



SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

QUALITY STANDARD & LABORATORY
QLSTANDARD, S.C.
Florescia No. 37, Int. 704
Col. Juárez, Del. Cuauhtémoc
Ciudad de México, C.P. 06600, MÉXICO
José Enrique Zavala López 52 01 55 52076164

PROFICIENCY TESTING PROVIDER

Valid To: September 30, 2020

Certificate Number: 4077.01

In recognition of the successful completion of the A2LA evaluation process, this Proficiency Testing Provider has been found to meet the ISO/IEC 17043:2010, "Conformity assessment - General Requirements for Proficiency Testing". Accreditation is granted to this organization to provide proficiency testing samples in the following analyte/matrix combinations¹:

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
Electric / energy efficiency	<u>Protection against access to live parts</u> Subsection 8 of the standard: NMX-J-521/1-ANCE-2012; Subsection 8 of the standard: IEC 60335-1 Edition 5; Subsection 9.1 of the standard: NMX-J-524/1-ANCE-2013; Subsection 9 of the standard: IEC 60745-1 Edition 4; Subsection 6.3.2 of the standard: NOM-022-ENER/SCFI-2014; Subsection 8 of the standard: NTC 2252; Subsection 8 of the standard NTC 2183; Standard NTE INEN-IEC 60335-1; Subsection 10.1 of the standard: NTC 1337:2004; Subsection 10.102 of the standard: UNE EN 60669-2-1:2005; Subsection 10.103 of the standard: UNE EN 60669-2-1:2005; Subsection 10.1; 10.5 and 10.6 of the standard: NTC 1650:2004; NMX-J-515-ANCE-2014; NTC 2386 Subsection 8	Voltage and current	Electronic device

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
Electric / energy efficiency / metal mechanics	<u>Determination of diameter and cross sectional area of the electrical conductors</u> Subsection 15 of the standard: NOM-001-SCFI-1993; Subsection 25.8 of the standard: NMX-J-521/1-ANCE-2012; Subsection 25.8 of the standard: IEC 60335-1 Edition 5; Subsection 24.5 of the standard: NMX-J-524/1-ANCE-2013; Subsection 24.5 of the standard: IEC 60745-1, Edition 4; Subsection 4, addendum A, B and C of the standard: NMX-J-066-ANCE-2007; Subsection 8.4.2 of the standard: NOM-010-SEHS-2012; Subsection 7 of the standard: NTC 5891; IEC 62552:2007; ASTM B263	Diameter and Area	Conducting wire
Chemistry	<u>Determination of polychlorinated biphenyls in insulating liquids by Gas Chromatography (BPCs)</u> Subsection 6.17 of the standard: NMX-J-123-ANCE-2008; ASTM D 4059-00 (2010); US EPA 8082A (2007); IEC CEI/IEC 61619:1997	Mass BPCs content in mg/kg (ppm)	Mineral oil transformers
Electric / energy efficiency	<u>Leakage current and resistance of the dielectric</u> Subsection 13 of the standard: NMX-J-521/1-ANCE-2012; Subsection 13 of the standard: IEC 60335-1 Edition 5; Subsection 6.3.6.6 of the standard: NOM-022-ENER/SCFI-2014; Subsection 16 of the standard: NMX-J-521/1-ANCE-2012; Subsection 16 of the standard: IEC 60335-1 Edition 5; Subsections 13 and 15 of the standard: NMX-J-524/1-ANCE-2013; Subsections 13 and 15 of the standard: IEC 60745-1 Edition 4; Subsection 6.3.8.2 of the standard: NOM-022-ENER/SCFI-2014; Subsections 13 and 16 of the standard: NTC 2252;	Voltage and current	Electronic device

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	Subsections 13 and 16 of the standard: NTC 2183; NTE INEN-IEC 60335-1; Subsections 13 and 16 of the standard: NTC 2386		
Electric	<u>Input Power and Current</u> Subsection 10 of the standard: NMX-J-521/1-ANCE-2012; Subsection 10 of the standard: IEC 60335-1; Edition 5; Subsection 6.3.4 of the standard: NOM-022-ENER/SCFI-2014; NTC 2183; NTE INEN-IEC 60335-1	Power and electric current	Toaster
Electric / energy efficiency	<u>Heating</u> Subsection 11 of the standard: NMX-J-521/1-ANCE-2012; Subsection 11 of the standard: IEC 60335-1 Edition 5; Subsection 6.3.5 of the standard: NOM-022-ENER/SCFI-2014; Subsection 11 of the standard NTC 2252; Subsection 11 of the standard NTC 2183; NTE INEN-IEC 60335-1	Temperature	Toaster
Electric	<u>Overload protection of transformers and associated circuits</u> Subsection 17 of the standard: NMX-J-521/1-ANCE-2012; Subsection 17 of the standard: IEC 60335-1 Edition 5; Subsection 16 of the standard: NMX-J-524/1-ANCE-2013	Temperature	Adapter C.A. / C.C.
Electric / energy efficiency	<u>Energy efficiency and freezers and test temperature abatement (pull down)</u> Subsection 9 of the standard: NOM-015-ENER-2012; Subsection 5 of the standard: AHAM STANDARD HRF-1-2008; Subsection 15 of the standard: ISO 15502 (E) Edition 1; Subsection 9 the Ecuadorian Technical Regulation: RTE INEN 009 (1R); Subsections 6.1 and 6.2 of the standard: NOM-022-ENER/SCFI-2014;	Power	Refrigerator

