

Miami-Dade County, Florida

DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES

BOARD AND CODE ADMINISTRATION DIVISION

PRODUCT CONTROL SECTION

Laboratory Certificate



11805 S.W. 26 Street-Room 208
Miami, Florida 33175-2474
T (786) 315-2590 Fax (786) 315-2599

This certifies that IAPMO R & T Lab located at 5001 E. Philadelphia Street, Ontario, CA 91761 is an approved Testing Laboratory in accordance with Miami-Dade County Department of Regulatory and Economic Resources and Protocol TAS301-94, and is Certified to perform the following tests:

ANSI National Accreditation Board Certificate No. AT-1479

Results of the above mentioned test shall be properly submitted to the Miami-Dade County Department of Regulatory and Economic Resources per TAS301-94, along with all other documentation required for the approval of products. Approved engineer(s) for this laboratory:

Bart W. Berneche, P.E.

This Certification and Registration Approved: December 31, 2020

This Certification and Registration Expires : December 31, 2025

Certification No. : 20-1202.01

A blue ink signature of Helmy A. Makar, written in a cursive style.

Helmy A. Makar, P.E., M.S.
Product Control Section Supervisor
Product Control Section

A blue ink signature of Americo Segura, written in a cursive style.

Americo Segura, M.S., CGC
Quality Assurance Unit Supervisor
Product Control Section

The Miami-Dade County Department of Regulatory and Economic Resources reserves the right to remove this certification for non-compliance with rules and regulations as set by Protocol TAS301-94.



CERTIFICATE OF ACCREDITATION

The ANSI National Accreditation Board

Hereby attests that

**IAPMO R&T Lab &
IAPMO Institute of Building Technology (IBT)
5001 E. Philadelphia St.
Ontario, CA 91761**

Fulfills the requirements of

ISO/IEC 17025:2017

In the field of

TESTING

This certificate is valid only when accompanied by a current scope of accreditation document.
The current scope of accreditation can be verified at www.anab.org.

A handwritten signature in black ink, appearing to read 'R. Douglas Leonard Jr.', is positioned above a horizontal line.

R. Douglas Leonard Jr., VP, PILR SBU

Expiry Date: 30 August 2022
Certificate Number: AT-1479



This laboratory 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 (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

**IAPMO R&T Lab &
IAPMO Institute of Building Technology (IBT)**

5001 E. Philadelphia St.
Ontario, CA 91761

Judy Dolhof Phone: 909 472 4100

judy.dolhof@iapmortl.org www.iapmortl.org
and www.iapmoibt.org

TESTING

Valid to: **August 30, 2022**

Certificate Number: **AT-1479**

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
<p>Material, Hydraulic Performance, Dimensions, Load Tests</p>	<p>ASME A112.19.2 / CSAB45.1, AS/NZ 1172.1, AS/NZ 3982, AS/NZ 6400 ASME A112.4.2</p> <p>EPA WaterSense High Efficiency Flushing Urinal Specification, Version 1.0</p> <p>EPA WaterSense Specification for Tank-Type Toilets, Version 1.2</p> <p>EPA WaterSense Specification for Flushometer-Valve Water closets, Version 1.0</p>	<p>Water Closets, Urinals, Lavatories, Sinks, Bidets</p>	<p>Flow meter, Pressure and temperature gauges, Torque meter, Scale</p>



ANSI National Accreditation Board

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Material, Load Tests, Hair Entrapment, Water Retention	ASME A112.19.15, ASME A112.19.7 / CSA B45.10	Hydromassage Bathtub Appliances	Flow meter, Dial gauge
UV Testing, Material, Impact, Deflection, Load, Vacuum, Hair and Body Entrapment. Digit Entrapment	APSP-16	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs; Skimmers	UV Chamber, Flow meter, Pressure gauges, Dial gauge
Design Requirements, Coatings, Corrosion, Adhesion, Decorative Organic Coatings, Pressure and Temperature, Static and Dynamic Seals, Burst Pressure, Cross-flow check valves, Hose Assemblies, Ball Joints, Diverters, Flow Rate, Supply Fittings, Life Cycle, Resistance to Installation Loading, Resistance to Use Loading, Backflow Prevention, Automatic Compensating valves, Accessible Designs, Threaded Connections, Connections other than Threaded Connections, Toxicity	ASME A112.18.1 / CSA B125.1 and ASME A112.18.1M-1996, AS/NZ 3718, ASSE 1016, ASSE 1017, ASSE 1066, ASTM B456, ASTM B571, ASTM G85, ASTM B368, ASTM D3359, ASTM B117, AS/NZ 3662 EPA WaterSense High Efficiency Lavatory Faucet Specification, Version 1.0 EPA WaterSense Specification for Showerheads, Version 1.1	Plumbing Supply Fittings	Life cycle tester, Flow meter, Pressure and temperature gauges, XRF analyzer, Corrosion chamber
Pressure, Life Cycle, Corrosion/Coatings, Flow Rate, Material, Dimensions, Load Tests	ASME A112.18.2 / CSA B125.2	Plumbing Waste Fittings	Life cycle tester, Flow meter, Pressure and temperature gauges, XRF analyzer, Corrosion chamber
All functional tests and material tests (except durability)	ASME A112.18.3	Backflow Protection Devices and Systems in Plumbing Fixture Fittings	Vacuum tank, XRF analyzer, Life cycle tester, Flow meter, Pressure gauges



