

## PERRY JOHNSON LABORATORY ACCREDITATION, INC.

# Certificate of Accreditation

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

## America Amaranta Siller Compian / Mediciones y Proyectos **Industriales MEPI**

Nueva 264, Col. El Mirador Ramos Arizpe, Coahuila, México. C.P. 25902

(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):

### Dimensional, Mechanical, Mass, Force and Weighing Devices, Optical, Time and Frequency and Electrical (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: June 13, 2022

June 13, 2022

Issue Date:

Expiration Date: September 30, 2024

Accreditation No.: 115763

Certificate No.: L22-432

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



## America Amaranta Siller Compian / Mediciones y Proyectos Industriales MEPI

Nueva 264, Col. El Mirador Ramos Arizpe, Coahuila, México. C.P. 25902 Contact Name: America Amaranta Siller Compian Phone: 844-310-7360

| Dimensional   |   |   |  |
|---|---|---|--|
| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE                               | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY (±) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED      |
| Outside Micrometer <sup>FO</sup>  | 0.5 mm to 300 mm                                  | $(5.79 \text{ x } 10^{-1} + 4 \text{ x } 10^{-5} \text{L}) \mu\text{m}$         | Gage Blocks Grade 0<br>JIS B 7502                                |
| Calipers <sup>FO</sup>  | 0.5 mm to 300 mm                                  | (5.78 + 5 x 10 <sup>-6</sup> L) μm  | Gage Blocks Grade 0<br>JIS B 7507                                |
| Height Gage <sup>FO</sup>   | 0.5 mm to 300 mm                                  | (5.79 x 10 <sup>-1</sup> + 4 x 10 <sup>-5</sup> L) μm                           | Gage Blocks Grade 0<br>JIS B 7517                                |
| Dial Test Indicator <sup>FO</sup>                                       | 0.001 mm to 1 mm                                  | 0.58 μ m  | Gage Blocks Grade 0<br>JIS B 7533                                |
| Indicator <sup>FO</sup>   | 0.5 mm to 300 mm                                  | (5.79 x 10 <sup>-1</sup> + 4 x 10 <sup>-5</sup> L) μm                           | Gage Blocks Grade 0<br>Granite Plate<br>JIS B 7503<br>JIS B 7533 |
| Depth Gage <sup>FO</sup>  | 0.5 mm to 300 mm                                  | $(5.79 \text{ x } 10^{-1} + 4 \text{ x } 10^{-5}\text{L}) \ \mu\text{m}$        | Gage Blocks Grade 0<br>JIS B 7518                                |
| Thickness Gage <sup>FO</sup>  | 0.5 mm to 300 mm                                  | (5.79 x 10 <sup>-1</sup> + 4 x 10 <sup>-5</sup> L) μm                           | Gage Blocks Grade 0<br>JIS B 7503<br>JIS B 7533                  |
| Optical Comparator<br>X Axis Linearity<br>Y Axis Linearity <sup>0</sup> | Up to 200 mm<br>Up to 200 mm                      | $(1.4 + 5 \times 10^{-3}L) \mu m$<br>$(1.4 + 5 \times 10^{-3}L) \mu m$          | Glass Rule<br>JIS B 7184   |
| Optical Comparator<br>Angularity <sup>0</sup>                           | 0° to 90 °  | 0.003 5°  | Angle Blocks Set<br>JIS B 7184                                   |
| Microscopes<br>X Axis Linearity<br>Y Axis Linearity <sup>FO</sup>       | Up to 200 mm<br>Up to 200 mm                      | $(1.4 + 5 \times 10^{-3}L) \mu m$<br>$(1.4 + 5 \times 10^{-3}L) \mu m$          | Glass Rule<br>JIS B 7153   |
| Rule <sup>FO</sup>  | 0.01 m to 2 m                                     | $(290.67 + 7.94 \text{ x } 10^{-4} \text{L}) \mu\text{m}$                       | Master Rule<br>JIS B 7516  |
| Measuring Tape <sup>FO</sup>  | 0.01 m to 50 m                                    | (578.34 + 1.68 x 10 <sup>-3</sup> L) μm   | Master Rule<br>JIS B 7512  |
| Pi Tape <sup>FO</sup>   | Up to 200 in                                      | $(1.46 \text{ x } 10^{-3} + 6 \text{ x } 10^{-6}\text{L})$ in                   | Master Rule<br>NIST SOP 23                                       |
| Protractor Angle Meter <sup>FO</sup>                                    | 0° to 90°   | 0.003 5°  | Angle Block Set<br>CEM DI-003                                    |
| Feeler Gage <sup>FO</sup>   | 0.01 mm to 3 mm                                   | 0.94 µm   | Micrometer<br>JIS B 7524   |
| Pin Gage and<br>Plain Plug Gage <sup>FO</sup>                           | 0.2 mm to 25 mm                                   | 0.94 μm   | Micrometer<br>ASME B 89 1.5                                      |
| Coating Thickness Gage <sup>FO</sup>                                    | 23 µm to 1 009 µm                                 | 0.21 μm   | Coating Thickness Standard<br>Manufacturer's Manual              |