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	IEC 62552-1-2 & 3:2015		
Electric / energy efficiency	<u>Energy efficiency of household electric washing machines</u> Subsection 9 of the standard: NOM-005-ENER-2012 (NMX-J-585-ANCE-2014; INEN-2259-2013); UNE EN 60456:2014; IEC 60456:2010; NMX-J-528-ANCE-2011; NTE INEN 2659:2016; PRTE INEN 077	Power	Household electric washing machine
Electric / energy efficiency	<u>Dielectric rigidity (insulation requirements)</u> Subsection 6.3.8.3 of the standard: NOM-022-ENER/SCFI-2014; Subsection 6.3 of the standard: NMX-J-515-ANCE-2014; Subsection 11.2 (b) of the standard: NOM-001-SCFI-1993; Subsection 5.5 of the standard: NOM-016-SCFI-1993; Subsection 17 of the standard: NOM-019-SCFI-1998; Subsection 8.4.7 of the standard: NOM-010-SEHS-2012; ASTM- 120-14A; ASTM D-1049:98; ASTM D1050-05; ASTM D104814; ASTM-F4962014; NTC-2830; ASTM-F2321-14; ANSI/SAIA-A92.2; ASTM-F479-06; IEEE 978-1984; Subsection 6.2 of the standard: NTC 5786:2010; UL2556:2015	Voltage	Electronic device
Electric / energy efficiency / metal mechanics	<u>Insulation resistance</u> Subsection 11.2(a) of the standard: NOM-001-SCFI-1993; Subsection 5.6 of the standard: NOM-016-SCFI-1993; Subsection 8.4.8 of the standard: NOM-010-SEHS-2012; IEC 60065; ANSI/UL 60065;	Insulation resistance	Electronic device



<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	Seventh Edition; UL 6500; ANSI/UL 60065; CAN/CSA-C22.2 No. 60065-2003 Amendment 1:2006		
Chemistry	<u>Measurement procedures in dielectric oils</u> Determination of power factor and dielectric constant Subsection 6.18 of the standard: NMX-J-123-ANCE-2008; COVENIN 1182; ASTM D924 Determining the dielectric breakdown voltage of the oil procedure A, through flat electrodes Subsection 6.19 of the standard: NMX-J-123-ANCE-2008; ASTM D877 (ASTM D877 M-13); COVENIN 1403 Determination of water content Paragraph 6.13 of the standard: NMX-J-123-ANCE-2008; ASTM D1533-12 Standard test method for analyzing gases dissolved in electrical insulating oils by gas chromatography determination of total gas (TOGAS) ASTM D 3612-02; NMX-J-308-ANCE: 2004	Power factor Dielectric constant Dielectric strength Water content Total dissolved gases	Mineral oil transformers
Metal Mechanics	<u>Safety tests for tires</u> Dimensions of the tire (minimum factor measurement) Subsection 7.1 of the standard: NOM-086-SCFI-2010; Subsection 7.1 of the standard: NOM-086/1-SCFI-2011; Subsection 3.1 of the standard: INE 2097:2012; Subsection 6.1 of the standard: NTC 1275-1; FMVSS 139 S 6.1;	Length, speed (km/h), force	Automobile tire