ANSI National Accreditation Board

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Hydrostatic, Reduced Flowing Pressure Deviation, Minimum Reduced Pressure, Reduced Pressure Adjustment Range, Capacity Test, Bypass Relief Valve Opening Pressure Differential Test, Materials	ASSE 1003	Water Pressure Reducing Valves	Vacuum tank, XRF analyzer, Flow meter, Pressure and temperature gauges
Hydrostatic Pressure, Water Flow Capacity and Pressure Loss, Deterioration, Resistance to Bending, Life Cycle, Self-draining Capabilities, Low Head Back Pressure, Atmospheric Vent Opening, Backflow Prevention, Leakage from Vent Ports, Backsiphonage, Materials	ASSE 1019	Vacuum Breaker Wall Hydrants, Freeze Resistant, Automatic Draining Type	Vacuum tank, XRF analyzer, Life cycle tester, Flow meter, Pressure and temperature gauges
Flow Test, Evaporation Test Trap Seal Interference, Dirt and Debris Test, Floor Wax Test, Grease Test, Life Cycle Testing, Physical Tests of Membrane Material (Subcontracted)	ASSE 1072	Barrier Type Floor Drains	Life cycle tester, Flow meter, Pressure and temperature gauges
Water Flow Passage, Discharge Capacity, Critical Level, Deterioration, Resistance to Detergents, Materials	ASSE 1021	Drain Air Gaps for Residential Dishwasher Applications	Vacuum tank, XRF analyzer, Life cycle tester, Flow meter, Pressure and temperature gauges
Pressure, Air Tightness, Rating, Endurance, Frost Closure, Materials	ASSE 1050, ASSE 1051	Stack Air Admittance Valves for Sanitary Drainage Systems	Life cycle tester, CO2 meter, Pressure and temperature gauges
Structural Integrity, Physical Characteristics and Materials Tests	ANSI Z124.5	Plastic Toilet (Water Closet Seats)	Toilet seat tester, Corrosion chamber



ANSI National Accreditation Board

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Sections 604.4, 604.6, 605, 606, 607, 608 609 and 610	ICC A117.1	Buildings and Facilities Providing Accessibility and Usability for Physically Handicapped People	Dimensional gauges
All tests	ASTM F446	Grab Bars and Accessories Installed in Bathing Area	Dimensional gauges, Force gauge
All tests	ASTM B604	Decorative Electroplated Coatings of Copper Plus Nickel Plus Chromium on Plastics	Corrosion chamber, pH meter, Temperature gauge
Tensile Tests	ASTM C297/C297M	Flatwise Tensile Strength of Sandwich Construction	Universal Testing Machine
Impact Resistance	ASTM D2444	Determination of Impact Resistance Thermoplastic Pipe and Fittings by Means of a Tup (falling weight)	Impact tester
All tests except Oxidative Resistance	CSA B137	Thermoplastic Pressure Piping Compendium	Pressure and temperature gauges, XRF analyzer
Section 6 (except 6.11)	CSA B64Series (Sections 64.0, 1.1, 1.2, 2, 2.1, 2.1.1, 2.2, 3, 3.1, 4, 4.1, 5, 5.1, 6, 6.1, 7, 8, 9), ASSE 1001, ASSE 1011, ASSE 1012, ASSE 1014	Test Methods for Vacuum Breakers and Backflow Preventers	Vacuum tank, XRF analyzer, Life cycle tester, Flow meter, Pressure and temperature gauges



