



CERTIFICATE OF ACCREDITATION

ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

Qualabor Serviços da Qualidade Ltda.

**Rua Deputado Heitor Alencar Furtado, 5000
Curitiba, PR, 81280-340**

has been assessed by ANAB and meets the requirements of international standard

ISO/IEC 17043:2010

while demonstrating technical competence in the field of

PROFICIENCY TESTING PROVIDER

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

AP-2654

Certificate Number


ANAB Approval

Certificate Valid Through: 01/30/2021
Version No. 003 Issued: 04/11/2019





ANSI National Accreditation Board

SCOPE OF ACCREDITATION TO ISO/IEC 17043:2010

Qualabor Serviços da Qualidade Ltda.

Rua Deputado Heitor Alencar Furtado, 5000

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PROFICIENCY TEST PROVIDER

Valid to: **January 30, 2021**

Certificate Number: **AP-2654**

Mechanical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|---|---|
| Insulation and creepage distance on electrical devices | Dimensional quota of creepage and insulation | Consensus values from participants / Reference values |
| Shore,Barcol, Rockwell,Brinell, Vickers hardness on materials | Hardness | Consensus values from participants / Reference values |
| Spring mattress | Scrolling; Indentation; Spring type; N° of springs; Perimeter edge width; Quilting thickness; Stew and foam thickness; Foam nominal density; Stew nominal density; Wire gauge; Edge density; Deformation of the edge; Edge resilience; Ash content of the border; Mattress width, Mattress length; Mattress height; | Consensus values from participants / Reference values |
| Flexible foam | Density; Resilience; Permanent deformation due compression; Ash content; Indentation force; Dynamic fatigue – thickness loss; Dynamic fatigue – indentation force loss | Consensus values from participants / Reference values |
| Torsion,traction, compression, shear, flexion in toys, party supplies and school supplies or other devices specific testing item | Rupture | Consensus values from participants / Reference values |

Mechanical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|---|---|
| Indelibility of markings marked testing item | Verify if marking is still readable | Consensus values from participants / Reference values |
| Plugs, sockets, outlets and other types of devices | Linear measure, radius and angles | Consensus values from participants / Reference values |
| Pendulum impact specific testing item | Failure of the item | Consensus values from participants / Reference values |
| Hammer impact specific testing item | Failure of the item | Consensus values from participants / Reference values |
| Torque in screws of electrical connection testing item | Failure of the item for a predetermined torque or the torque that has failed | Consensus values from participants / Reference values |
| IP index protection specific electrical device | Index protection rating | Consensus values from participants / Reference values |
| Dye penetrant liquid, X-Ray, Ultrasonic and Magnetic Particles | Welding failures | Consensus values from participants / Reference values |
| Ultrasonic thickness measurement | Thickness | Consensus values from participants / Reference values |
| Pressure and vacuum valve | Opening pressure | Consensus values from participants / Reference values |
| Headlight test | Distance "e" | Consensus values from participants / Reference values |
| Breaking, suspension and Alignment | Maximum force, unbalance index, imbalance of steering wheel. | Consensus values from participants / Reference values |
| Compressed natural gas | Systems and components of road vehicles Components of CNG systems | Consensus values from participants / Reference values |
| Gas network inspection | Internal network distribution Gas device Gas device connections Individual natural exhaust system Verification of combustion hygiene Collective network distribution Collective Individual natural exhaust system | Consensus values from participants / Reference values |

Biological Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|--|---|
| EIA (Equine infectious anemia) blood serum samples | Presence or absence of antibodies against equine infectious anemia virus | Consensus values from participants / Reference values |
| Glanders blood serum samples | Presence or absence of antibodies against glanders bacteria | Consensus values from participants / Reference values |
| Detection of salmonella on food or water samples | Presence or absence of salmonella | Consensus values from participants / Reference values |

Thermal Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|---|---|
| Needle flame on electrical device | Flammability conditions | Consensus values from participants / Reference values |
| Glow-wire on electrical device | Flammability conditions | Consensus values from participants / Reference values |
| Differential scanning calorimeter (DSC) polymer item | Glass temperature, Melt temperature, Crystallization temperature, Enthalpy of crystallization, Enthalpy of crystalline fusion | Consensus values from participants / Reference values |
| Flammability in devices | Flammability conditions | Consensus values from participants / Reference values |
| Ball pressure specific testing item | Print diameter | Consensus values from participants / Reference values |
| Temperature rise in terminals electrical device | Temperature rise | Consensus values from participants / Reference values |
| Temperature rise in surfaces electrical device | Temperature rise | Consensus values from participants / Reference values |

Electric Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|---|--|---|
| Short circuit electrical device | Joule's integral, amplitude and current time | Consensus values from participants / Reference values |
| Dielectric strength in toys electrical device | Rupture of insulation | Consensus values from participants / Reference values |

Electric Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|---------------------------------|---|
| Insulation resistance electrical device | Insulation resistance | Consensus values from participants / Reference values |
| Dielectric strength – applied tension electric device | Disruptive voltage | Consensus values from participants / Reference values |
| Power and current in electrical devices | Power and current | Consensus values from participants / Reference values |
| Circuit breakers, fuses or others protective equipment | Time and circuit breaker action | Consensus values from participants / Reference values |

Chemical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|---|---|---|
| Atmospheric emissions from stationary sources | Concentration of: CO(g) O ₂ (g) NO _x (g) SO _x (g) Particulate matter | Consensus values from participants / Reference values |
| Migration of heavy metals | Concentration of: Sb As Ba Cd Cr Pb Hg Se Other metals | Consensus values from participants / Reference values |
| Chemical-Physical Mineral oil for Electrical Insulation Test – insulation oil | Index of neutralization Water content Density at 20/4°C Power factor at 100°C Dielectric strength Interfacial tension Color determination – colorimeter method Particle content Flash point Kinematic viscosity 40°C | Consensus values from participants / Reference values |



