PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

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

Tecnofísica Radiológica S.C.

Reforma No. 2220 Ote., Col. Modelo
Monterrey, Nuevo León, México. C.P. 64580

(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):

Ionizing Radiation and Radioactivity Calibration
(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:*
October 17, 2019	February 09, 2024	February 09, 2026

Accreditation No.:	*Certificate No.:*
99046	L24-116

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

Tecnofísica Radiológica S.C.
Reforma No. 2220 Ote., Col. Modelo
Monterrey, Nuevo León, México. C.P. 64580
Contact Name: Brenda Viridiana Delgado Santos Phone: 811-052-0900

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

Ionizing Radiation and Radioactivity

MEASURED INSTRUMENT, QUANTITY OR GAUGE	RANGE (AND SPECIFICATION WHERE APPROPRIATE)	CALIBRATION OR MEASUREMENT CAPABILITY EXPRESSED AS AN UNCERTAINTY (±)	CALIBRATION EQUIPMENT AND REFERENCE STANDARDS USED	CALIBRATION MEASUREMENT METHOD OR PROCEDURES USED
Gamma Ionizing Radiation Exposure Rate or Dose Equivalent Rate				
Personal Alarm[F]	35 µR/h to 2 R/h 0.35 µSv/h to 0.02 Sv/h	1.7 % of reading	Radiation Sources: Cs-137 Chronometer Distance Meter Pressurized Ion Chamber	ISO 4037-1 ISO 4037-2
Geiger Müller[F]	35 µR/h to 2 R/h 0.35 µSv/h to 0.02 Sv/h	8.2 % of reading	Pulse Generator Radiation Sources: Cs-137 Multimeter Distance Meter Pressurized Ion Chamber	ISO 4037-1 ISO 4037-2
Scintillator[FO]	20 µR/h to 3 R/h 0.2 Sv/h to 0.03 Sv/h	8.2 % of reading	Pulse Generator Radiation Sources: Cs-137 Ruler Scaler-Ratemeter Multimeter Portable Survey Meters Gamma Detector Probe Pressurized Ion Chamber	ISO 4037-1 ISO 4037-2
Ion Chambers[F]	35 µR/h to 2 R/h 0.35 µSv/h to 0.02 Sv/h	8.2 % of reading	Pulse Generator Radiation Sources: Cs-137 Distancemeter Pressurized Ion Chamber	ISO 4037-1 ISO 4037-2
Area Monitor[FO]	35 µR/h to 2 R/h 0.35 µSv/h to 0.02 Sv/h	8.9 % of reading		
Gamma Ionizing Radiation Exposure rate or Dose Equivalent Rate				
Neutron Detector[F]	2 mRem/h to 8 Rem/h 0.02 mSv/h to 8 Sv/h	11 % of reading	Pulse Generator Radiation Sources: Cs-137 Am-241/Be Scaler-Ratemeter Distance Meter Neutron Detector	IAEA Safety Reports Series No 16

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Gamma Ionizing Radiation Exposure rate or Dose Equivalent Rate				
Pocket Dosimeter[F]	35 µR to 2 R 0.35 µSv to 0.02 Sv	3.1 % of reading	Radiation Sources: Cs-137 Chronometer Distance Meter Pressurized Ion Chamber	ISO 4037-1 ISO 4037-2 ISO 4037-3
Radioactivity				
Dose Calibrator[FO]	Cs-137 25 µCi to 250 µCi Co-57 25 µCi to 250 µCi Ba-133 25 µCi to 5 mCi	4.7 % of reading	Isotope Identifier Cs-137 Co-57 Ba-133	IAEA-TECDOC-602/S

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.
4. The presence of a superscript O means that the laboratory performs calibration of the indicated parameter onsite at customer locations.
5. 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.