## America Amaranta Siller Compian / Mediciones y Proyectos Industriales MEPI

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

#### Mechanical

| 11100IIIII0uI               |                  |                       |                        |
|-----------------------------|------------------|-----------------------|------------------------|
| MEASURED INSTRUMENT,        | RANGE OR NOMINAL | CALIBRATION AND       | CALIBRATION            |
| QUANTITY OR GAUGE           | DEVICE SIZE AS   | MEASUREMENT           | EQUIPMENT              |
|                             | APPROPRIATE      | CAPABILITY EXPRESSED  | AND REFERENCE          |
|                             |                  | AS AN UNCERTAINTY (±) | STANDARDS USED         |
| Pressure Gage <sup>FO</sup> | 3 psi to 300 psi | 0.3 psi               | Ashcroft Pressure Gage |
|                             |                  |                       | OIML R 101             |

#### Mass, Force and Weighing Devices

| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE  | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE   | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY (±)  | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED      |
|--|---|--|--|
| Dynamometers <sup>FO</sup><br>Force Measurement<br>instrument Tensile and<br>Compression <sup>FO</sup> | 0.05 kg to 300 kg<br>0.05 kg to 300 kg  | $(5.59 \text{ x } 10^{-3} + 7 \text{ x } 10^{-6}\text{Wt}) \text{ kg}$ $(5.59 \text{ x } 10^{-3} + 7 \text{ x } 10^{-6}\text{Wt}) \text{ kg}$  | Weight set F1, Weight<br>parallelepiped M1<br>NMX-CH-7500-1-IMNC |
| Balances <sup>O</sup>  | 1 g to 220 g<br>(Res.= 0.001 g)<br>1 g to 1 000 g<br>(Res.= 0.01 g)<br>1 g to 5 000 g<br>(Res.= 0.05 g)         | $(8.12 \times 10^{-4} + 6 \times 10^{-6} \text{Wt}) \text{ g}$ $(7.81 \times 10^{-3} + 4 \times 10^{-6} \text{Wt}) \text{ g}$ $(3.9 \times 10^{-2} + 4 \times 10^{-6} \text{Wt}) \text{ g}$    | Weight Set F1<br>Euramet cg-18                                   |
| Scales <sup>0</sup>  | 0.01 kg to 10 kg<br>(Res.= 0.002 kg)<br>0.5 kg to 50 kg<br>(Res.= 0.01 kg)<br>1 kg to 100 kg<br>(Res.= 0.02 kg) | $(1.63 \times 10^{-3} + 3 \times 10^{-6} \text{Wt}) \text{ kg}$ $(8.15 \times 10^{-3} + 3 \times 10^{-6} \text{Wt}) \text{ kg}$ $(1.6 \times 10^{-2} + 3 \times 10^{-6} \text{Wt}) \text{ kg}$ | Weight Set F1<br>Weight Parallelepiped M1<br>Euramet Cg-18       |
|  | 100 kg to 300 kg<br>(Res.= 0.05 kg)   | $(4.07 \text{ x } 10^{-2} + 3 \text{ x } 10^{-6} \text{Wt}) \text{ kg}$  | Weight Parallelepiped M1<br>Euramet cg-18                        |