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Chemical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|--|---|
| PCB in liquids, solids and oils | PCB concentration | Consensus values from participants / Reference values |
| Analysis of gases dissolved in electrical insulation oil by gas chromatography- insulation oil | Hydrogen Oxygen Nitrogen Methane Ethane Ethylene Acetylene Carbon monoxide Carbon dioxide Total of gases Total combustible gases | Consensus values from participants / Reference values |
| Field chemical-physical tests in raw water, treated, residual, water for consumption or effluent | Chemical-Physical tests | Consensus values from participants / Reference values |
| Samples of Raw water, treated, residual, water for consumption or effluent testing | Apparent Color True Color pH Turbidity Iron Fluorine Chlorine Manganese Chromium Copper Lead Magnesium Arsenic Antimony Zinc Sodium Selenium Aluminum Mercury Barium Tin Molybdenum | Consensus values from participants / Reference values |

Chemical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|--|---|
| Samples of Raw water, treated, residual, water for consumption or effluent testing | Silver Nickel Titanium Vanadium Calcium Cobalt Other metals Hardness Sulfate Sulfide Chloride | Consensus values from participants / Reference values |
| Samples of Raw water, treated, residual, water for consumption or effluent testing | Alkalinity Cyanide Hexavalent chromium BOD COD Phenol Ammoniac Nitrogen Nitrate Nitrite Total phosphorus Suspended solids Dissolved solids Oils and greases Calcium hardness Pesticides VOC TPH Organic solvents Trihalomethanes Drugs Hormones Pathogens Bacteria | Consensus values from participants / Reference values |



Chemical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|----------------------|---|--|
| Vehicular emissions | Concentration of: Carbon monoxide Hydrocarbons Nitrogen Oxides Sulfur Oxides Particulates matter Aldehydes Ketones Unburned ethanol | Consensus values from participants / Reference values |
| Mineral coal samples | Hygroscopic moisture Volatile material Fixed carbon Superior calorific value Ashes Total sulfur | Consensus values from participants / Reference values |
| Automotive batteries | Water tightness Capacity C20 Vibration resistance Electrolyte retention Dimensional inspection External Visual Inspection Weight Fall Capacity reservation Low temperature electric discharge Durability tests Suitable for flotation Voltage drop in the interconnections Internal resistance Thermal cycling test | Consensus values from participants / Reference values |

Chemical Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|---|---|---|
| APH (aromatic polycyclic hydrocarbons) in water, soil and sediments | Naphthalene Acenaphthalene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo (a) anthracene Criseno Benzo (b) fluoranthene Benzo (k) fluoranthene Benzo (a) pyrene Indene (1,2,3-cd) pyrene Dibenzo (a, h) anthracene Benzo (g, h, i) perylene | Consensus values from participants / Reference values |

Acoustic Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|---------------------|---|
| Sound pressure level in devices | Sound pressure peak | Consensus values from participants / Reference values |
| Automotive noise(Exhaust system or in another point) | Sound pressure peak | Consensus values from participants / Reference values |

Clinic Testing

| Description of Item | Properties Measured | Procedure for Establishing Assigned Value |
|--|--|---|
| Hematology external quality control in blood serum samples | -Biochemistry - Hematology: - Automated hematology: - Coagulation: - Urinalysis: - Parasitology: - GRAM Bacterioscopies - Bacteriology: - Immunohematology | Consensus values from participants / Reference values |

Sampling Testing

| Description of item | Properties Measured | Procedure for Establishing Assigned Value |
|---|-----------------------------------|---|
| Isolated sampling process in raw water, treated, residual, water for consumption or effluent for chemical tests | Sampling on chemical parameters | Consensus values from participants / Reference values |
| Isolated sampling process in raw water, treated, residual, water for consumption or effluent for physical tests | Sampling on physical parameters | Consensus values from participants / Reference values |
| Isolated sampling process in raw water, treated, residual, water for consumption or effluent for biological tests | Sampling on biological parameters | Consensus values from participants / Reference values |

Calibration

| Description of PT Item/ Artifact | Properties measured | Range of Property | Expanded Uncertainty of PT Item/ Artifact (+/-) (Including appropriate Units) | Procedure for Establishing Assigned Value |
|----------------------------------|--|--|--|---|
| Balance weight | Mass | 0,01 [mg] to 500 [kg] | 0,01 [mg] to 50 [g] | Certified reference value |
| Caliper | Dimension | 0,01 [mm] to 1000 [mm] | 0,01 [mm] | Certified reference value |
| Volumetric | Volume | 1 [μL] to 1000 [mL] | 0,002 [μL] to 0,3 [mL] | Certified reference value |
| Thermometer | Temperature | -200 [°C] to 1200 [°C] | 0,04 [°C] to 3 [°C] | Certified reference value |
| Multimeter | Resistance, voltage, current, frequency, capacitance | 0,1 [Ω] to 200 [MΩ] 0,1 [mV] to 1 [kV] (AC) 0,1 [mV] to 1 [kV] (DC) 0,01 [mA] to 20 [A] (AC) 0,01 [mA] to 20 [A] (DC) 1[Hz] to 200 [kHz] 10[pF] to 200[μF] | 0,1 [Ω] to 10 [kΩ] 3,6 [μV] to 1,4[V] (AC) 3,6 [μV] to 1,4[V] (DC) 0,07[μA] to 0,1[A] (AC) 0,07 [μA] to 0,1 [A] (DC) 0,01[Hz] to 1[kHz] 0,1[pF] to 1[μF] | Certified reference value |

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AP-2654.



Vice President