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	<p>Subsection 3.1 of Colombian Technical Standard: INE 2098:98</p> <p>Behavior of the tire at the speed</p> <p>Subsection 7.2 of the standard: NOM-086-SCFI-2010; Subsection 7.5, 7.5.1 and 7.5.2 of the standard: NOM-086/1-SCFI-2011; Subsection 6.4 of the standard: NTC 1275-1; FMVSS 139 S 6.4</p> <p>Behavior of the tire to the load and the low inflation pressure</p> <p>Subsection 7.3 of the standard: NOM-086-SCFI-2010;</p> <p>Behavior of the tire to the load</p> <p>Subsections 7.4, 7.4.1 and 7.4.2 of the standard: NOM-086/1-SCFI-2011</p> <p>Resistance to penetration</p> <p>NTC 1275-2 subsection 5.3; FMVSS 109 S5.3; NTC 1303 subsection 7.3; FMVSS 119 S7.3</p> <p>Strength of edge to the dismantling of the wheel tubeless</p> <p>NTC 1275-2 subsection 5.2; FMVSS 109 S 5.2</p>		
Metal Mechanics (Continued)	<p>Resistance to removal of the wheel rim and temporary refraction radial tubeless diagonal for cars; Rim resistance to penetration</p> <p>Subsections 7.4 and 7.5 of the standard: NOM-086-SCFI-2010; Subsections 7.2 and 7.3 of the standard: NOM-086/1-SCFI-2011; Subsection 3.2 of the standard: INE 2097:2012; FMVSS 129 S 6.6 and 5.2; FMVSS 119 Subsection 7.3; Subsection 3.3 of the standard: INE 2097:2012;</p>	Length, speed (km/h), force	Automobile tire

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	<p>Subsection 3.2 of the standard: INE 2098; Subsections 6.5.1 of the standard: FMVSS 139; Subsection 5.3 of the standard: FMVSS 109; FMVSS 139; FMVSS 119; NTC 1275-2</p>		
Electric	<p><u>Safety procedures for transformers</u></p> <p>Measuring winding resistance</p> <p>Colombian Technical Standard NTC 375 (approved 2000-05-17); Subsection 5 of the standard: IEEE Std C57.12.90-2015; Subsection 11.2 of the standard: IEC 60076-1-2011; NTC 375; Subsection 4 of the standard: NMX-J-169-ANCE-2004</p> <p>Transformation relation</p> <p>Colombian Technical Standard NTC 471 (approved 1999-08-25); Subsection 7 of the standard: IEEE Std. C57.12.90-2015; Subsection 11.3 of the standard: IEC 60076-1-2011; Subsection 6 of the standard: NMX-J-169-ANCE-2004</p> <p>Load losses and excitation current</p> <p>Voltmeter method, mean value and RMS Ammeter, Colombian Technical Standard NTC 1031 (first update); Subsection 8 of the standard: IEEE Std. C57.12.90-2015; Subsection 11.5 of the standard: IEC 60076-1-2011; Subsection 7 of the standard: NMX-J-169-ANCE-2004</p> <p>Impedance measurement and short circuit losses due to the load (short circuit method) Colombian Technical Standard: NTC 1031 (first update);</p>	Voltage, current, power (energy consumption) resistance	Transformer

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	Subsection 9 of the standard: IEEE Std C57.12.90-2015; Subsection 11.4 of the standard: IEC 60076-1-2011; Subsection 7 of the standard: NMX-J-169-ANCE-2004		
Flow	<u>Test meter DN15 cold drinking water by the method of collection</u> ISO 4064:2016; Subsections 5.1 to 5.7 and 11.3 of Colombian Technical Standard NTC 1063-3:2007; NTC-ISO 4064:2016; NOM-012-SCFI-1994; NMX-CH-001/3-1993-SCFI	Water volume (flow)	Test meter
Electric	<u>Measurement procedures for power meters</u> Calibration by the pulse comparison method Subsection 4.4.2.2 of the standard: NTC 4856:2015 Energy verification method (constant verification test by the energy metering method) Subsection 4.4.3.2 of the standard: NTC 4856:2015	Voltage and current (electric energy)	Test meter
Electric	<u>Determination of the electrical resistance to DC,</u> Subsection 6.1 of the standard: NMX-J-212-ANCE-2007	Electric resistance	Conducting wire
Pressure	<u>Calibration of pressure gauges (0.00 psi to 1,000 psi and 0.00 psi to 10,000 psi)</u> DKD-R 6-1/2003; DKD-R 6-1/ 2011; DKD-R 6-1/2014; NTC 2263; COVENIN 2333-93; ME-003	Pressure	Pressure gauge