#### Time and Frequency

| MEASURED INSTRUMENT,          | RANGE OR NOMINAL    | CALIBRATION AND       | CALIBRATION           |
|-------------------------------|---------------------|-----------------------|-----------------------|
| QUANTITY OR GAUGE             | DEVICE SIZE AS      | MEASUREMENT           | EQUIPMENT             |
|                               | APPROPRIATE         | CAPABILITY EXPRESSED  | AND REFERENCE         |
|                               |                     | AS AN UNCERTAINTY (±) | STANDARDS USED        |
| Timer Stopwatch <sup>FO</sup> | Up to 86 400 s      | 3.5 s/day             | Stopwatch Master      |
|                               |                     |                       | NIST SP 960-12        |
| Equipment to Output           | 2 rpm to 99 900 rpm | 0.058 rpm             | Photo- Tachometer     |
| Angular Velocity Sources,     |                     |                       | CENAM Technical Guide |
| Stroboscope, Vortex           |                     |                       |                       |
| Mixers, Centrifuges,          |                     |                       |                       |
| Rotarex <sup>FO</sup>         |                     |                       |                       |



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

#### Optical

|                        | DANCE OD NOMINAL       |                       |                       |
|------------------------|------------------------|-----------------------|-----------------------|
| MEASURED INSTRUMENT,   | RANGE OR NOMINAL       | CALIBRATION AND       | CALIBRATION           |
| QUANTITY OR GAUGE      | DEVICE SIZE AS         | MEASUREMENT           | EQUIPMENT             |
|                        | APPROPRIATE            | CAPABILITY EXPRESSED  | AND REFERENCE         |
|                        |                        | AS AN UNCERTAINTY (±) | STANDARDS USED        |
| Luxmeter <sup>FO</sup> | 20 lux to 1 800 lux    | 1.5 % of reading      | Luxmeter Master       |
|                        | 1 800 lux to 3 500 lux | 2.3 % of reading      | CENAM Technical Guide |

#### Electrical

| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE  | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY (±) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED                   |
|--|---|---|---|
| Wrist Strap Tester <sup>F</sup>  | 675 kΩ to 11.5 MΩ                                 | 0.68 kΩ   | Calibration Unit<br>Desco 07010<br>Manufacturer's Manual                      |
| Footwear Tester <sup>F</sup>   | 675 kΩ to 120 MΩ                                  | 0.68 kΩ   | Calibration Unit<br>Desco 07010<br>Manufacturer's Manual                      |
| Equipment to Output  | -10 mV to 75 mV                                   | 0.055 % of reading  | Fluke 724   |
| DC Voltage <sup>FO</sup>   | 75 mV to 100 mV                                   | 0.047 % of reading  | Euramet cg-15   |
|  | 0.1 V to 20 V                                     | 0.035 % of reading  |   |
|  | 20 V to 30 V                                      | 0.031 % of reading  |   |
| Equipment to Output<br>DC Current <sup>FO</sup>  | 0.1 mA to 24 mA                                   | 0.033 % of reading  | Fluke 724<br>Euramet cg-15  |
| Equipment to Output  | Up to 400 Ω                                       | 0.033 % of reading  | Fluke 724   |
| Resistance <sup>FO</sup>   | 401 to 1 500 Ω                                    | 0.039 % of reading  | CEM EL-010  |
|  | 1 500 Ω to 3 200 Ω                                | 0.041 % of reading  |   |
| Equipment to Measure   | -10 mV to 75 mV                                   | 0.055 % of reading  |   |
| DC Voltage <sup>FO</sup>   | 75 mV to 100 mV                                   | 0.047 % of reading  |   |
|  | 0.1 V to 10 V                                     | 0.047 % of reading  |   |
| Equipment to Measure<br>Resistance <sup>FO</sup>   | 15 $\Omega$ to 400 $\Omega$                       | 0.046 % of reading  |   |
|  | 401 Ω to 1 500 Ω                                  | 0.039 % of reading  |   |
|  | 1 500 Ω to 3 200 Ω                                | 0.041 % of reading  |   |
| Temperature Calibration,<br>Indication and Control<br>Equipment Used with<br>Thermocouple Type B <sup>FO</sup> | 600 °C to 1 800 °C                                | 1.6 ℃   | Fluke 724<br>Electrical Simulation of<br>Thermocouple Output<br>Euramet cg-11 |