ANSI National Accreditation Board

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Section 15 Flow Temperature Pressure Shear Load Adhesion Dimensions	CSA B45.Series (Sections 5, 6, 7, 8, 9 except 5.17), ASME A112.19.1 / CSA B45.2, ASME A119.19.3/CSA B45.4, ANSI Z124.7, ANSI Z124.8, CSA B45.5 / IAPMO Z124, ASTM C346, ASTM C282, ASTM F462, ASTM E805, ASTM E1347, ASTM G151, ASTM D2244, PS 106	Testing requirements for Plumbing Fixtures	Flow meter, Pressure and temperature gauges,
All Sections	ASME A112.6.1M, ASME A112.6.2	Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use	Dimensional gauges
Tensile strength, Dimensions	ASTM A74	Cast Iron Soil Pipe and Fittings	Universal Testing Machine
Clamp Assembly Requirements, Deflection, Shear, Unrestrained Hydrostatic Test	CISPI 310, ASTM A888	Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications	Dimensional gauges
Clamp Assembly Requirements, Deflection, Shear, Unrestrained Hydrostatic Test	CSA B602, ASTM C1277, CISPI 301	Mechanical Couplings for Drain, Waste, and Vent Pipe and Sewer Pipe	Universal Testing Machine, Dimensional gauges, Force gauge
Regulated Metals (including Lead and Zinc) Organics Inorganics	NSF/ANSI/CAN 61	Drinking Water System Components - Health Effects	ICP/MS, GC/MS, XRF analyzer, pH meter
Evaluation Criteria for Materials, Component, Products, Equipment, and Systems for use at Recreational Water Facilities	NSF/ANSI/CAN 50 Excluding Sections: 14.20 and 15.18 (See Note 2)	Swimming Pools Spas, Hot Tubs Recreational Water Facilities	Pumps, Flow Meters, Dimensional Gages, Pressure Gages, Weights, Repeat Cycle Rigs, Chlorine, pH, Turbidity Rescue Timmy
Regulated Metal - Lead	NSF/ANSI 372	Drinking Water System Components – Health Effects	XRF analyzer



ANSI National Accreditation Board

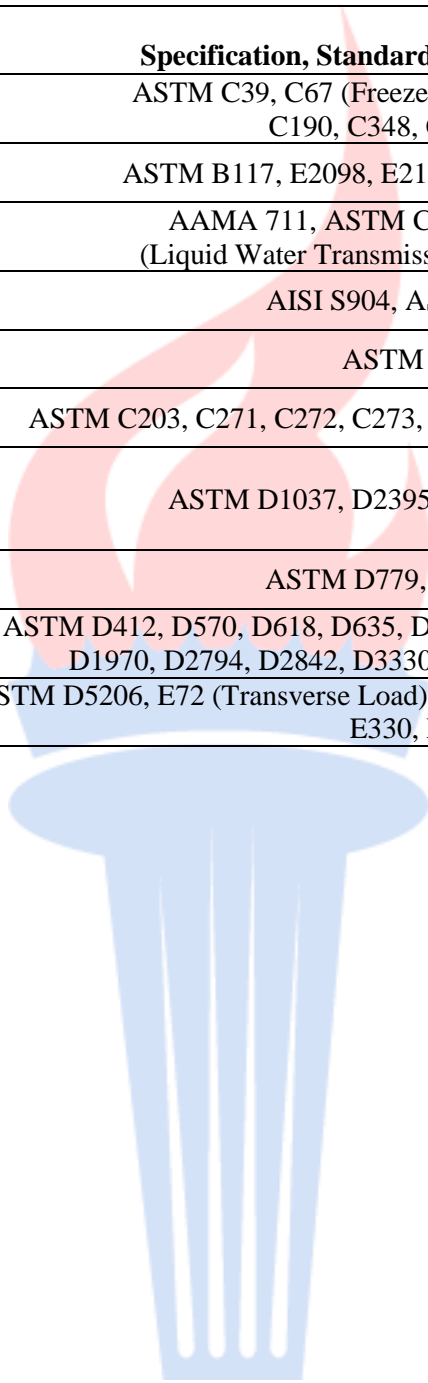
Regulated Metals (including Lead and Zinc) Organics Inorganics	NSF/ANSI 42	Drinking Water System Components – Health Effects	ICP/MS, GC/MS, XRF analyzer, pH meter
Regulated Metals (including Lead and Zinc) Organics Inorganics	NSF/ANSI 53	Drinking Water System Components – Health Effects	ICP/MS, GC/MS, XRF analyzer, pH meter