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
Electric-electronics	<u>Determination of cross-sectional area of electrical conductors in function of its mass</u> NMX-J-129-ANCE-2007; NTC 3203:2006; UL 1581:2014; Subsection 3.1, 3.2 and 3.3 of the standard: UL 2556:2015; NTE INEN 2 345:2004; No. 013-2016-Produced; Subsection 3.2 of the standard: NTC 5786:2010	Diameter and Area	Conducting wire
Electric-electronics / energy efficiency	<u>Determination of energy efficiency, electrical characteristics power factor of a lamp</u> IES NA LM-79:2008; IES NA LM-66:2014; IES LM-9:2009; IES LM-51:2013; IES LM-45:2009; IES LM-79:2008; Subsection 6.3.7 of the standard: NMX-J-198-ANCE-2005; Subsection 6.1.1, 6.12 and 7.1.1, 7.1.2 of the standard: ANSI C 82.2.2002; Subsection 9 of the standard: NMX-J-530-ANCE-2008; NOM-028-ENER-2010, Appendix A, C; Subsection 8.2 of the standard: NOM-017-ENER-SCFI-2012; NOM-031-ENER-2012; NOM-064-SCFI-2000; Subsection 9 of the standard: NTC 5109:2002; Subsection 8 of the standard: NTC 4359:1997; Subsections 3.2.4 and 5.3.2 of the standard: NTC 189:2009; NTC 5112:2002 Annex B5; Subsection 6.10.2 of the standard: NMX-J-230-ANCE-2011; Subsection 6.3.7 of the standard: NMX-J-198-ANCE-2015; ANSI-ANSLG C82.11 2011, Annex C7.0;	Current, electrical power, power factor, energy consumption (energy efficiency)	Lamp (lighting)



<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
	Subsection 6.1 of the standard: ANSI C82.6:2005; ANSI C82.6 2005		
Electric-electronics	<u>Measurement procedures in batteries, nominal voltage measurement</u> Subsections 5.3, 5.5, 5.6, 5.7, 6.1, and 6.5 of the standard: NTC 1152:2008, Part 1; NOM-212-SCFI-2016; NMX-J-160/1-ANCE-2013	Voltage	Battery
Electric	<u>Fuse capacity to interrupt the electrical energy under conditions without load, normal load and overload (tests of time and current fusion)</u> Appendix C subsection C.5 of the standard: NMX-J-515-ANCE-2014; Subsections 5.1, 10, 11, 12, and 14 of the standard: NTC 2132/2006; Numerals 4, 9, 10, and 11 of the standard IEEE C37.41-2008; IEC 60269 Part 1; UL 248; CSA-22.2	Current and time	Fuse
Electric-electronics	<u>Temperature rise test</u> Subsection 17 of the standard: NTC 1337:2004; Subsection 17 of standard: IEC 60669-1; Subsection 19 of the standard: NTC 1650:2004; Subsection 19 of the standard: IEC 60884-1; Subsection 9.8 of the standard: NTC 2116:1998; Subsection 9.8 of the standard: IEC 60898-1:2003; Subsection 6.5 and 8.5 of the regulation: NOM-064-SCFI-2000; Subsection C.2 Appendix C of the standard: NMX-J-515-ANCE-2014	Temperature	Electronic device

<u>Discipline</u>	<u>Standard Test Method</u>	<u>Measurand</u>	<u>Test item</u>
Electric-electronics	<u>Safety procedures for medium voltage and current tests: applied voltage test on the primary deviation in voltage transformers (induced voltage), overvoltage test between the turns in current transformers, discharge measurement test in current and voltage transformers</u> IEC 61869-2; NTC 2205; IEC 61869-3; NTC 2207	Voltage, current, power	Medium voltage transformer
Material evaluation	<u>Traction properties; yield stress (yield strength) expressed in mpa; tensile strength expressed in mpa; elongation of percentage expressed in%</u> NTC 3353:1997; NTC 2289:2012; ASTM A706/A706M: 2006; ASTM A370:1995; NTE INEN 0 109:2009; NMX-B-172-1998; NMX-B-506-CANACERO-2011; ASTM-A-370-2008; ASTM-E8/E8-13a; ASTM-A-615-1997	Force, elongation	Corrugated metal bar
Material evaluation	<u>Compressive strength of cylindrical concrete specimens</u> NTC 673:2010; NMX-C-083-ONNCCE-2002; ASTM C39/C39M; NTE INEN 1573 (2010); INTE 06-02-01-06; NCH 1037 OF77; NTP 339.034:2008; INVE 809; INVE 614; INVE 410	Force	Concrete cylinder

¹Assigned values and associated uncertainty (if applicable) determined by a reference laboratory.



Accredited Proficiency Testing Provider

A2LA has accredited

QUALITY STANDARD & LABORATORY **QLSTANDARD, S.C.** *Ciudad de México, MÉXICO*

This accreditation covers the specific proficiency testing schemes listed on the agreed upon Scope of Accreditation.

This provider is accredited in accordance with the recognized International Standard ISO/IEC 17043: 2010 *Conformity assessment - General requirements for proficiency testing*. This accreditation demonstrates technical competence for a defined scope and the operation of a quality management system.



Presented this 8th day of August 2016.

President and CEO
For the Accreditation Council
Certificate Number 4077.01
Valid to September 30, 2020
Revised November 28, 2017

For the proficiency testing schemes to which this accreditation applies, please refer to the provider's Scope of Accreditation.