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| Electrical                                |   |   |   |
|---|---|---|---|
| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY (±) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED |
| Temperature Calibration,                  | - 200 °C to 950 °C                                | 0.71 °C   | Fluke 724   |
| Indication and Control                    |   |   | Electrical Simulation of                                    |
| Equipment used with                       |   |   | Thermocouple Output   |
| Thermocouple Type E <sup>FO</sup>         |   |   | Euramet cg-11   |
| Temperature Calibration,                  | - 200 °C to 1 200 °C                              | 0.71 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type J <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 200 °C to 1 370 °C                              | 0.81 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type K <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 200 °C to 900 °C                                | 0.71 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type L <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 200 °C to 1 300 °C                              | 0.91 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type N <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 20 °C to 1 750 °C                               | 1.6 ℃   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type R <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 20 °C to 1 750 °C                               | 1.7 °C  |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type S <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 200 °C to 400 °C                                | 0.81 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type T <sup>FO</sup>         |   |   |   |
| Temperature Calibration,                  | - 20 °C to 1 300 °C                               | 0.76 °C   |   |
| Indication and Control                    |   |   |   |
| Equipment used with                       |   |   |   |
| Thermocouple Type U <sup>FO</sup>         |   |   |   |



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| Electrical   |   |   |  |
|--|---|---|--|
| MEASURED INSTRUMENT,<br>QUANTITY OR GAUGE  | RANGE OR NOMINAL<br>DEVICE SIZE AS<br>APPROPRIATE | CALIBRATION AND<br>MEASUREMENT<br>CAPABILITY EXPRESSED<br>AS AN UNCERTAINTY (±) | CALIBRATION<br>EQUIPMENT<br>AND REFERENCE<br>STANDARDS USED          |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Pt 385, $100 \Omega^{FO}$   | - 200 °C to 800 °C                                | 0.34 °C   | Fluke 724<br>Electrical Simulation of<br>RTD Output<br>Euramet cg-11 |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Pt 385, 200 $\Omega^{FO}$   | - 200 °C to 630 °C                                | 0.21 °C   |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Pt 385, 500 $\Omega^{FO}$   | - 200 °C to 630 °C                                | 0.31 °C   |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Pt 385, 1 000 $\Omega^{FO}$ | - 200 °C to 630 °C                                | 0.21 °C   |  |
| Temperature Calibration,<br>Indication and Control<br>Equipment used with RTD<br>Ni 672, 120 $\Omega^{FO}$   | -80 °C to 260 °C                                  | -0.21 °C  | >  |

- 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<sup>F</sup> would mean that the laboratory performs this calibration at its fixed location.



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- 4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations. Example: Outside Micrometer<sup>O</sup> would mean that the laboratory performs this calibration onsite at the customer's location.
- 5. The presence of a superscript FO means that the laboratory performs calibration of the indicated parameter both at its fixed location and onsite at customer locations. Example: Outside Micrometer<sup>FO</sup> would mean that the laboratory performs this calibration at its fixed location and onsite at customer locations.
- 6. Measurement uncertainties obtained for calibrations performed at customer sites can be expected to be larger than the measurement uncertainties obtained at the laboratories fixed location for similar calibrations. This is due to the effects of transportation of the standards and equipment and upon environmental conditions at the customer site which are typically not controlled as closely as at the laboratories fixed location.
- 7. The term L represents length in inches or millimeters as appropriate to the uncertainty statement.
- 8. The term Wt represents weight in pounds or grams (including SI multiple and submultiple units) appropriate to the uncertainty statement.