Mechanical and Construction Materials

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Regulated Metals (including Lead and Zinc) Organics Inorganics	NSF/ANSI 58	Drinking Water System Components – Health Effects	ICP/MS, GC/MS, XRF analyzer, pH meter
Elevated temperature and pressure, Cycle, Critical Level, Total Flow, Refill Capacity, Materials, Dimensions	CSA B125.3, ASSE 1002, ASSE 1037, ASME A112.19.5, ASME A112.19.10	Anti-siphon Fill and flush Valves for Water Closet Tanks	Vacuum tank, XRF analyzer, Life cycle tester, Flow meter, Pressure and temperature gauges
Pressure, Impulse Cycle, Corrosion/Coatings, Flow Rate, Material, Dimensions, Load Tests	ASME 112.18.6/CSA B125.6	Flexible Water Connector	Life cycle tester, Flow meter, Corrosion chamber, XRF analyzer, Pressure and temperature gauges
Hydrostatic Test Structural Integrity, Physical Characteristics and Materials Tests	ASSE 1061, PS 117, ASTM F1807, ASTM F877, ASTM F1974, ASTM F1960, ASTM D1598-2002, ASTM D2122	Fittings with Copper / PEX/CPVC Pipe	Hydrostatic Test Structural Integrity, Physical Characteristics and Materials Tests
Drinking Water Treatment Units – Plumbing Requirements	AS/NZS 3497:1998 Section 5.1, 5.2, 5.3, 5.4, 5.5, 5.6	Drinking Water Treatment Systems	Hydrostatic Test Structural Integrity, Physical Characteristics and Materials Tests
Flow Rate, Pressure, Dimensions, Time	ANSI Z358.1	Emergency Eyewash and Shower Equipment	Flow Rate, Pressure, Dimensions, Time
Strength of Assembly	WMTS-105, Section 9.3	Beverage Dispensers and Icemakers	Pressure Gauges and Pumps

Building Products and Assemblies


Items, Materials or Product Tested	Specification, Standard, Method, or Test Technique
Concrete, Mortar & AAC	ASTM C39, C67 (Freeze thaw only), C109, C140, C157, C190, C348, C482, C567, C1660
EIFS & Stucco	ASTM B117, E2098, E2134, E2273, E2485, E2486, E331
Fabrics & Geotextiles	AAMA 711, ASTM C794, D4533, D4632, D4869 (Liquid Water Transmission only), D5034, E96, E2556
Fasteners	AISI S904, ASTM D1761, F1575
Gypsum Panels	ASTM C473, C1658
Insulation & Core Materials	ASTM C203, C271, C272, C273, C297, C303, C365, C393, C518, D2126
Lumber and Wood Products	ASTM D1037, D2395, D4442 (Methods A and B)
Paper & Paperboard	ASTM D779, D828, AATCC 127
Plastics	ASTM D412, D570, D618, D635, D638, D790, D882, D1621, D1622, D1623, D1970, D2794, D2842, D3330, D4226, D5420, G151, G154, G155
Structural	ASTM D5206, E72 (Transverse Load), E73 (limited to maximum 12 ft. long truss), E330, E661, E1592



Building Products and Assemblies

Items, Materials or Product Tested	Specification, Standard, Method, or Test Technique
Acceptance Criteria	<p><u>AC11 – Cementitious Exterior Wall Coatings</u> Section 4.0</p> <p><u>AC38 – Water Resistive Barriers</u> Section 3.0, except 3.5 Air Permeance, Section 4.0</p> <p><u>AC48 – Self-adhered Roof Underlayment</u> Section 4.0</p> <p><u>AC51 – Adhered Manufactured Stone Masonry Veneer</u> Section 3.0 & Section 4.0, except Optional Fire Related Tests</p> <p><u>AC120 – Wood-Frame Horizontal Diaphragms, Vertical Shear Walls and Braced Walls with Alternative Fasteners</u> Section 4.3, 4.4, 4.5, 4.6, 4.9</p> <p><u>AC188 – Roof Underlayment</u> Section 3.1, 3.2</p>

- Note:
1. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-1479.
 2. The microbiological analysis is performed by an ISO 17025:2017 accredited chemical laboratory. The data is analyzed, and reduction calculations are proved by IAPMO R&T LAB



R. Douglas Leonard Jr., VP, PILR SBU