ in | |
| | 6 in x 10 in | 110 μ in | |
| | 6 in x 12 in | 120 μ in | |
| | 8 in x 8 in | 100 μ in | |
| | 12 in x 12 in | 120 μ in | |
| | 18 in x 18 in | 180 μ in | |
| | 18 in x 20 in | 190 μ in | |
| | 18 in x 24 in | 220 μ in | |
| Vision System - Z axis ^F | 1 in to 4 in | 71 μ in | Z Step Gage |

1. The CMC (Calibration and Measurement Capability) stated for calibrations included on this scope of accreditation represents the smallest measurement uncertainty attainable by the laboratory when performing a more or less routine calibration of a nearly ideal device under nearly ideal conditions. It is typically expressed at a confidence level of 95 % using a coverage factor k (usually equal to 2). The actual measurement uncertainty associated with a specific calibration performed by the laboratory will typically be larger than the CMC for the same calibration since capability and performance of the device being calibrated and the conditions related to the calibration may reasonably be expected to deviate from ideal to some degree.
2. The laboratories range of calibration capability for all disciplines for which they are accredited is the interval from the smallest calibrated standard to the largest calibrated standard used in performing the calibration. The low end of this range must be an attainable value for which the laboratory has or has access to the standard referenced. Verification of an indicated value of zero in the absence of a standard is common practice in the procedure for many calibrations but by its definition it does not constitute calibration of zero capacity.
3. The presence of a superscript F means that the laboratory performs calibration of the indicated parameter at its fixed location. Example: Outside Micrometer ^F would mean that the laboratory performs this calibration at its fixed location.